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The Early and Middle Pleistocene archaeological record of Greece : current status and future prospects

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Citation

Tourloukis, V. (2010, November 17). *The Early and Middle Pleistocene archaeological record of Greece : current status and future prospects*. LUP Dissertations. Retrieved from <https://hdl.handle.net/1887/16150>

Version: Corrected Publisher's Version

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Note: To cite this publication please use the final published version (if applicable).

References

- Abbazzi, L., Fanfani, F., Ferretti, M.P. and Rook, L. 2000. New human remains of archaic *Homo sapiens* and Lower Palaeolithic industries from Visogliano (Duino Aurisina, Trieste, Italy). *Journal of Archaeological Science* 27, 1173-86
- Adam, E. 1998. Kokkinopilos. *Archaeologiko Deltio* 53 (part B, 2: Chronicles). Athens (2004) (in Greek)
- Agustí, J., Blain, H.-A., Cuenca-Bescós, G. and Bailon, S. 2009. Climate forcing of the first hominid dispersal in Western Europe. *Journal of Human Evolution* 57, 815-21
- Agustí, J., Blain, H.-A., Furió, M., De Marfá, R. and Santos-Cubedo, A. 2010. The early Pleistocene small vertebrate succession from the Orce region (Guadix-Baza Basin, SE Spain) and its bearing on the first human occupation of Europe. *Quaternary International* 223-224, 162-9
- Agustí, J., Oms, O. and Parés, J.M. 1999. Calibration of the Early-Middle Pleistocene transition in the continental beds of the Guadix-Baza Basin (SE Spain). *Quaternary Science Reviews* 18, 1409-17
- Agustí, J., Oms, O. and Parés, J.M. 2007. Biostratigraphy, paleomagnetism and geology of the Orce ravine (Southern Spain). Comment on the paper by Gibert *et al.* (2006). *Quaternary Science Reviews* 26, 568-72
- Ahnert, F. 1970. Functional relationship between denudation, relief and uplift in large mid-latitude drainage basins. *American Journal of Science* 268, 243-63
- Aiello, L.C. and Dunbar, R.I.M. 1993. Neocortex size, group size, and the evolution of language. *Current Anthropology* 34 (2), 184-93
- Aiello, L.C. and Wheeler, P. 1995. The expensive-tissue hypothesis. *Current Anthropology* 36 (2), 199-221
- Aksoy, H. and Kavvas, M.L. 2005. A review of hillslope and watershed scale erosion and sediment transport models. *Catena* 64, 247-71
- Aksu, A.E., Hall, J. and Yaltirak, C. 2005. Miocene to Recent tectonic evolution of the eastern Mediterranean: new pieces of the old Mediterranean puzzle. *Marine Geology* 221, 1-13
- Aksu, A.E., Yaşar, D. and Mudie, P.J. 1995. Origin of late Glacial-Holocene hemipelagic sediments in the Aegean Sea: clay mineralogy and carbonate cementation. *Marine Geology* 123, 33-59
- Alfaro, P., Delgado, J., Sanz de Galdeano, C., Galino-Zaldívar, J., García-Tortosa, F.J., López-Garrido, A. C., López-Casado, C., Marín-Lechado, C., Gil, A. and Borque, M.J. 2008. The Baza Fault: a major active extensional fault in the central Betic Cordillera (south Spain). *International Journal of Earth Sciences (Geologische Rundschau)* 97, 1353-65
- Allen, H.D. 2001. *Mediterranean Ecogeography*. Harlow: Pierson Education Limited.
- Allen, H.D. 2003. Response of past and present Mediterranean ecosystems to environmental change. *Progress in Physical Geography* 27 (3), 359-77
- Allen, H.D. 2009. Vegetation and ecosystem dynamics. In J.C. Woodward (ed.), *The Physical Geography of the Mediterranean*, 203-27. Oxford: Oxford University Press
- Allen, J.R.M., Brandt, U., Brauer, A., Hubberten, H.-W., Huntley, B., Keller, J., Kraml, M., Mackensen, A., Mingram, J., Negendank, J.F.W., Nowaczyk, N.R., Oberhänsli, H., Watts, W.A., Wulf, S. and Zolitschka, B. 1999. Rapid environmental changes in southern Europe during the last glacial period. *Nature* 400, 740-43
- Alley, R.B. and Ágústsdóttir, A.M. 2005. The 8k event: cause and consequences of a major Holocene abrupt climate change. *Quaternary Science Reviews* 24, 1123-49
- Alley, R.B., Marotzke, J., Nordhaus, W.D., Overpeck, J.T., Pielke Jr., D.M., Pierrehumbert, R.T., Rhines, P.B., Stocker, T.F., Talley, L.D. and Wallace, J.M. 2003. Abrupt climate change. *Science* 299, 2005-10
- Alperson-Afil, N. 2008. Continual fire-making at Gesher benot Ya'aqov, Israel. *Quaternary Science Reviews* 27, 1733-9
- Amato, A., Aucelli, P.P.C. and Cinque, A. 2003. The long-term denudation rate in the Southern Apennines Chain (Italy): a GIS-aided estimation of the rock volumes eroded since middle Pleistocene time. *Quaternary International* 101-102, 3-11
- Ammerman, A.J., Efstratiou, N and Adam, E. 1999. First evidence for the Palaeolithic in Aegean Thrace. In G. N. Bailey, E. Adam, E. Panagopoulou, C. Perlès and K. Zachos (eds), *The Palaeolithic Archaeology of Greece and Adjacent Areas: Proceedings of the*

- ICOPAG Conference, Ioannina, September 1994*, 211-4. London: British School at Athens Studies 3
- Amorosi, A., Caporale, L., Cibin, U., Colalongo, M.L., Pasini, G., Lucchi, F.R., Severi, P. and Vaiani, S.C. 1998. The Pleistocene littoral deposits (Imola Sands) of the northern Apennine foothills. *Giornale di Geologia* 60, 83-118
- Anastasakis, G., Piper, D.J.W., Dermitzakis, M.D. and Karakitsios, V. 2006. Upper Cenozoic stratigraphy and paleogeographic evolution of Myrtoon and adjacent basins, Aegean Sea, Greece. *Marine and Petroleum Geology* 23, 353-69
- Anderson, A., Barrett, J. and Boyle, K. (eds) 2010. *Global origins (and development) of seafaring*. Cambridge: McDonald Institute for Archaeological Research
- Andrefsky, W. (ed.) 2008. *Lithic technology: methods of production, use, and curation*. Cambridge: Cambridge University Press.
- Andreikos, A. 1993. *Oi Katoteres paleolithikes lithotechnies tis Dytikis Epirou kai tou Ioniou*. Athens (in Greek)
- Andreou, S. and Kotsakis, K. 1994. Prehistoric rural communities in perspective: the Langadas Survey Project. In N. Doukellis and G. Mendoni (eds), *Structures rurales et société antiques*, 17-25. Paris
- Angelier, J. 1978. Tectonic evolution of the Hellenic Arc since the Late Miocene. *Tectonophysics* 49, 23-36
- Angelier, J., N. Lyberis, X. Le Pichon, E. Berrier and Huchon, P. 1982. The tectonic development of the Hellenic arc and the Sea of Crete: a synthesis. *Tectonophysics* 86, 159-196
- Anthopoulou, B., Panagopoulos, A. and Karyotis, Th. 2006. The impact of land degradation on landscape in Northern Greece. *Landslides* 3, 289-94
- Antonioli, F., Kershaw, S., Renda, P., Rust, D., Belluomini, G., Cerasoli, M., Radtke, U. and Silenzi, S. 2006. Elevation of the last interglacial highstand in Sicily (Italy): a benchmark of coastal tectonics. *Quaternary International* 145-146, 3-18
- Anzidei, A.P. and Arnoldus Huyzendveld, A. 1992. The Lower Palaeolithic site of La Polledrara di Cecanibbio (Rome, Italy). In E. Herring, R. Whitehouse, and J. Wilkins (eds), *New developments in Italian Archaeology, Part I, Papers of the Fourth Conference of Italian Archaeology*, 141-53. London: Accordia Research Institute
- Arribas, A. and Palmqvist, P. 1999. On the ecological connection between sabre-tooths and hominids: faunal dispersal events in the Lower Pleistocene and a review of the evidence for the first human arrival in Europe. *Journal of Archaeological Science* 26, 571-85
- Arsebük, G. and Özbaşaran, M. 1999. Pleistocene archaeology at the cave of Yarimburgaz in eastern Thrace/Turkey: preliminary results. In G.N. Bailey, E. Adam, E. Panagopoulou, C. Perlès and K. Zachos (eds), *The Palaeolithic Archaeology of Greece and Adjacent Areas: Proceedings of the ICOPAG Conference, Ioannina, September 1994*, 59-72. London: British School at Athens Studies 3
- Arsuaga, J.L., Martínez, I., Gracia, A., Carretero, J.M., Lorenzo, C., García, N. and Ortega, A.I. 1997. Sima de los Huesos (Sierra de Atapuerca, Spain): the site. *Journal of Human Evolution* 33, 109-27
- Arzarello, M., Marcolini, F., Pavia, G., Pavia, M., Petronio, C., Petrucci, M., Rook, L. and Sardella, R. 2007. Evidence of earliest human occurrence in Europe: the site of Pirro Nord (Southern Italy). *Naturwissenschaften* 94, 107-12
- Arzarello, M., Marcolini, F., Pavia, G., Pavia, M., Petronio, C., Petrucci, M., Rook, L. and Sardella, R. 2009. The lithic industry of the Early Pleistocene site of Pirro Nord (Apricena, South Italy): the evidence of a human occupation between 1.3 and 1.7 Ma. *L'Anthropologie* 113, 47-58
- Ascenzi, A., Biddittu, I., Cassoli, P.F., Segre, A.G. and Segre-Naldini, E. 1996. A calvarium of late Homo erectus from Ceprano, Italy. *Journal of Human Evolution* 31, 409-23
- Athanassiou, A. 2000. Presence of fossil Elephants in the area of Penios Valley (NW Peloponnesus, Greece). *Annales Géologiques des Pays Helléniques* 38, 63-76
- Athanassiou, A. 2001. New findings of fossil large mammal remains in the Penios Valley (area of Larissa, Thessaly, Greece). *Bulleting of the Geological Society of Greece* XXXIV (2), 533-39.
- Athanassiou, A. 2002. Neogene and Quaternary faunas of Thessaly. *Annales Géologiques des Pays Helléniques* XXXIX (A), 279-93
- Athanassiou, A. and Kostopoulos, D.S. 2001. Proboscidea of the Greek Pliocene-Early Pleistocene faunas: biochronological and palaeoecological implications. *Proceedings of the 1st International Congress 'The World of Elephants'*, 85-90
- Baena, J., Lordkipanidze, D., Cuartero, F., Ferring, R., Zhvania, D., Martín, D., Shelia, T., Bidzinashvili, G., Roca, M. and Rubio, D. 2010. Technical and technological complexity in the beginning: the study of Dmanisi lithic assemblage. *Quaternary International* 223-224, 45-53
- Bailey, G. 1992. The Palaeolithic of Klithi in its wider context. *Annual of the British School at Athens* 87: 1-28.
- Bailey, G.N. (ed.) 1997. *Klithi: Palaeolithic Settlement and Quaternary Landscapes in Northwest Greece*, 2 vols. Cambridge: McDonald Institute for Archaeological Research

REFERENCES

- Bailey, G. 2004. World prehistory from the margins: the role of coastlines in human evolution. *Journal of Interdisciplinary Studies in History and Archaeology* 1 (1), 39-50
- Bailey, G.N., Adam, E., Panagopoulou, E., Perlès, C. and Zachos, K. (eds), 1999. *The Palaeolithic Archaeology of Greece and Adjacent Areas: Proceedings of the ICOPAG Conference, Ioannina, September 1994*. London: British School at Athens Studies 3
- Bailey, G., Cadbury, T., Galanidou, N. and Kotjabopoulou, E. 1997. Rockshelters and open-air sites: survey strategies and regional site distributions. In G.N. Bailey, (ed.), *Klithi: Palaeolithic Settlement and Quaternary Landscapes in Northwest Greece, vol. 2: Klithi in its local and regional setting*, 521-36. Cambridge: McDonald Institute for Archaeological Research
- Bailey, G., Carrión, J.S., Fa, D.A., Finlayson, C., Finlayson, G. and Rodriguez-Vidal, J. 2008. The coastal shelf of the Mediterranean and beyond: corridor and refugium for human populations in the Pleistocene. *Quaternary Science Reviews* 27, 2095-99
- Bailey, G.N., Carter, P.L., Gamble, C.S. and Higgs, H.P. 1983. Asprochaliko and Kastritsa: further investigations of Palaeolithic settlement and economy in Epirus (north-west Greece). *Proceedings of the Prehistoric Society* 49, 15-42
- Bailey, G.N. and Flemming, N. 2008. Archaeology of the continental shelf: marine resources, submerged landscapes and underwater archaeology. *Quaternary Science Reviews* 27, 2153-65
- Bailey, G., King, G. and Strurdy, D. 1993. Active tectonics and land-use strategies: a Palaeolithic example from northwest Greece. *Antiquity* 67, 292-312
- Bailey, G.N., Papakonstantinou V. and Sturdy, D. 1992. Asprochaliko and Kokkinopilos: TL dating and reinterpretation of Middle Palaeolithic sites in Epirus, north-west Greece. *Cambridge Archaeological Journal* 2, 136-44
- Balco, G. and Stone, J.O.H. 2005. Measuring middle Pleistocene erosion rates with cosmic-ray-produced nuclides in buried alluvial sediment, Fisher Valley, southeastern Utah. *Earth Surface Processes and Landforms* 30, 1051-167
- Ballantyne, C.K. 2001. Paraglacial geomorphology. *Quaternary Science Reviews* 21, 1935-2017
- Ballard, R.D. (ed.) 2008. *Archaeological Oceanography*. New Jersey: Princeton University Press
- Bard, E., Antonioli, F. and Silenzi, S. 2002. Sea-level during the penultimate interglacial period based on a submerged stalagmite from Argentarola Cave. *Earth and Planetary Science Letters* 196, 135-46
- Bard, E., Hamelin, B. and Fairbanks, R.G. 1990. U-Th ages obtained by mass spectrometry in corals from Barbados: sea level during the past 130 000 years. *Nature* 346, 456-58
- Bar-Matthews, M., Ayalon, A., Kufman, A. and Wasserburg, G.J. 1999. The Eastern Mediterranean palaeoclimate as a reflection of regional events: Soreq cave, Israel. *Earth and Planetary Science Letters* 166, 85-95
- Barsky, D., Celiberti, V., Cauche, D., Grégoire, S., Lebègue, F., de Lumley, H. and Toro-Moyano, I. 2010. Raw material discernment and technological aspects of the Barranco León and Fuente Nueva 3 stone assemblages (Orce southern Spain). *Quaternary International* 223-224, 201-19
- Bartzokas, A., Lolis, C. J. and Metaxas, D.A. 2003. A study on the intra-annual variation and the spatial distribution of precipitation amount and duration over Greece on a 10 day basis. *International Journal of Climatology* 23, 207-22
- Bar-Yosef, O. 1994. The Lower Palaeolithic of the Near East. *Journal of World Prehistory* 8, 211-265.
- Bar-Yosef, O. 1998. Early colonizations and cultural continuities in the Lower Palaeolithic of western Asia. In M.D. Petraglia and R. Korisettar (eds), *Early human behavior in global context: the rise and diversity of the Lower Palaeolithic record*, 215-72. London: Routledge
- Bar-Yosef, O. and Belfer-Cohen, A. 2001. From Africa to Eurasia –early dispersals. *Quaternary International* 75, 19-28
- Bar-Yosef, O. and Van Peer, P. 2009. The chaîne opératoire approach in Middle Paleolithic archaeology. *Current Anthropology* 50 (1), 103-31
- Bartolini, C. 2003. When did the Northern Apennine become a mountain chain? *Quaternary International* 101-102, 75-80
- Bartolini, C., D'Agostino, N. and Dramis, F. 2003. Topography, exhumation, and drainage network evolution of the Apennines. *Episodes* 26 (3), 212-6
- Begin, D.R. 2009. Dryopithecins, Darwin, de Bonis, and the European origin of the African apes and human clade. *Geodiversitas* 31 (4), 789-816
- Bell, R.E., McNeill, L.C., Bull, J.M., Henstock, T.J., Collier, R.E.L. and Leeder, M.R. 2009. Fault architecture, basin structure and evolution of the Gulf of Corinth Rift, central Greece. *Basin Research* 21, 824-55
- Belmaker, M., Tchernov, E., Condemi, S. and Bar-Yosef, O. 2002. New evidence for hominid presence in the Lower Pleistocene of the southern Levant. *Journal of Human Evolution* 43, 43-56

- Benito-Calvo, A., Pérez-González, A., Magri, O. and Meza, P. 2009. Assessing regional geodiversity: the Iberian Peninsula. *Earth Surface Processes and Landforms* 34, 1433-45
- Berger, A. 1986. Desertification in a changing climate with a particular attention to the Mediterranean countries. In R. Fantechi and N.S. Margaris (eds), *Desertification in Europe: Proceedings of the Information Symposium in the EEC Programme on Climatology, Mytilene, Greece, 1984*, 15-34. Dordrecht: Reidel Publishing
- Bermúdez de Castro, J.M., Arsuaga, J.L., Carbonell, E., Rosas, A., Martínez I. and Morsuaga, M. 1997. A hominid from the Lower Pleistocene of Atapuerca, Spain: possible ancestor to Neanderthals and modern humans. *Science* 276, 1392-95
- Bermúdez de Castro, J.M., Martinón-Torres, M., Carbonell, E., Sarmiento, S., Rosas, A., van der Made, J. and Lozano, M. 2004. The Atapuerca sites and their contribution to the knowledge of human evolution in Europe. *Evolutionary Anthropology* 13, 25-41
- Bermúdez de Castro, J.M., Pérez-Gonzales, A., Martinón-Torres, M., Gómez-Robles, A., Rosell, J., Prado, L., Sarmiento, S. and Carbonell, E. 2008. A new early Pleistocene hominin mandible from Atapuerca-TD6, Spain. *Journal of Human Evolution* 55, 729-35
- Bertoldi, R., Rio, D. and Thunell, R. 1989. Pliocene-Pleistocene vegetational and climatic evolution of the south-central Mediterranean. *Palaeogeography, Palaeoclimatology, Palaeoecology* 72, 263-75
- Besonen, M.R., Rapp, G.R. and Jing, Z. 2003. The lower Acheron River Valley: ancient accounts and the changing landscape. In J. Wiseman and K. Zachos (eds.), *Landscape Archaeology in Southern Epirus, Greece I*, Hesperia suppl. 32, 199-263. Athens: American School of Classical Studies at Athens
- Biberson, P. 1961. *Le Paleolithique inférieur du Maroc atlantique*. Rabat: Publications du Service des Antiquités du Maroc, fascicule 16
- Bicho, N. and Haws, J. 2008. At the land's end: marine resources and the importance of fluctuations in the coastline in the prehistoric hunter-gatherer economy of Portugal. *Quaternary Science Reviews* 27, 2166-75
- Biddittu, I., Cassoli, P.F., Radicati di Brozolo, F., Segre, A. G., Segre-Naldini, E. and Villa, I. 1979. Anagni, a K/Ar dated Lower and Middle Pleistocene site, Central Italy: preliminary report. *Quaternaria* XXI, 53-71
- Billiris, H., Paradissis, D., Veis, G., England, P., Featherstone, W., Parsons, B., Cross, P., Rands, P., Rayson, M., Sellers, P., Ashkenazi, V., Davidson, M., Jackson, J. and Ambraseys, N. 1991. Geodetic determination of tectonic deformation in central Greece from 1900 to 1988. *Nature* 350, 124-29
- Bintanja, R., van de Wal, R.S.W. and Oerlemans, J. 2005. Modelled atmospheric temperatures and global sea levels over the past million years. *Nature* 437, 125-28
- Bintliff, J.L. 1992. Erosion in the Mediterranean lands: a reconsideration of pattern, process and methodology. In J. Boardman and M. Bell (eds), *Past and Present Soil Erosion*, 125-31. Oxford: Oxbow Books
- Bintliff, J.L. 2002. Time, process and catastrophism in the study of Mediterranean alluvial history: a review. *World Archaeology* 33 (3), 417-35
- Bintliff, J.L. 2005. Human impact, land-use history and the surface archaeological record: a case study from Greece. *Geoarchaeology* 20 (2), 135-47
- Bischoff, J.L., Williams, R.W., Rosenbauer, R.J., Aramburu, A., Arsuaga, J.L., García, N. and Cuenca-Bescós, G. 2007. High-resolution U-series dates from the Sima de los Huesos hominids yields 600 kyrs: implications for the evolution of the early Neanderthal lineage. *Journal of Archaeological Science* 34, 763-70
- Bishop, P. 2007. Long-term landscape evolution: linking tectonics and surface processes. *Earth Surface Processes and Landforms* 32, 329-65
- Blondel, J. 2009. The nature and origin of the vertebrate fauna. In J.C. Woodward (ed.), *The Physical Geography of the Mediterranean*, 139-63. Oxford: Oxford University Press
- Bloom, A.L. 2002. *Geomorphology: A Systematic Analysis of Late Cenozoic Landforms*. New Delhi: Prentice Hall of India, 3rd edition
- Boëda, E. 1995. Levallois: a volumetric construction, methods, a technique. In H.L. Dibble and O. Bar-Yosef (eds), *The definition and interpretation of Levallois technology*, Monographs in World Archaeology 23, 41-68. Madison: Prehistory Press
- Bond, G., Shower, W., Cheseby, M., Lotti, R., Almasi, P., de Menocal, P., Priore, P., Cullen, H., Hadjas, I. and Bonani, G. 1997. A pervasive millennial-scale cycle in North Atlantic Holocene and Glacial climates. *Science* 258, 1257-66
- Brauer, A., Allen, J.R.M., Mingram, J., Dulski, P., Wulf, S. and Huntley, B. 2007. Evidence for last interglacial chronology and environmental change from Southern Europe. *Proceedings of the National Academy of Science (USA)* 104 (2) 450-55
- Bridgland, D.R., Maddy, D. and Bates, M. 2004. River terrace sequences: templates for Quaternary geochronology and marine-terrestrial correlation. *Journal of Quaternary Science* 19 (2), 203-18
- Bridgland, D.R. and Westaway, R. 2008a. Preservation patterns of Late Cenozoic fluvial deposits and their implications: results from IGCP 449. *Quaternary International* 189, 5-38

REFERENCES

- Bridgland, D.R. and Westaway, R. 2008b. Climatically controlled river terrace staircases: a worldwide Quaternary phenomenon. *Geomorphology* 98, 285-315
- Broodbank, C. 2006. The origins and early development of Mediterranean maritime activity. *Journal of Mediterranean Archaeology* 19 (2), 199-230
- Brown, A.G., Carey, C., Erkens, G., Fuchs, M., Hoffmann, T., Macaire, J.-J., Moldenhauer, K.M. and Walling, D. E. 2009. From sedimentary records to sediment budgets: multiple approaches to catchment sediment flux. *Geomorphology* 108, 35-47
- Brusden, D. 2001. A critical assessment of the sensitivity concept in geomorphology. *Catena* 42, 99-123
- Brusden, D. and Thornes, J.B. 1979. Landscape sensitivity and change. *Transactions of the Institute of British Geographers*, New Series 4 (4), 463-84
- Burchfiel, B.C., Nakov, R. and Tzankov, T. 2003. Evidence from the Mesta half-graben, SW Bulgaria, for the Late Eocene beginning of Aegean extension in the Central Balkan Peninsula. *Tectonophysics* 375, 61-76
- Butzer, K.W. 1965. Acheulian occupation sites at Torralba and Ambrona, Spain: their geology. *Science* 150, 1718-21
- Butzer, K.W. 1982. *Archaeology as Human Ecology: method and theory for a contextual approach*. Cambridge: Cambridge University Press
- Butzer, K.W. 2005. Environmental history in the Mediterranean world: cross-disciplinary investigation of cause-and-effect fro degradation and soil erosion. *Journal of Archaeological Science* 32, 1773-1800
- Cachel, S. and Harris, J.W.K. 1998. The lifeways of Homo erectus inferred from archaeology and evolutionary ecology: a perspective from East Africa. In M.D. Petraglia and R. Korisettar (eds), *Early human behavior in global context: the rise and diversity of the Lower Palaeolithic record*, 104-29. London: Routledge
- Candy, I. and Black, S. 2009. The timing of Quaternary calcrete development in semi-arid southeast Spain: investigating the role of climate on calcrete genesis. *Sedimentary Geology* 218, 6-15
- Candy, I., Black, S. and Sellwood, B.W. 2004. Quantifying timescales of pedogenic calcrete formation using U-series disequilibria. *Sedimentary Geology* 170, 177-87
- Caputo, R. 1990. *Geological and structural study of the recent and active brittle deformation of the Neogene-Quaternary basins of Thessaly (Central Greece)*. Thessaloniki: Aristotle University of Thessaloniki Scientific Annals 12
- Caputo, R. 1993. The Rodia Fault System: an active complex shear zone (Larissa Plain, Central Greece). *Bulletin of the Geological Society of Greece* XXVIII (1), 447-56
- Caputo, R. 2007. Sea-level curves: Perplexities of an end-user in morphotectonic applications. *Global and Planetary Change* 57, 417-23
- Caputo, R., Bravard, J.-P. and Helly, B. 1994. The Pliocene-Quaternary tecto-sedimentary evolution of the Larissa Plain (Eastern Thessaly, Greece). *Geodinamica Acta* 7 (4), 219-31
- Caputo, R. and Helly, B. 2005. The Holocene activity of the Rodia Fault, Central Greece. *Journal of Geodynamics* 40, 153-69
- Caputo, R., Helly, B., Pavlides, S. and Papadopoulos, G. 2006. Archaeo- and palaeoseismological investigations in Northern Thessaly, Greece: Insights for the seismic potential of the region. *Natural Hazards* 39, 195-212
- Caputo, R. and Pavlides, S. 1993. Late Cenozoic geodynamic evolution of Thessaly and surroundings (central-northern Greece). *Tectonophysics* 223, 339-62
- Carbonell, E., Bermúdez de Castro, J.M., Arsuaga, J.L., Allué, E., Bastir, M., Benito, A., Caceres, I., Canals, T., Díez, J.C., van der Made, J., Mosquera, M., Ollé, A., Pérez-Gonzales, A., Rodríguez, X.P., Rosas, A., Rosell, J., Sala, R., Vallverdu, J. and Vergés, J.M. 2005. An Early Pleistocene hominin mandible from Atapuerca-TD6, Spain. *Proceedings of the National Academy of Sciences of the United States of America* 102 (16), 5674-8
- Carbonell, E., Bermúdez de Castro, J.M., Arsuaga, J.L., Díez, J.C., Rosas, A., Cuenca-Bescós, G., Sala, R., Mosquera, M. and Rodríguez, X.P. 1995. Lower Pleistocene hominids and artifacts from Atapuerca-TD6 (Spain). *Science* 269, 826-30
- Carbonell, E., Bermúdez de Castro, J.M., Parés, J.M., Pérez-Gonzales, A., Cuenca-Bescós, G., Ollé, A., Mosquera, M., Huguet, R., van der Made, J., Rosas, A., Sala, R., Valleverdu, J., García, N., Granger, D.E., Martínón-Torres, M., Rodríguez, X.P., Stock, G.M., Vergés, J.M., Allué, E., Burjachs, F., Cáceres, I., Canals, A., Benito, A., Díez, C., Lozano, M., Mateos, A., Navazo, M., Rodríguez, J., Rosell, J. and Arsuaga, J.L. 2008. The first hominin in Europe. *Nature* 452, 465-70
- Carbonell, E., Mosquera, M., Rodríguez, X.P., Sala, R. and van der Made J. 1999. Out of Africa: the dispersal of the earliest technical systems reconsidered. *Journal of Anthropological Archaeology* 18, 119-36

- Carbonell, E. and Rodríguez, X.P. 2006. The first human settlement of Mediterranean Europe. *Comptes Rendus Palevol* 5, 291-8
- Carmody, R.N. and Wrangham, R.W. 2009. The energetic significance of cooking. *Journal of Human Evolution* 57, 379-91
- Carrigy, M.A. 1970. Experiments on the angles of repose of granular materials. *Sedimentology* 14, 147-58
- Carrión, J.S., Finlayson, C., Fernández, S., Finlayson, G., Allué, E., López-Sáez, J.A., López-García, P., Gil-Romera, G., Bailey, G. and González-Sampériz, P. 2008. A coastal reservoir of biodiversity for Upper Pleistocene human populations: palaeoecological investigations in Gorham's Cave (Gibraltar) in the context of the Iberian Peninsula. *Quaternary Science Reviews* 27, 2118-35
- Casana, J. 2008. Mediterranean valleys revisited: linking soil erosion, land use and climate variability in the Northern Levant. *Geomorphology* 101, 429-42
- Casas-Sainz, A.M. and de Vicente, G. 2009. On the tectonic origin of Iberian topography. *Tectonophysics* 474, 214-235
- Casermeiro, M.A., Molina, J.A., de la Cruz Caravaca, M. T, Hernando Costa J., Hernando Massanet, M.I. and Moreno, P.S. 2004. Influence of shrubs on runoff and sediment loss in soils of Mediterranean climate. *Catena* 57, 91-107
- Cela-Conde, C. and Ayala, F. 2003. Genera of the human lineage. *Proceedings of the National Academy of Sciences of the United States of America* 100 (13), 7684-89
- Cendrero, A. and F. Dramis 1996. The contribution of landslides to landscape evolution in Europe. *Geomorphology* 15, 191-211
- Chavaillon, J., Chavaillon, N. and Hours, F. 1967. Industries paléolithiques de l' Élide I, région d'Amaalias. *Bulletin de Correspondance Hellénique* 91, 151–201
- Chavaillon, J., Chavaillon, N. and Hours, F. 1969. Industries paléolithiques de l' Élide II, région de Kastron. *Bulletin de Correspondance Hellénique* 93, 97-151
- Chazan, M. 1997. Redefining Levallois. *Journal of Human Evolution* 33, 719-35
- Cheddadi, R., de Beaulieu, J.-L., Jouzel, J., Andrieu-Ponel, V., Laurent, J.-M., Reille, M., Raynaud, D. and Bar-Hen, A. 2005. Similarity of vegetation dynamics during interglacial periods. *Proceedings of the National Academy of Science (USA)* 102 (39), 13939-43
- Chelidonio, G. 2001. Manufatti litici su Ciottolo da Milos (isole Cicladi). *Pegaso: Rivista di Cultura Mediterranea* 1, 117-44
- Cherry, J.F. and Parkinson, W.A. 2003. Lithic artefacts from surveys: a comparative evaluation of recent evidence from the southern Aegean. In N. Kardulias and R. Yerkes (eds), *Written in Stone: the multiple dimensions of lithic analysis*, 35-57. Maryland: Lexington Books
- Choi, K. and Driwantoro, D. 2007. Shell tool use by early members of *Homo erectus* in Sangiran, central Java, Indonesia: cut mark evidence. *Journal of Archaeological Science* 34, 48-58
- Church, M. and Hassan, M.A. 1992. Size and distance of unconstrained clasts on a streambed. *Water Resources Research* 28, 299-303
- Clark, J.D. 1992. The Earlier Stone Age / Lower Palaeolithic in North Africa and the Sahara. In F. Klees and R. Kuper (eds), *New light on the northeast African past*, 17-37. Köln: Heinrich-Barth Institut
- Clark, J.D. 1994. The Acheulian Industrial Complex in Africa and elsewhere. In R.S. Corruccini and R.L. Ciocchon (eds) *Integrative Paths to the Past -Paleoanthropological Advances in Honor of F. Clark Howell*, 451-69. Englewood Cliff, New Jersey: Prentice Hall
- Clark, P.U. and Mix, A.C. 2002. Ice sheets and sea level of the Last Glacial Maximum. *Quaternary Science Reviews* 21, 1-7
- Clark, M. and Small, J. 1982. *Slopes and Weathering*. Cambridge: Cambridge University Press
- Cloetingh, S.A.P.L., Ziegler, P.A., Bogaard, P.J.F., Andriesen, P.A.M., Artemieva, I.M., Bada, G., van Balen, R.T., Beeckman, F., Ben-Avraham, Z., Brun, J.-P., Bunge, H.P., Burov, E.B., Carbonell, R., Facenna, C., Friedrich, A., Gallart, J., Green, A.G., Heidbach, O., Jones, A.G., Matenco, L., Mosar, J., Oncken, O., Pascal, C., Peters, G., Sliaupa, S., Soesso, A., Spakman, W., Stephenson, R.A., Thybo, H., Torsvik, T., de Vicente, G., Wenzel, F., Wortel, M.J. R. and TOPO-EUROPE Working Group 2007. TOPO-EUROPE: The geoscience of coupled deep Earth-surface processes. *Global and Planetary Change* 58, 1-118
- Codilean, A.T., Bishop, B. and Hoey, T.B. 2006. Surface process models and the links between tectonics and topography. *Progress in Physical Geography* 30 (3), 307-33
- Collier, R.E.LI., Leeder, M.R. and Jackson, J.A. 1995. Quaternary drainage development, sediment fluxes and extensional tectonics in Greece. In J. Lewin, M.G. Macklin and J.C. Woodward (eds), *Mediterranean Quaternary River Environments*, 31-44. Rotterdam: Balkema
- Collins, M.B., Lykousis, V. and Ferentinos, G. 1981. Temporal variations in sedimentation patterns: NW Aegean Sea. *Marine Geology* 43, 39-48

REFERENCES

- Coltorti, M., Cremaschi, M., Delitala, M.C., Esu, D., Fornaseri, M., McPherron, A., Nicoletti, M., van Otterloo, R., Peretto, C., Sala, B., Schmidt, V. and Sevink, J. 1982. Reversed magnetic polarity at an early Lower Palaeolithic site in Central Italy. *Nature* 300, 173-6
- Coltorti, M., Feraud, G., Marzoli, A., Peretto, C., Ton-That, T., Voinchet, P., Bahain, J.-J., Minelli, A. and Thun Hohenstein, U. 2005. New $^{40}\text{Ar}/^{39}\text{Ar}$, stratigraphic and palaeoclimatic data on the Isernia La Pineta Lower Palaeolithic site, Molise, Italy. *Quaternary International* 131, 11-22
- Conacher, A.J. and Delrymple, J.B. 1977. The nine-unit land-surface model: an approach to pedogeomorphic research. *Geoderma* 18, 1-154
- Conacher, A.J. and Sala, M. 1998. *Land degradation in Mediterranean environments of the world: nature and extent, causes and solutions*. Chichester: John Wiley & Sons.
- Constantini, R., Ottini, L., Caramiello, S., Palmirotta, R., Mallegni, F., Rossi, A., Frati, L. and Capasso, L. 2001. Taphonomy of the fossil hominid bones from the Acheulean site of Castel di Guido near Rome, Italy. *Journal of Human Evolution* 41, 211-25
- Coulthard, T.J., Lewin, J. and Macklin, M.G. 2005. Modelling differential catchment response to environmental change. *Geomorphology* 69, 222-41
- Cramp, A., Collins, M. and West, R. 1988. Late Pleistocene-Holocene sedimentation in the NW Aegean Sea: a palaeoclimatic, palaeoceanographic reconstruction. *Palaeogeography, Palaeoclimatology, Palaeoecology* 68, 61-77
- Cubuk, G.A. 1976. Altpaläolithische Funde von den Mittelmeerterrassen bei Nea Skala auf Kephallinia (Griechenland). *Archäologisches Korrespondenzblatt* 6, 175-81
- Cuenca-Bescós, G., Laplana, C. and Canudo, J.I. 1999. Biochronological implications of the Arvicolidae (Rodentia, Mammalia) from the Lower Pleistocene hominid-bearing level of Trinchera Dolina 6 (TD6, Atapuerca, Spain). *Journal of Human Evolution* 37, 353-73
- Dakaris, S.I., Higgs, E.S. and Hey, R.W. 1964. The Climate, environment and industries of Stone Age Greece: Part I. *Proceedings of the Prehistoric Society* 30, 199-244
- Dalrymple, J.B., Blong, R.J. and Conacher, A.J. 1968. An hypothetical nine unit landsurface model. *Zeitschrift für Geomorphologie* 12 (1), 60-76
- Darlas, A. 1994. Le Paléolithique inférieur et moyen de Grèce. *L'Anthropologie* 98, 305-28
- Darlas, A. 1995a. The earliest occupation of Europe: the Balkans. In W. Roebroeks and T. van Kolfschoten (eds), *The Earliest Occupation of Europe. Proceedings of the European Science Foundation Workshop at Tautavel (France), November 1993*, 51-59. Leiden: Leiden University Press
- Darlas, A. 1995b. L'industrie du paléolithique moyen de Mavri Myti (Lakkopetra, Grèce). *Bulletin de la Société Préhistorique Française* 92 (3), 390-98
- Darlas, A. 1999. Palaeolithic research in Western Achaea. In G.N. Bailey, E. Adam, E. Panagopoulou, C. Perlès and K. Zachos (eds), *The Palaeolithic Archaeology of Greece and Adjacent Areas: Proceedings of the ICOPAG Conference, Ioannina, September 1994*, 303-10. London: British School at Athens Studies 3
- Darlas, A. 2003. Palaeolithic finds from the Megalopolis basin: their relation to the fossils of the same area. In A. Vlachopoulos and K. Birtacha (eds), *ARGONAUTIS: Timetikos tomos yia ton Kathegete Christo G. Douma apo tous mathetes tou sto Panepistimio Athenon (1980-2000)*, 27-37. Athens: Kathimerini (in Greek)
- Darlas, A. 2007. The Mousterian of Greece under the light of recent research. *L'Anthropologie* 111, 346-66
- Darlas, A. and de Lumley, H. 1999. Palaeolithic research in Kalamakia Cave, Areopolis, Peloponnese. In G.N. Bailey, E. Adam, E. Panagopoulou, C. Perlès and K. Zachos (eds), *The Palaeolithic Archaeology of Greece and Adjacent Areas: Proceedings of the ICOPAG Conference, Ioannina, September 1994*, 293-302. London: British School at Athens Studies 3
- Darlas, A., Karkanas, P., Palli, O. and Papadea, A. 2007. Palaeolithic research on south-west Corfu. *Archaeologika Analekta ex Athinon* 39, 11-30 (2006) (in Greek)
- Dart, C.J., Collier, R.E.L., Gawthorpe, R.L., Keller, J.V. A. and Nichols, G. 1994. Sequence stratigraphy of Pliocene-Quaternary synrift, Gilbert-type fan deltas, northern Peloponnesos, Greece. *Marine and Petroleum Geology* 11 (5), 545-560
- Davis, W.M. 1899. The geographical cycle. *Geographical Journal* 14, 481-504
- Debénath, A. and Dibble, H.L. 1994. Handbook of Paleolithic typology, volume one: Lower and Middle Paleolithic of Europe. Philadelphia: University of Philadelphia
- Dedkov, A.P. and Moszherin, V.T. 1992. Erosion and sediment yield in mountain areas of the world. In D.E. Walling, T.R. Davies and B. Hasholt (eds), *Erosion, Debris Flows and Environment in Mountain Regions of the World*, 29-36. IAHS Publication 209
- Della Seta, M., Del Monte, M., Fredi, P. and Lupia Palmieri, E. 2009. Space-time variability of denudation rates at the catchment and hillslope scales on the

- Tyrrhenian side of Central Italy. *Geomorphology* 107, 161-77
- Demas, G.P. and Rabenhorst, M.C. 2001. Factors of subaqueous soil formation: a system of quantitative pedology for submersed environments. *Geoderma* 102, 189-204
- Demitrack, A. 1986. *The Late Quaternary geologic history of the Larissa Plain, Thessaly, Greece: tectonic, climatic and human impact on the landscape.* Unpublished PhD thesis, Stanford University
- Dennell, R. 2003. Dispersal and colonization, long and short chronologies: how continuous is the Early Pleistocene record for hominids outside East Africa? *Journal of Human Evolution* 45, 421-40
- Dennell, R. 2009. Transitions: behavioral change in the Early Pleistocene. In M. Camps and P.R. Chauhan (eds), *Sourcebook of Palaeolithic transitions: methods, theories and interpretations*, 229-34. New York: Springer
- Dennell, R., Martinón-Torres, M. and Bermúdez de Castro, J.M. 2010. Out of Asia: the initial colonisation of Europe in the Early and Middle Pleistocene. *Journal of Human Evolution* 223-224, 439
- Dennell, R. and Roebroeks, W. 1996. The earliest colonization of Europe: the short chronology revisited. *Antiquity* 70, 535-42
- Dennell, R. and Roebroeks, W. 2005. An Asian perspective on early human dispersal from Africa. *Nature* 438, 1099-1104
- Derricourt, R. 2005. Getting 'Out of Africa': sea crossings, land crossings and culture in the hominid migrations. *Journal of World Prehistory* 19, 119-32
- Dermitsakis, M.D., Lekkas, E., Drinia, Ch. and Triantaphyllou M.B. 2000. Stratigraphic and tectonosedimentary evolution of Zakynthos Island. *Proceedings of the 6th Panonian Congress* 1, 235-48
- Dermitsakis, M.D., Papanikolaou, D. and Karotsieris, Z. 1979. The marine Quaternary formations of SE Zakynthos island and their paleogeographic implications. *Proceedings of the 6th Colloquium on the Geology of the Aegean Region* 1, 407-415
- Dermitsakis, M.D. and Sondaar, P.Y. 1978. The importance of fossil mammals in reconstructing paleogeography with special reference to the Pleistocene Aegean Archipelago. *Annales Géologiques des Pays Helléniques* 29, 808-40
- Desprat, S., Sánchez-Goñi, M.F., McManus, J.F., Duprat, J. and Cortijo, E. 2009. Millennial-scale climatic variability between 340 000 and 270 000 years ago in SW Europe: evidence from a NW Iberian margin pollen sequence. *Climate of the Past* 5, 53-72
- De Vente, J. and Posen, J. 2005. Predicting soil erosion and sediment yield at the basin scale: scale issues and semi-quantitative models. *Earth-Science Reviews* 71, 95-125
- De Vente, J., Poesen, J., Verstraeten, G., Van Rompaey, A. and Govers, G. 2008. Spatially distributed modeling of soil erosion and sediment yield at regional scales in Spain. *Global and Planetary Change* 60, 393-415
- Díaz-Hernández, J.L. and Juliá, R. 2006. Geochronological position of badlands and geomorphological patterns in the Guadix-Baza basin (SE Spain). *Quaternary Research* 65, 467-77
- Dibble, H. L. 1991. Local raw material exploitation and its effects on Lower and Middle Palaeolithic assemblage variability. In A. Montet-White and S. Holen (eds), *Raw material economies among prehistoric hunter-gatherers*, Publications in Anthropology 19, 33-47. Lawrence: University of Kansas
- Digerfeldt, G., Sandgren, P. and Olson, S. 2007. Reconstruction of Holocene lake-level changes in Lake Xinias, central Greece. *The Holocene* 17 (3), 361-67
- Dimoyannis, D., Valmis, S. and Danalatos, N.G. 2006. Interill erosion on cultivated Greek soils: modeling sediment delivery. *Earth Surface Processes and Landforms* 31, 940-49
- Dincauze, D.F. 2000. *Environmental Archaeology: principles and practice*. Cambridge: Cambridge University Press.
- Doboş, A. 2008. The Lower Palaeolithic of Romania: a critical review. *PaleoAnthropology* 2008, 218-33.
- Doukas, C.S. and A. Athanassiou 2003. Review of the Pliocene and Pleistocene Proboscidea (Mammalia) from Greece. In J.W.F. Reumer, J. De Vos and D. Mol (eds) *Advances in Mammoth Research: Proceedings of the Second International Mammoth Conference, Rotterdam, May 16-20 1999*, Deinsea 9, 97-110
- Dousougli, A. 1999. Palaeolithic Leukas. In G.N. Bailey, E. Adam, E. Panagopoulou, C. Perlès, and K. Zachos (eds), *The Palaeolithic Archaeology of Greece and Adjacent Areas: Proceedings of the ICOPAG Conference, Ioannina, September 1994*, 288-92. London: British School at Athens Studies 3
- Doutsos, T. and Kokkalas, S. 2001. Stress and deformation patterns in the Aegean region. *Journal of Structural Geology* 23, 455-72
- Doutsos, T., Kontopoulos, N. and Frydas, D. 1987. Neotectonic evolution of northwestern-continental Greece. *Geologische Rundschau* 76 (2), 433-50
- Dubreuil, B. 2010. Paleolithic public goods games: why human culture and cooperation did not evolve in one step. *Biology and Philosophy* 25, 53-73
- Duermeijer, C.E., Krijgsman, W., Langereis, C.G., Meulenkamp, J.E., Triantaphyllou, M.V. and Zachariasse, W.J. 1999. A Late Pleistocene clockwise rotation

REFERENCES

- phase of Zakynthos (Greece) and implications for the evolution of the western Aegean arc. *Earth and Planetary Science Letters* 173, 315-31
- Durn, G. 2003. Terra Rossa in the Mediterranean region: parent materials, composition and origin. *Geologia Croatica* 56 (1), 83-100
- Efstratiou, N. and Ammerman, A.J. 1996. The first finds from the Palaeolithic period in Thrace. *Archaiologia kai Technes* 60, 7-12 (in Greek)
- Efstratiou, N., Biagi, P., Elefanti, P., Karkanas, P. and Nitinou, M. 2006. Prehistoric exploitation of Grevena highland zones: hunters and herders along the Pindus chain of western Macedonia (Greece). *World Archaeology* 38 (3), 415-35
- Ehlers, J. and Gibbard, P.L. 2003. Extent and chronology of glaciations. *Quaternary Science Reviews* 22, 1561-68
- Elefanti, P., Panagopoulou, E. and Karkanas, P. 2008. The transition from the Middle to the Upper Palaeolithic in the southern Balkans: the evidence from Lakonis I cave, Greece. *Eurasian Prehistory* 5, 85-96
- EPICA community members 2004. Eight glacial cycles from an Antarctic ice core. *Nature* 429, 623-8
- Erlandson, J.M. 2001. The archaeology of aquatic adaptations: paradigms for a new millennium. *Journal of Archaeological Research* 9 (4), 287-350
- European Union Maritime Policy: Facts and Figures, Greece. Available at: http://ec.europa.eu/maritimeaffairs/pdf/country_factsheets/greece_en.pdf
- Fa, D.A. 2008. Effects of tidal amplitude on intertidal resource availability and dispersal pressure in prehistoric human coastal populations: the Mediterranean-Atlantic transition. *Quaternary Science Reviews* 27, 2194-2209
- Fairbanks, R.Q. 1989. A 17000 year glacioeustatic sea-level record: influence of glacial melting rates on the Younger Dryas event and deep ocean circulation. *Nature* 342, 642-7
- Falguères, C., Bahain, J.-J., Pérez-González, A., Mercier, N., Santonja, M. and Dolo, J.-M. 2006. The Lower Acheulian site of Ambrona, Soria (Spain): ages derived from a combined ESR/U-series model. *Journal of Archaeological Science* 33, 149-57
- Falguères, C., Bahain, J.-J., Tozzi, C., Boschian, G., Dolo, J.-M., Mercier, N., Valladas, H. and Yokoyama, Y. 2008. ESR/U-series chronology of the Lower Palaeolithic palaeoanthropological site of Visogliano, Trieste, Italy. *Quaternary Geochronology* 3, 390-8
- Falguères, C., Bahain, J.-J., Yokoyama, Y., Arsuaga, J.L., Bermúdez de Castro, J.M., Bischoff, J.L. and Dolo, J.-M. 1999. Earliest humans in Europe: the age of TD6 Gran Dolina, Atapuerca, Spain. *Journal of Human Evolution* 37, 343-52.
- Fanning, P. and Holdaway, S. 2001. Stone artifact scatters in western NSW, Australia: Geomorphic controls on artifact size and distribution. *Geoarchaeology* 16 (6), 667-86
- Fanning, P.C., Holdaway, S.J., Rhodes, E.J. and Bryant, T. G. 2009. The surface archaeological record in arid Australia: geomorphic controls on preservation, exposure and visibility. *Geoarchaeology* 24 (2), 121-46
- Faure, H., Walter, R.C. and Grant, D.R. 2002. The coastal oasis: ice age springs on emerged continental shelves. *Global and Planetary Change* 33, 47-56
- Féblot-Augustins, J. 1999. Raw material transport patterns and settlement systems in the European Lower and Middle palaeolithic: continuity, change and variability. In W. Roebroeks and C. Gamble (eds), *The Middle Palaeolithic Occupation of Europe*, 193-214. Leiden: University of Leiden
- Ferentinos, G. 1992. Recent gravitational mass movements in a highly tectonically active arc system: The Hellenic Arc. *Marine Geology* 104, 93-107
- Finlayson, C. 2008. On the importance of coastal areas in the survival of Neanderthal populations during the Late Pleistocene. *Quaternary Science Reviews* 27, 2246-52
- Flemming, N.C. 1985. Ice ages and human occupation of the Continental Shelf. *Oceanus* 28, 18-26
- Flemming, N.C. 1998. Archaeological evidence for vertical tectonic movement on the continental shelf during the Palaeolithic, Neolithic and Bronze Age periods. In I.S. Stewart and C. Vita-Finzi (eds), *Coastal tectonics*, Geological Society Special Publication 146, 129-146. London: Geological Society
- Fletcher, W.J. and Sánchez-Goñi, M.F. 2008. Orbital- and sub-orbital-scale climate impacts on vegetation of the western Mediterranean basin over the last 48,000 yr. *Quaternary Research* 70, 451-64
- Forsström, L. 2001. Duration of interglacials: a controversial question. *Quaternary Science Reviews* 20, 1557-86
- Freeman, L.G. 1975. Acheulean sites and stratigraphy in Iberia and the Maghreb. In K. Butzer and G. Isaac (eds.), *After the Australopithecines. Stratigraphy, Ecology, and Culture Change in the Middle Pleistocene*, 661-743. The Hague: Mouton
- French, C.A.I. 2003. *Geoarchaeology in action: studies in soil micromorphology and landscape evolution*. London: Routledge
- French, C.A.I. and Whitelaw, T.M. 1999. Soil erosion, agricultural terracing and site formation processes at Markiani, Amorgos, Greece: the micromorphological perspective. *Geoarchaeology* 14 (2), 151-89
- Freund, G. 1971. Zum Paläolithikum Thessaliens. *Prehistorische Zeitschrift* 46, 181-94

- Frogley, M.R., Tzedakis, P.C. and Heaton, T.H.E. 1999. Climate variability in northwest Greece during the Last Glacial. *Nature* 285, 1886-89
- Fuchs, M. 2007. An assessment of human versus climatic impacts on Holocene soil erosion in NE Peloponnese, Greece. *Quaternary Research* 67, 349-56
- Gabunia, L., de Lumley, M.-A., Vekua, A., Lordkipanidze, D.D. and de Lumley, H. 2002. Découverte d'un nouvel hominidé à Dmanisi (Transcaucasie, Géorgie). *Comptes Rendus Palevol* 1, 243-53
- Gabunia, L., Vekua, A. and Lordkipanidze, D. 2000. The environmental contexts of early human occupation of Georgia (Transcaucasia). *Journal of Human Evolution* 38, 785-802
- Galanidou, N. 1996. 'So far away, so close': historical and theoretical perspectives on Palaeolithic and Mesolithic research in Greece. *Ariadni* 8, 7-29
- Galanidou, N. 2004. Early hominids in the Balkans. In H.I. Griffiths, B. Kryštufek and J.M. Reed (eds), *Balkan Biodiversity: Pattern and Process in the European Hotspot*, 147-65. Dordrecht: Kluwer Academic Publishers
- Gamble, C. 1999. *The Palaeolithic societies of Europe*. Cambridge: Cambridge University Press
- Gaultier, P., Brun, J.-P., Moriceau, R., Sokoutis, D., Martinod, J. and Joliver, L. 1999. Timing, kinematics and cause of Aegean extension: a scenario based on a comparison with simple analogue experiments. *Tectonophysics* 315, 31-72
- Geeson, N.A., Brabdt, C.J. and Thornes, J.B. (eds) 2002. *Mediterranean desertification: a mosaic of processes and responses*. Chichester: John Wiley & Sons
- Geraads, D., Raynal, J.-P. and Eisenmann, V. 2004. The earliest human occupation of North Africa: a reply to Sahnouni et al. (2002). *Journal of Human Evolution* 46, 751-61
- Geraga, M., Tsaila-Monopolis, St., Ioakim, Chr., Papathodorou, G. and Ferentinos, G. 2005. Short-term climate changes in the southern Aegean Sea over the last 48,000 years. *Palaeogeography, Palaeoclimatology, Palaeoecology* 220, 311-32
- Ghisetti, F. and Vezzani, L. 1999. Depth and modes of Pliocene-Pleistocene crustal extension of the Apennines (Italy). *Terra Nova* 11, 67-72
- Gibbard, P.L. and Lewin, J. 2009. River incision and terrace formation in the Late Cenozoic of Europe. *Tectonophysics* 474, 41-55
- Gibert, J., Campillo, D., Arqués, M., García-Olivares, E., Borja, C. and Lowenstein, J. 1998a. Hominid status of the Orce cranial fragment reassessed. *Journal of Human Evolution* 34, 203-17
- Gibert, J., Gibert, L., Iglesias, A. and Maestro, E. 1998b. Two 'Oldowan' assemblages in the Plio-Pleistocene deposits of the Orce region, southeast Spain. *Antiquity* 72, 17-25
- Gibert, J., Sánchez, F., Ribot, F., Gibert, Ll., Iglesias, A. and El Hamouti, N. 2008. Dispersion du Genre *Homo* au sud d'Ibérie et au Maghreb: nouvelles données à propos des fossiles VM-1960 et BL-0. *L'anthropologie* 112, 48-73
- Gibert, L., Scott, G. and Ferrández-Cañadell, C. 2006. Evaluation of the Olduvai subchron in the Orce ravine (SE Spain). Implications for Plio-Pleistocene mammal biostratigraphy and the age of Orce archaeological sites. *Quaternary Science Reviews* 25, 507-25
- Giorgi, F. and P. Lionello 2008. Climate change projections for the Mediterranean region. *Global and Planetary Change* 63, 90-104
- Gkouma, M. 2009. *Past and present soil erosion in Zakynthos: a geoarchaeological study on the impact of soil erosion on archaeological distributions*. Unpublished MSc Thesis. Amsterdam: Vrije Universiteit
- Golberg, P. 1995. The changing landscape. In T.E. Levy (ed.), *The archaeology of society in the Holy Land*, 40-57. London: Leicester University Press
- Goldberg, P. and Macphail, R.I. 2006. *Practical and theoretical Geoarchaeology*. Oxford: Blackwell Publishing
- Goldsworthy, M. and Jackson, J. 2000. Active normal fault evolution in Greece revealed by geomorphology and drainage patterns. *Journal of the Geological Society, London*, 157, 967-81
- Goldsworthy, M. and Jackson, J. 2001. Migration of activity within normal fault systems: examples from the Quaternary of mainland Greece. *Journal of Structural Geology* 23, 489-506
- Goldsworthy, M., Jackson, J. and Haines, J. 2002. The continuity of active fault systems in Greece. *Geophysical Journal International* 148, 596-618
- Goren-Inbar, N. 1995. The Lower Palaeolithic of Israel. In T.E. Levy (ed.), *The archaeology of society in the Holy Land*, 93-109. London: Leicester University Press
- Goren-Inbar, N., Belitzky, S., Verosub, K., Werker, E., Kislev, M., Heimann, A., Carmi, I. and Rosenfeld, A. 1992. New discoveries at the Middle Pleistocene Acheulian site of Gesher Benot Ya'aqov, Israel. *Quaternary Research* 38, 117-28
- Goren-Inbar, N., Feibel, C.S., Verosub, K.L., Melamed, Y., Kislef, M.E., Tcernov, E. and Saragusti, I. 2000. Pleistocene milestones on the Out-of-Africa corridor at Gesher Benot Ya'aqov, Israel. *Science* 289, 944-7
- Gowlett, J.A.J. 1999. The Lower and Middle Palaeolithic transition problems and hominid species: Greece in broader perspective. In G.N. Bailey, E. Adam, E.

- Panagopoulou, C. Perlès and K. Zachos (eds), *The Palaeolithic Archaeology of Greece and Adjacent Areas: Proceedings of the ICOPAG Conference, Ioannina, September 1994*, 43-58. London: British School at Athens Studies 3
- Gowlett, J.A.J. and Carter, P. 1997. The basal Mousterian of Asprochaliko rockshelter, Louros Valley. In G.N. Bailey (ed.), *Klithi: Palaeolithic settlement and Quaternary landscapes in northwest Greece, vol. 2: Klithi in its local and regional setting*, 441-57. Cambridge: McDonald Institute for Archaeological Research
- Greenland Ice-core Project Members (GRIP) 1993. Climate instability during the last interglacial period recorded in the GRIP ice core. *Nature* 364, 203-7
- Grove, A.T. and Rackham, O. 2001. *The Nature of Mediterranean Europe: An Ecological History*. New Haven and London: Yale University Press
- Grün, R. 1996. A re-analysis of electron spin resonance dating results associated with the Petralona hominid. *Journal of Human Evolution* 30, 227-41
- Guadelli, J.-L., Sirakov, N., Ivanova, St., Sirakova, Sv., Anastassova, E., Courtaud, P., Dimitrova, I., Djabariska, N., Fernandez, P., Ferrier, C., Fortugne, M., Gambier, D., Guadelli, A., Iordanova, D., Iordanova, N., Kovatcheva, M., Krumov, I., Leblanc, J.-C., Mallye, J.-B., Marinska, M., Miteva, V., Popov, V., Spassov, R., Taneva, St., Tisterat-Laborde, N. and Tsatsova, T. 2005. Une séquence du Paléolithique inférieur au Paléolithique récent dans les Balkans: La Grotte Kozarnika a Orechets (Nord-Ouest de la Bulgarie). In N. Molines, M.-H. Moncel and J.-L. Monnier (eds), *Les Premiers peuplements en Europe*, 87-107. Oxford: British Archaeological Reports International Series 1364
- Güleç, E., White, T., Kuhn, S., Özer, I., Sağır, M., Yilmaz, H. and Howell, F.C. 2009. The Lower Pleistocene lithic assemblage from Dursunlu (Konya), central Anatolia, Turkey. *Antiquity* 83, 11-22
- Hanja, N.Z., Mihevc, A., Pruner, P. and Bosák, P. 2010. Palaeomagnetic research on karst sediments in Slovakia. *International Journal of Speleology* 39 (2), 47-60
- Harden, J.W. 1982. A quantitative index of soil development from field: examples from a chronosequences in Central California. *Geoderma* 285, 1-98
- Harris, D.R. and Vita-Finzi, C. 1968. Kokkinopilos: a Greek badland. *The Geographical Journal* 134 (4), 537-46
- Harvati, K. 2000. Apidima. In E. Delson, I. Tattersall, J.A. van Couvering and A.S Brooks (eds) *Encyclopedia of Human Evolution and Prehistory*, 141-2. New York: Garland Publishing, 2nd edition
- Harvati, K. 2009. Petralona: link between Africa and Europe? In L. Schepartz, S. Fox and C. Bourbou (eds.), *New directions in the skeletal biology of Greece*, 31-48. Athens: Occasional Wiener Laboratory Series, ASCSA
- Harvati, K. and Delson, E. 1999. Conference report: Paleoanthropology of the Mani Peninsula (Greece). *Journal of Human Evolution* 36, 343-8
- Harvati, K., Panagopoulou, E. and Karkanas, P. 2003. First Neanderthal remains from Greece: the evidence from Lakonis. *Journal of Human Evolution* 45, 465-73
- Harvati, K., Panagopoulou, E., Karkanas, P., Athanassiou, A. and Frost, S.R. 2008. Preliminary results of the Aliakmon Paleolithic/Paleoanthropological survey, Greece, 2004-2005. In A. Darlas and D. Mihailović (eds), *The Palaeolithic of the Balkans. Proceedings of the XV World Congress of the IUPPS (Lisbon, 4-9 September 2006)*, 15-20. Oxford: British Archaeological Report 1819
- Harvati, K., Panagopoulou, E. and Runnels, C. 2009. The paleoanthropology of Greece. *Evolutionary Anthropology* 18, 131-43
- Harvati, K., Symeonidis, N. and Doukas, C. n.d. The human upper molar from Megalopolis (*in preparation*)
- Harvey, A.M. 2001. Coupling between hillslopes and channels in upland fluvial systems: implications for landscape sensitivity, illustrated from the Howgill Fells, northwest England. *Catena* 42, 225-50
- Harvey, A.M. 2002. Effective timescales of coupling within fluvial systems. *Geomorphology* 44, 175-201
- Head, M.J. and Gibbard, P.L. 2005. Early-Middle Pleistocene transitions: an overview and recommendation for defining the boundary. In M. Head and P.L. Gibbard (eds), *Early-Middle Pleistocene transitions: the land-ocean evidence*, 1-18. London: Geological Society Special Publications 247
- Heimsath, A.M. and Ehlers, T.A. 2005. Quantifying rates and timescales of geomorphic processes. *Earth Surface Processes and Landforms* 30, 917-21
- Helmke, J.P., Bauch, H.A., Röhl, U. and Kandiano, E.S. 2008. Uniform climate development between the subtropical and subpolar Northeast Atlantic across marine isotope stage 11. *Climate of the Past* 4, 181-90
- Hennig, G.J., Herr, W., Weber, E. and Xirotiris, N.I. 1981. ESR-dating of the fossil hominid cranium from Petralona Cave, Greece. *Nature* 292, 533-6
- Hewitt, G. 2000. The genetic legacy of the Quaternary ice ages. *Nature* 405, 907-13
- Higgins, M.D. and Higgins, R. 1996. *A geological companion to Greece and the Aegean*. New York: Cornell University Press

- Higgs, E.S. 1963. A Middle Palaeolithic industry in Greece: Preliminary Report. *Man* 63, 2-3
- Higgs, E.S. 1964. A hand axe from Greece. *Antiquity* 38, 54-5
- Higgs, E.S and Vita-Finzi, C. 1966. The climate, environment and industries of Stone Age Greece: Part II. *Proceedings of the Prehistoric Society* 32, 1-29
- Hopkinson, T. 2007. The transition from the Lower to the Middle Palaeolithic in Europe and the incorporation of difference. *Antiquity* 81, 294-307
- Horton, R.E. 1945. Erosional development of streams and their drainage basins: hydro-physic approach to quantitative morphology. *Bulletin of the Geological Society of America* 56, 275-370
- Hosfield, R. 2007. Terrestrial implications for the maritime geoarchaeological resource: a view from the Lower Palaeolithic. *Journal of Maritime Archaeology* 2, 4-23
- Hosfield, R.T. and Chambers, J.C. 2004. *The archaeological potential of secondary contexts*. English Heritage Project Report (Project no. 3361), London: English Heritage Archive Report
- Hosfield, R.T. and J.C. Chambers 2005. Pleistocene geochronologies for fluvial sedimentary sequences: an archaeologist's perspective. *Journal of Quaternary Science* 20 (3), 285-96
- Hublin, J.-J. 2002. Glacial/Interglacial cycles and the biological evolution of the Pleistocene peopling of Europe. In A. Tuffreau and W. Roebroeks (eds.) *Le dernier Interglaciaire et les occupations humaines du Paléolithique moyen*, CERP vol. 8, 9-14. Villeneuve d'Ascq: University of Lille
- Hublin, J.-J. 2009. The origin of Neanderthals. *Proceedings of the National Academy of Sciences (USA)* 106 (38), 16022-27
- Huggett, R.J. 2003. *Fundamentals of Geomorphology*. London: Routledge
- Hughes, J.K., Haywood, A., Mithen, S.J., Sellwood, B.W. and Valdes, P.J. 2007a. Investigating early hominin dispersal patterns: developing a framework for climate data integration. *Journal of Human Evolution* 53, 465-74
- Hughes, P.D., Gibbard, P.L. and Woodward, J.C. 2003. Relict rock glaciers as indicators of Mediterranean palaeoclimate during the Last Glacial Maximum (Late Würmian) in northwest Greece. *Journal of Quaternary Science* 18 (5), 431-40
- Hughes, P.D. and Woodward, J.C. 2008. Timing of glaciation in the Mediterranean mountains during the last cold stage. *Journal of Quaternary Science* 23 (6-7), 575-88
- Hughes, P.D., Woodward, J.C. and Gibbard, P.L. 2006a. Late Pleistocene glaciers and climate in the Mediterranean. *Global and Planetary Change* 50, 83-98
- Hughes, P.D., Woodward, J.C. and Gibbard, P.L. 2006b. Quaternary glacial history of the Mediterranean mountains. *Progress in Physical Geography* 30, 334-64
- Hughes, P.D., Woodward, J.C., Gibbard, P.L., Macklin, M. G., Gilmour, M.A. and Smith, G.R. 2006c. The Glacial History of the Pindus Mountains, Greece. *The Journal of Geology* 114, 413-34
- Hughes, P.D., Woodward, J.C. and Gibbard, P.L. 2007b. Middle Pleistocene cold stage climates in the Mediterranean: new evidence from the glacial record. *Earth and Planetary Science Letters* 253, 50-6
- Huxtable, J., Gowlett, J.A.J., Bailey, G.N., Carter, P.L. and Papakonstantinou V. 1992. Thermoluminescence dates and a new analysis of the early Mousterian from Asprochaliko. *Current Anthropology* 33 (1), 109-13
- Huyberts, P. 2007. Glacial variability over the last two million years: an extended depth-derived age model, continuous obliquity pacing, and the Pleistocene progression. *Quaternary Science Reviews* 26, 37-55
- Imeson, A.C. 1986. An eco-geomorphological approach to the soil degradation and erosion problem. In R. Fantechi and N.S. Margaris (eds), *Desertification in Europe: Proceedings of the Information Symposium in the EEC Programme on Climatology, Mytilene, Greece, 1984*, 110-125. Dordrecht: Reidel Publishing
- Imeson, A.C. and Lavee, H. 1998. Soil erosion and climate change: the transect approach and the influence of scale. *Geomorphology* 23, 219-27
- Inbar, M. 1992. Rates of fluvial erosion in basins with a Mediterranean type climate. *Catena* 19, 393-409
- Jackson, J.A. 1994. Active tectonics of the Aegean region. *Annual Review of Earth and Planetary Sciences* 22, 239-71
- Jackson, J.A., King, G. and Vita-Finzi, C. 1982. The neotectonics of the Aegean: an alternative view. *Earth and Planetary Science Letters* 61, 303-18
- Jaeger, J.-J. 1975. The mammalian faunas and hominid fossils of the Middle Pleistocene of the Maghreb. In K. Butzer and G. Isaac (eds), *After the Australopithecines: stratigraphy, ecology, and culture change in the Middle Pleistocene*, 399-418. The Hague: Mouton
- Jahns, S. 2005. The Holocene history of vegetation and settlement at the coastal site of Lake Voulkaria in Acaania, western Greece. *Vegetation, History and Archaeobotany* 14, 55-66
- Jalut, G., Deboubat, J.J., Fontugne, M. and Otto, T. 2009. Holocene circum-Mediterranean vegetation changes:

REFERENCES

- climate forcing and human impact. *Quaternary International* 200, 4-18
- James, P.A., Mee, C.B. and Taylor, G.J. 1994. Soil erosion and the archaeological landscape of Methana, Greece. *Journal of Field Archaeology* 21, 395-416
- Jiménez-Hornero, J., Laguna, A. and Giráldez, J.V. 2005. Evaluation of linear and nonlinear sediment transport equations using hillslope morphology. *Catena* 64, 272-80
- Jiongxin, X. 2005. Precipitation-vegetation coupling and its influence on erosion on the Loess Plateau, China. *Catena* 64, 103-16
- Joannin, S., Quillèvère, F., Suc, J.-P., Lécuyer, C. and Martineau, F. 2007. Early Pleistocene climate changes in the central Mediterranean region as inferred from integrated pollen and planktonic foraminiferal stable isotope analyses. *Quaternary International* 67, 264-74
- Jolivet, L. and Brun, J.-P. 2010. Cenozoic geodynamic evolution of the Aegean. *International Journal of Earth Sciences (Geologische Rundschau)* 99, 109-138
- Joordens, J.C.A., Wesselingh, F.P., de Vos, J., Vonhof, H. B. and Kroon, D. 2009. Relevance of aquatic environments for hominins: a case study from Trinil (Java, Indonesia). *Journal of Human Evolution* 57, 656-71
- Kappelman, J., Alçıçek, M.C., Kazancı, N., Schultz, M., ozkul, M. and Şen, S. 2008. First *Homo erectus* from Turkey and implications for migrations into temperate Eurasia. *American Journal of Physical Anthropology* 135, 110-6
- Kapsimalis, V., Pavlakis, P., Poulos, S.E., Alexandri, S., Tziavos, C., Sioulas, A., Filippas, D. and Lykousis, V. 2005. Internal structure and evolution of the Late Quaternary sequence in a shallow embayment: the Amvrakikos Gulf, NW Greece. *Marine Geology* 222-223, 399-418
- Kapsimalis, V., Pavlopoulos, K., Panagiotopoulos, I., Drakopoulou, P., Vandarakis, D., Sakelariou, D. and Anagnostou, C. 2009. Geoarchaeological challenges in the Cyclades continental shelf (Aegean Sea). *Zeitschrift für Geomorphologie* 53, 169-90
- Karkanas, P. 2001. Site formation processes in Theopetra Cave: a record of climatic change during the Late Pleistocene and Early Holocene in Thessaly, Greece. *Geoarchaeology* 16 (4), 373-99
- Karkanas, P. 2002. Micromorphological studies of Greek prehistoric sites: new insights in the interpretation of the archaeological record. *Geoarchaeology* 17, 237-59
- Karkanas P., Panagopoulou E., Anoussis J. and Kyparissi-Apostolika, N. 2008. Raw material procurement in the Middle Palaeolithic of Thessaly: sourcing studies. In Y. Facorellis, N. Zacharias and K. Polikreti (eds), *Proceedings of the 4th Symposium of the Hellenic Society of Archaeometry*, 389-97. Oxford: British Archaeological Report S1746
- Kavvadias, G. 1984. *Palaeolithic Kephallonia: the Fiscardo Culture*. Athens: Filtrakis (in Greek)
- Keraudren, B. and Sorel, D. 1987. The terraces of Corinth (Greece) – a detailed record of eustatic sea-level variations during the last 500,000 years. *Marine Geology* 77, 99-107
- King, G. and Bailey, G. 1985. The palaeoenvironment of some archaeological sites in Greece: the influence of accumulated uplift in a seismically active region. *Proceedings of the Prehistoric Society* 51, 273-82
- King, G., Sturdy, D. and Whitney, J. 1993. The landscape geometry and active tectonics of northwest Greece. *Geological Society of America Bulletin* 105, 137-61
- Kirchner, J.W., Finkel, R.C., Riebe, C.S., Granger, D.E., Clayton, J.L., King, J.G. and Megahan, W.F. 2001. Mountain erosion over 10 yr, 10 k.y., and 10 m.y. time scales. *Geological Society of America* 29 (7), 591-94
- Kirkby, M.J. 1971. Hillslope process-response models based on the continuity equation. In D. Brunsden (ed.), *Slopes: Form and Process*, 15-30. Institute of British Geographers Special Publications vol. 3
- Kirkby, M. 1999. Regional Desertification Indicators (RDIs). In C. Kosmas, M. Kirkby and N. Geeson (eds), *The Medalus Project: Mediterranean desertification and land use: Manual on key indicators of desertification and mapping environmentally sensitive areas to desertification*, 48-65. European Union 18882
- Kirkby, A. and Kirkby, M.J. 1976. Geomorphic processes and the surface survey of archaeological sites in semi-arid areas. In D.A. Davidson and M.L. Shackley (eds.), *Geoarchaeology: Earth Sciences and the Past*, 229-54. London: Duckworth
- Klein, R.G. 2000. Archaeology and the evolution of human behavior. *Evolutionary Anthropology* 9 (1), 17-36
- Klein, R.G. 2009. *The Human Career: human biological and cultural origins*. Chicago: University of Chicago Press, third edition
- Kopaka, K. and Matzanas, C. 2009. Palaeolithic industries from the island of Gavdos, near neighbour to Crete in Greece. *Antiquity* 83 (321) Project Gallery (available at <http://antiquity.ac.uk/projgall/kopaka321/index.html>)
- Korup, O., Clague, J.J., Hermanns, R.L., Hewitt, K., Strom, A.L. and Weidinger, J. 2007. Giant landslides, topography and erosion. *Earth and Planetary Science Letters* 261, 578-89

- Kosmas, C.S., Danalatos, N., Cammeraat, L.H., Chabart, M., Diamantopoulos, J., Farand, R., Gutierrez, L., Jacob, A., Marques, H., Martínez-Fernandez, J., Mizara, A., Moustakas, N., Nicolau, J.M., Oliveros, C., Pinna, G., Puddu, R., Puigdefabregas, J., Roxo, M., Simao, A., Stamou, G., Tomasi, N. and Vacca, A. 1997. The effect of land use on runoff and soil erosion rates under Mediterranean conditions. *Catena* 29, 45-59.
- Kosmas, C.S., Danalatos, N.G. and Gerontidis, St. 2000. The effect of land parameters on vegetation performance and degree of erosion under Mediterranean conditions. *Catena* 40, 3-17.
- Kosmas, C.S., Danalatos, N.G., López-Bermúdez, F. and Romero-Díaz, M.A. 2002. The effect of land use on soil erosion and land degradation under Mediterranean conditions. In N.A. Geeson, C.J. Brandt and J.B. Thornes (eds), *Mediterranean desertification: a mosaic of processes and responses*, 57-70. Chichester: John Wiley & Sons.
- Kosmas, C.S., Danalatos, N.G. and Mizara, A. 1998a. Greece. In A.J. Conacher and M. Sala (eds), *Land degradation in Mediterranean environments of the world: nature and extent, causes and solutions*, 67-77. Chichester: John Wiley & Sons.
- Kosmas, C.S., Danalatos, N.G. and Mizara, A. 1998b. The causes of land degradation: climate: Greece. In A.J. Conacher and M. Sala (eds), *Land degradation in Mediterranean environments of the world: nature and extent, causes and solutions*, 269-72. Chichester: John Wiley & Sons.
- Kosmas C.S., Ferrara, A., Briassouli, H. and Imeson, A. 1999a. Methodology for mapping Environmentally Sensitive Areas (ESAs) to Desertification. In C. Kosmas, M. Kirkby and N. Geeson (eds), *The Medalus Project. Mediterranean desertification and land use: manual on key indicators of desertification and mapping environmentally sensitive areas to desertification*, 31-47. European Union, dir. 18882.
- Kosmas, C.S., Poesen, J. and Briassouli, H. 1999b. Key indicators of desertification at the ESA scale. In C. Kosmas, M. Kirkby and N. Geeson (eds), *The Medalus Project. Mediterranean desertification and land use: manual on key indicators of desertification and mapping environmentally sensitive areas to desertification*, 11-30. European Union, dir. 18882.
- Kostopoulos, D.S., Palombo, M.-T. and Valli, A.M.F. 2007. Pliocene to Pleistocene large mammal diversity and turnover in North Mediterranean region: the Greek Peninsula with respect to the Iberian and Italian ones. *Geodiversitas* 29 (3), 401-19.
- Kostopoulos, D.S., Vassiliadou, K. and Koufos, G.D. 2002. The beginning of Pleistocene in the Balkan area according to the mammal record; palaeozoogeographical approach. *Annales Géologiques des Pays Helléniques* 39A, 253-78.
- Kotsakis, K. 1991. The powerful past: theoretical trends in Greek archaeology. In I. Hodder (ed.), *Archaeological Theory in Europe*, 65-90. London: Routledge.
- Kotthoff, U., Müller, U.C., Pross, J., Schmiedl, G., Lawson, I.T., van de Schootbrugge, B. and Schulz, H. 2008. Lateglacial and Holocene vegetation dynamics in the Aegean region: an integrated view based on pollen data from marine and terrestrial archives. *The Holocene* 18 (7), 1019-32.
- Koufos, G.D. 2001. The Villafranchian mammalian faunas and biochronology of Greece. *Bulletino della Società Paleontologica Italiana* 40 (2), 217-23.
- Koufos, G.D. 2009. The Neogene cercopithecids (Mammalia, Primates) of Greece. *Geodiversitas* 31 (4), 817-50.
- Koufos, G.D. and de Bonis, L. 2004. The deciduous lower dentition of *Ouranopithecus macedoniensis* (Primates, Hominoidea) from the late Miocene deposits of Macedonia, Greece. *Journal of Human Evolution* 46, 699-718.
- Koufos, G.D., Kostopoulos, D. and Vlachou, T. 2005. Neogene/Quaternary mammalian migrations in Eastern Mediterranean. *Belgian Journal of Zoology* 135 (2) 181-190.
- Koufos, G.D., Syrides, G.E., Kostopoulos, D.S. and Koliadimou, K.K. 1995. Preliminary results about the stratigraphy and the palaeoenvironment of Mygdonia Basin, Macedonia, Greece. *Geobios* 18, 243-9.
- Koukis, G., Sabatakakis, N., Ferentinou, M., Lainas, S., Alexiadou, X. and Panagopoulos, A. 2009. Landslide phenomena related to major fault tectonics: rift zone of Corinth Gulf, Greece. *Bulletin of the Engineering Geology and the Environment* 68, 215-29.
- Koukis, G. and Ziourkas, C. 1991. Slope instability phenomena in Greece: a statistical analysis. *Bulletin of the International Association of Engineering Geology* 43, 47-60.
- Koulouri, M. and Giourga C. 2007. Land abandonment and slope gradient as key factors of soil erosion in Mediterranean terraced lands. *Catena* 69, 274-81.
- Koumouzelis, M., Ginter, B., Kozłowski, J.K., Pawlikowski, M., Bar-Yosef, O., Albert, R.M., Litynska-Zajac, M., Stworzewicz, E., Wojtal, P., Lipecki, G., Tomek, T. and Bochenksi, Z.M. 2001. The Early Upper Palaeolithic in Greece: the excavations in Klisoura Cave. *Journal of Archaeological Science* 28, 515-39.
- Kourtessi-Philippakis, G. 1986. *Le Paléolithique de la Grèce Continentale. État de la Question et Perspectives de Recherche*. Paris: Publications de la Sorbonne.

- Kourtessi-Philippakis, G. 1999. The Lower and Middle Palaeolithic in the Ionian Islands: new finds. In G.N. Bailey, E. Adam, E. Panagopoulou, C. Perlès and K. Zachos (eds), *The Palaeolithic archaeology of Greece and adjacent areas: Proceedings of the ICOPAG conference, Ioannina*, 282-87. London: British School at Athens Studies 3
- Kraft, J.C., Aschnbrenner, E.S. and Rapp, G.Jr. 1977. Palaeogeographic reconstructions of coastal Aegean archaeological sites. *Science* 195, 941-47
- Krahotopoulou, A. and Frederick, C. 2008. The stratigraphic implications of long-term terrace agriculture in dynamic landscapes: polycyclic terracing from Kythera Island, Greece. *Geoarchaeology* 23 (4), 550-85
- Kretzoi, M. and Poulianou, A.N. 1981. Remarks on the Middle and Lower Pleistocene vertebrate fauna in the Petralona Cave (with special reference to new microfauna – up to 1981). *Anthropos* 8, 57-72
- Ku, T.L. and Liang, Z.C. 1983. The dating of impure carbonates with decay series isotopes. *Proceedings of the Seminar on Alpha Particle Spectrometry and Low Level Measurement*, 563-71. England: Harwell
- Kuhn, S.L. 1991. "Unpacking" reduction: lithic raw material economy in the Mousterian of west-central Italy. *Journal of Anthropological Archaeology* 10, 76-106
- Kuhn, S.L. 1995. *Mousterian lithic technology: an ecological perspective*. Princeton: Princeton University Press
- Kuhn, S. 2002. Paleolithic Archaeology in Turkey. *Evolutionary Anthropology* 11, 198-210
- Kuhn, S. 2010. Was Anatolia a bridge or a barrier to early hominin dispersals? *Quaternary International* 223-224, 434-5
- Kuhn, S., Arsebük, G. and Howell, F.C. 1996. The Middle Pleistocene lithic assemblage from Yarimburgaz Cave, Turkey. *Paléorient* 22 (1) 31-49
- Kukla, G.J., Bender, M.L., de Beaulieu, J.-L., Bond, G., Broeker, W.S., Cleveringa, P., Gavin, J.E., Herbert, T.D., Imbrie, J., Jouzel, J., Keigwin, L.D., Knudsen, K.-L., McManus, J.F., Merkt, J., Muhs, D.R., Müller, H., Poore, R.Z., Porter, S.C., Seret, G., Shackleton, N., Turner, C., Tzedakis P.C. and Winograd, I.J. 2002. Last Interglacial Climates. *Quaternary Research* 58, 2-13
- Kurtén, B and Poulianou, A.N. 1977. New stratigraphic and faunal material from Petralona cave, with special reference to the Carnivora. *Anthropos* (Athens) 4, 47-130
- Kuzman, P. 1993. The Palaeolithic in Macedonia. *Macedonia Acta Archaeologica* 13, 9-16
- Kyparissi-Apostolika, N. (ed.) 2000. *Theopetra Cave: Twelve years of excavation and research 1987-1998. Proceedings of the International Conference, Trikala (6-7 November 1998)*. Athens: Greek Ministry of Culture and Institute for Aegean Prehistory
- Lagios, E., Sakkas, V., Papadimitriou, P., Parcharidis, I., Damiata, B.N., Chousianitis, K. and Vassilopoulou, S. 2007. Crustal deformation in the Central Ionian Islands (Greece): results from DGPS and DInSAR analyses (1995-2006). *Tectonophysics* 444, 119-45
- Lambeck, K. 1995. Late Pleistocene and Holocene sea-level change in Greece and south-western Turkey: a separation of eustatic, isostatic and tectonic contributions. *Geophysical Journal International* 122, 1022-44
- Lambeck, K. 1996. Sea-level change and shore-line evolution in Aegean Greece since Upper Palaeolithic time. *Antiquity* 70, 588-611
- Lambeck, K. 2004. Sea-level change through the last glacial cycle: geophysical, glaciological and palaeogeographic consequences. *Comptes Rendus Geoscience* 336, 677-89
- Lambeck, K., Esat, E.M. and Potter, E.-K. 2002a. Links between climate and sea levels for the past three million years. *Nature* 419, 199-206
- Lambeck, K. and Purcell, A. 2005. Sea-level change in the Mediterranean Sea since the LGM: model predictions for tectonically stable areas. *Quaternary Science Reviews* 24, 1969-88
- Lambeck, K., Yokoyama, Y. and Purcell, T. 2002b. Into and out of the Last Glacial Maximum: sea-level change during Oxygen Isotope Stages 3 and 2. *Quaternary Science Reviews* 21, 343-60
- Langbein, W.B. and Schumm, S.A. 1958. Yield of sediment in relation to mean annual precipitation. *Transactions of the American Geophysical Union* 39, 1076-84
- Latham, A.G. and Schwarcz, H.P. 1992. The Petralona hominid site: Uranium-series re-analysis of 'Layer 10' calcite and associated palaeomagnetic analyses. *Archaeometry* 34 (1), 135-40
- Laukhin, S.A., Ranov, V.A. and Volgina, V.A. 2007. The correlation between hamra and the Palaeolithic on the coastal plain of the southern Levant. *Geoarchaeology* 22, 641-51
- Lavee, H., Imeson, A.C. and Sarah, P. 1998. The impact of climate change on geomorphology and desertification along a mediterranean-arid transect. *Land degradation and development* 9, 407-22
- Leeder, M.R. 1991. Denudation, vertical crustal movements and sedimentary basin infill. *Geologische Rundschau* 80 (2) 441-58

- Leeder, M.R. 1997. Sedimentary basins: tectonic recorders of sediment discharge from drainage catchments. *Earth Surface Processes and Landforms* 22, 297-37
- Leeder, M.R., Collier, R.E.Ll., Abdul Aziz, H.A., Trout, M., Ferentinos, G., Papatheodorou, G. and Lyberis, E. 2002. Tectono-sedimentary processes along an active marine/lacustrine half graben margin: Alkyonides Gulf, E. Gulf of Corinth, Greece. *Basin Research* 14, 25-41
- Leeder, M.R., Harris, T. and Kirkby, M.J. 1998. Sediment supply and climate change: implications for basin stratigraphy. *Basin Research* 10, 7-18
- Leeder, M.R. and Jackson, J.A. 1993. The interaction between normal faulting and drainage in active extensional basins, with examples from the western United States and central Greece. *Basin Research* 5, 79-102
- Leeder, M.R., Mark, G.H., Brasier, A.T., Parrish, R.R., McIntosh, W.C., Andrews, J.E. and Duermeijer, C.E. 2008. Late-Pliocene timing of Corinth (Greece) rift-margin fault migration. *Earth and Planetary Science Letters* 274, 132-41
- Lefevre, D. and Raynal J.-P. 2002. Les formations plio-péistocènes de Casablanca et la chronostratigraphie du Quaternaire marin du Maroc revisitées. *Quaternaire* 13 (1), 9-21
- Le Pichon, X. and Angelier, J. 1979. The Hellenic arc and trench system: a key to the neotectonic evolution of the Eastern Mediterranean area. *Tectonophysics* 60, 1-42
- Leroi-Gourhan, A. 1964. Découvertes paléolithiques en Élide. *Bulletin de la Correspondance Hellénique* 88, 1-8
- Lespez, L. 2003. Geomorphic responses to long-term land use changes in Eastern Macedonia. *Catena* 51, 181-208
- Lewin, J., Macklin, M.G. and Woodward, J.C. 1991. Late Quaternary fluvial sedimentation in the Voidomatis Basin, Epirus, Northwest Greece. *Quaternary Research* 35, 103-15
- Lindsay, E. 1997. Eurasian mammal biochronology: an overview. *Palaeogeography, Palaeoclimatology, Palaeoecology* 133, 117-28
- Lister, A.M., Sher, A.V., van Essen, H. and Wei, G. 2005. The pattern and process of mammoth evolution in Eurasia. *Quaternary International* 126-128, 49-64
- Liu, Q.-Q., Chen, L. and Li, J.-C. 2001. Influences of slope gradient on soil erosion. *Applied Mathematics and Mechanics* 22 (5), 510-19
- Loarie, S.R., Duffy, P.B., Hamilton, H., Asner, G.P., Field, C.B. and Ackerly, D.D. 2009. The velocity of climate change. *Nature* 462, 1052-57
- López Antoñanzas, R. and Cuenca Bescós, G. 2002. The Gran Dolina site (Lower to Middle Pleistocene, Atapuerca, Burgos, Spain): new palaeoenvironmental data based on the distribution of small mammals. *Palaeogeography, Palaeoclimatology, Palaeoecology* 186, 311-34
- López-Bermudez, F., Romero-Díaz, A., Martínez-Fernández, J. and Martínez-Fernandez, J. 1998. Vegetation and soil erosion under a semi-arid Mediterranean climate: a case study from Murcia (Spain). *Geomorphology* 24, 51-8
- Loutre, M.F. and Berger, A. 2003. Marine Isotope Stage 11 as an analogue for the present interglacial. *Global and Planetary Change* 36, 209-17
- Lykousis, V. 2001. Subaqueous bedforms on the Cyclades Plateau (NE Mediterranean) – evidence of Cretan Deep Water Formation? *Continental Shelf Research* 21, 495-507
- Lykousis, V. 2009. Sea-level changes and shelf break prograding sequences during the last 400 ka in the Aegean margins: subsidence rates and palaeogeographic implications. *Continental Shelf Research* 29, 2037-44
- Lykousis, V., Anagnostou, C., Pavlakis, P., Rousakis, G. and Alexandri, M. 1995. Quaternary sedimentary history and neotectonic evolution of the eastern part of Central Aegean Sea, Greece. *Marine Geology* 128, 59-71
- Lykousis, V., Karageorgis, A.P. and Chronis, G.T. 2005. Delta progradation and sediment fluxes since the last glacial in the Thermaikos Gulf and the Sporades Basin, NW Aegean Sea, Greece. *Marine Geology* 222-223, 381-97
- Lykousis, V., Roussakis, G., Alexandri, M., Pavlakis, P. and Papoulia, I. 2002. Sliding and regional slope stability in active margins: North Aegean Trough (Mediterranean). *Marine Geology* 186, 281-98
- Lykousis, V., Roussakis, G. and Sakellariou, D. 2009. Slope failures and stability analysis of shallow water prodeltas in the active margins of Western Greece, northeastern Mediterranean Sea. *International Journal of Earth Sciences (Geologische Rundschau)* 98, 807-22
- Lykousis, V., Sakellariou, D., Moretti, I. and Kaberi, H. 2007. Late Quaternary basin evolution of the Gulf of Corinth: Sequence stratigraphy, sedimentation, fault-slip and subsidence rates. *Tectonophysics* 440, 29-51
- Macklin, M.G., Fuller, I.C., Lewin, J., Maas, G.S., Passmore, D.G., Rose, J., Woodward, J.C., Black, S., Hamlin, R.H.B. and Rowan, J.S. 2002. Correlation of fluvial sequences in the Mediterranean basin over the last 200 ka and their relationship to climate change. *Quaternary Science Reviews* 21, 1633-41

REFERENCES

- Macklin, M.G., Lewin, J. and Woodward, J.C. 1995. Quaternary fluvial systems in the Mediterranean basin. In J. Lewin, M.G. Macklin and J.C. Woodward (eds), *Mediterranean Quaternary River Environments*, 1-25. Rotterdam: Balkema
- Magaldi, D. and Tallini, M. 2000. A micromorphological index of soil development for the Quaternary geology research. *Catena* 41, 261-76
- Magri, D. and Tzedakis, P.C. 2000. Orbital signatures and long-term vegetation patterns in the Mediterranean. *Quaternary International* 73/74, 69-78
- Mallegni, F., 2006. The Ceprano skull and the earliest peopling of Europe: overview and perspectives. *Human Evolution* 21, 261-8
- Manolis, S., Aiello, L., Hennessy, R. and Kyparissi-Apostolika, N. 2000. The Middle Palaeolithic footprints from Theopetra Cave. In N. Kyparissi-Apostolika (ed.), *Theopetra Cave: Twelve years of excavation and research 1987-1998. Proceedings of the International Conference, Trikala (6-7 November 1998)*, 81-93. Athens: Greek Ministry of Culture and Institute for Aegean Prehistory
- Manzi, G. 2004. Human evolution at the Matuyama-Bruhnes boundary. *Evolutionary Anthropology* 13, 11-24
- Marean, C.W., Bar-Matthews, M., Bematchez, J., Fisher, E., Goldberg, P., Herries, A.R., Jacobs, Z., Jerardino, A., Karkanas, P., Minichillo, T., Nilssen, P., Thompson, E., Watts, I. and Williams, H.M. 2007. Early human use of marine resources and pigment in South Africa during the Middle Pleistocene. *Nature* 449, 905-9
- Mariolakos, I., Badekas, I., Fountoulis, I. and Theocharis, D. 1994. Reconstruction of the Early Pleistocene paleoshore and paleorelief of SW Peloponnesus area. 7th Congress of the Geological Society of Greece, May 1994, *Bulletin of the Geological Society of Greece* XXX (2), 279-304
- Martin, Y. and Church, M. 1997. Diffusion in landscape development models: on the nature of basic transport relations. *Earth Surface Processes and Landforms* 22, 273-79
- Martínez-Navarro, B., Belmaker, M and Bar-Yosef, O. 2009. The large carnivores from 'Ubeidiya (early Pleistocene, Israel): biochronological and biogeographical implications. *Journal of Human Evolution* 56, 514-24
- Martínez-Navarro B. and Palmqvist P. 1996. Presence of the African saber-toothed felid Megantereon whitei (Broom, 1937) (Mammalia, Carnivora, Machairodontinae) in Apollonia-1 (Mygdonia Basin, Greece). *Journal of Archaeological Science* 23, 869-72
- Martínez-Navarro, B., Palmqvist, P., Shabel A.B., Pérez-Claras, J.A., Lorenzo, C. and Claret, A. 2008. Reply to Gibert *et al.* (2008) on the supposed human phalanx from Cueva Victoria (Cartagena, Spain). *Journal of Human Evolution* 54, 157-61
- Martínez-Navarro, B., Turq, A., Agustí Ballester, J. and Oms, O. 1997. Fuente Nueva-3 (Orce, Granada, Spain) and the first human occupation of Europe. *Journal of Human Evolution* 33, 611-20
- Martini, I.P. and Sagri, M. 1993. Tecto-sedimentary characteristics of Late Miocene-Quaternary extensional basins of the Northern Apennines, Italy. *Earth-Science Reviews* 34, 197-233
- Martinón-Torres, M., Bermúdez de Castro, J.M., Gómez-Robles, A., Arsuaga, J.L., Carbonell, E., Lordkipanidze, D., Manzi, G. and Margvelashvili, A. 2007. Dental evidence on the hominin dispersals during the Pleistocene. *Proceedings of the National Academy of Sciences (USA)* 104 (33), 13279-82
- Martinón-Torres, M., Bermúdez de Castro, J.M., Gómez-Robles, A., Margvelashvili, A., Prado, L., Lordkipanidze, D. and Vekua, A. 2008. Dental remains from Dmanisi (Republic of Georgia): morphological analysis and comparative study. *Journal of Human Evolution* 55, 249-73
- Mascle, J. and Martin, L. 1990. Shallow structure and recent evolution of the Aegean Sea: a synthesis based on continuous reflection profiles. *Marine Geology* 94, 271-99
- Maslin, M.A. and Ridgwell, A.J. 2005. Mid-Pleistocene revolution and the "eccentricity myth". In M.J. Head and P.L. Gibbard (eds), *Early-Middle Pleistocene Transitions: the Land-Ocean Evidence*, 19-34. London: Geological Society Special Publications 247
- Mather, A.E. 2009. Tectonic setting and landscape development. In J.C. Woodward (ed.), *The Physical Geography of the Mediterranean*, 5-32. Oxford: Oxford University Press.
- Mather, A.E., Strokes, M. and Griffiths, J.S. 2002. Quaternary landscape evolution: a framework for understanding contemporary erosion, southeast Spain. *Land degradation and development* 13, 89-109
- Mayewski, P.A., Rohling, E.E., Stager, J.C., Karlen, W., Maasch, K.A., Meeker, L.D., Meyerson, E.A., Gasse, F., van Kreveld, S., Holmgren, K., Lee-Thorp, J., Rosqvist, G., Rack, F., Staubwasser, M., Schneider, R. R. and Steig, E.J. 2004. Holocene climate variability. *Quaternary Research* 62, 243-55
- McKenzie, D. 1978. Some remarks on the development of sedimentary basins. *Earth and Planetary Science Letters* 40, 25-32

- McManus, J.F., Oppo, D.W. and Cullen, J.L. 1999. A 0.5-Million-year record of millennial-scale climate variability in the North Atlantic. *Science* 283, 971-75
- McNabb, J. 2005. Hominins and the Early-Middle Pleistocene transition: evolution, culture and climate in Africa and Europe. In M. Head and P.L. Gibbard (eds), *Early-Middle Pleistocene transitions: the land-ocean evidence*, 287-304. London: Geological Society Special Publications 247
- McNabb, J. 2007. *The British Lower Palaeolithic: stones in contention*. London: Routledge
- Médail, F. and Diadema, K. 2009. Glacial refugia influence plant diversity patterns in the Mediterranean Basin. *Journal of Biogeography* 36 (7), 1333-45
- Melentis, J.K. 1961. Studien über fossile Vertebraten Griechenlands: 2. Die Dentition der pleistozänen Proboscidier des Beckens von Megalopolis im Peloponnes (Griechenland). *Annales Géologiques des Pays Helléniques* XII, 154-262
- Mendrinos, D., Choropanitis, I., Polyzou, O. and Karytsas, C. 2010. Exploring for geothermal resources in Greece. *Geothermics* 39, 124-37
- Mercier, J.L., Carey, E., Phillip, H. and Sorel, D. 1976. La néotectonique plio-quaternaire de l'arc égéen externe et de la mer Egée et ses relations avec la séismicité. *Bulletin of the Geological Society of France* XVIII (7), 355-72
- Meulenkamp, J.E. 1985. Aspects of the Late Cenozoic Evolution of the Aegean Region. In D.J. Stanley and F.-C. Wezel (eds), *Geological Evolution of the Mediterranean Basin*, 307-21. New York: Springer-Verlag
- Milliken, S. 1999. The earliest occupation of Italy. *Accordia Research Papers* 7, 7-36
- Milojčić, V., Boessneck, J., Jung, D. and Schneider, H. 1965. *Paläolithikum um Larissa in Thessalien*. Bonn: Rudolf Habelt Verlag.
- Mimikou, M.A. 2005. Water resources in Greece: present and future. *Global NEST Journal* 7 (3), 313-22
- Mishra, S., White, M.J., Beaumont, P., Antoine, P., Bridgeland, D.R., Limondin-Lozouet, N., Santisteban, J.I., Schreve, D.C., Shaw, A.D., Wenban-Smith, F.F., Westaway, R.W.C. and White, T.S. 2007. Fluvial deposits as an archive of early human activity. *Quaternary Science Reviews* 26, 2996-3016
- Monnier, G.F. 2006. The Lower/Middle Palaeolithic periodizations in Western Europe. *Current Anthropology* 47 (5), 709-44
- Montgomery, D.R. 2001. Slope distributions, threshold hillslopes and steady-state topography. *American Journal of Science* 301, 432-54
- Montgomery, D.R. and Brandon, M.T. 2002. Topographic controls on erosion rates in tectonically active mountain ranges. *Earth and Planetary Science Letters* 201, 481-89
- Montgomery, D.R. and Dietrich, W.E. 1992. Channel initiation and the problem of landscape scale. *Science* 255, 826-29
- Morretti, I., Sakellariou, D., Lykousis, V. and Micarelli, L. 2003. The Gulf of Corinth: an active half graben? *Journal of Geodynamics* 36, 323-40
- Morton, A.G.T. 2004. *Archaeological Site formation: Understanding Lake Margin Contexts*. Oxford: British Archaeological Reports International Series 1211
- Morwood, M.J., O'Sullivan, P.B., Aziz, F., Raza, A., 1998. Fission-track ages of stone tools and fossils on the east Indonesian island of Flores. *Nature* 392, 173-76
- Mounier, A., Marschal, F. and Condemi, S. 2009. Is *Homo heidelbergensis* a distinct species? New insight on the Mauer mandible. *Journal of Human Evolution* 56, 219-46
- Mountrakis, D. 1985. *Geology of Greece*. Thessaloniki: University Studio Press (in Greek)
- Mountrakis, D. Synoptic geodynamic evolution of the broader Hellenic region. *University e-notes*, Aristotle University of Thessaloniki, Department of Geology, available at <http://www.geo.auth.gr/courses/ggg/ggg871y/> (in Greek)
- Mulligan, M. 1998. Modeling the geomorphological impact of climate variability and extreme events in a semi-arid environment. *Geomorphology* 24, 59-78
- Mussi, M. 1995. The earliest occupation of Europe: Italy. In W. Roebroeks and T. van Kolfschoten (eds), *The earliest occupation of Europe: Proceedings of the European Science Foundation workshop at Tautavel (France), 1993*, 27-49. Leiden: University of Leiden
- Mussi, M. 1999. The Neanderthals in Italy: a tale of many caves. In W. Roebroeks and C. Gamble (eds), *The Middle Palaeolithic occupation of Europe*, 49-80. Leiden: University of Leiden
- Mussi, M. 2001. *Earliest Italy: an overview of the Italian Palaeolithic and Mesolithic*. New York: Kluwer Academic Publishers
- Muttoni, G., Scardia, G., Kent, D.V., Swisher, C.C. and Manzi, G. 2009. Pleistocene magnetochronology of early hominin sites at Ceprano and Fontana Ranuccio, Italy. *Earth and Planetary Science Letters* 286, 255-68
- Nash, D.T and Petraglia, M.D. 1987. *Natural Formation Processes and the Archaeological Record*. Oxford: British Archaeological Reports International Series 352
- Ntinou, M. 2000. Preliminary results of charcoal analysis from Theopetra cave. In N. Kyparissi-Apostolika (ed.), *Theopetra Cave: Twelve years of excavation and research 1987-1998. Proceedings of the Interna-*

- tional Conference, Trikala (6-7 November 1998), 76-80. Athens: Greek Ministry of Culture and Institute for Aegean Prehistory
- Okuda, M., van Vugt, N., Nakagawa, T., Ikeya, M., Hayashida, A., Yasuda, Y. and Setoguchi, T. 2002. Palynological evidence for the astronomical origin of lignite-detritus sequence in the Middle Pleistocene Marathousa Member, Megalopolis, SW Greece. *Earth and Planetary Science Letters* 201, 143-57
- Okuda, M., Yasuda, Y. and Setoguchi, T. 2001. Middle to Late Pleistocene vegetation history and climatic changes at Lake Kopais, Southeast Greece. *Boreas* 30, 73-82
- Oms, O., Parés, J.M., Martínez-Navarro, B., Agustí, J., Toro, I., Martínez-Fernandez, G. and Turq, A. 2000. Early human occupation of Western Europe: palaeomagnetic dates for two Palaeolithic sites in Spain. *Proceedings of the National Academy of Science* 97, 10666-70
- Oosterbeek, L., Grimaldi, S., Rosina, P., Cura, S., Pedro, P. cunha and Martins, A. 2010. The earliest Pleistocene archaeological sites in western Iberia: present evidence and research prospects. *Quaternary International* 223-224, 399-407
- Oppenheimer, S. 2009. The great arc of dispersal of modern humans: Africa to Australia. *Quaternary International* 202 (1-2), 2-13
- Oppo, D.W., McManus, J.F. and Cullen, J.L. 1998. Abrupt climate events 500,000 to 340,000 years ago: evidence from subpolar North Atlantic sediments. *Science* 279, 1335-38
- O'Regan, H.J., Bishop, L.C., Lamb, A.L., Elton, S. and Turner, A. 2005. Large mammal turnover in Africa and the Levant between 1.0 and 0.5 Ma. In M.J. Head and P.L. Gibbard (eds), *Early-Middle Pleistocene transitions: the land-ocean evidence*. Geological Society Special Publication 247, 231-49
- O'Regan, H.J., Turner, A., Bishop, L.C., Elton, S. and Lamb, A.L. in press. Hominins without fellow travelers? First appearances and inferred dispersals of Afro-Eurasian large-mammals in the Plio-Pleistocene. *Quaternary Science Reviews* (2009)
- Otte, M. 2010. Before Levallois. *Quaternary International* 223-224, 273-80
- Otte, M., Yalcinkaya, I., Bar-Yosef, O., Kozlowski, J., Leotard, J.M., Taskiran, H., Noiret, P. and Kartal, M. 1999. The Anatolian Palaeolithic: data and reflections. In G. Bailey, E. Adam, E. Panagopoulou and C. Perlès (eds.), *The Palaeolithic Archaeology of Greece and Adjacent Areas: Proceedings of the ICOPAG Conference, Ioannina, September 1994*, 73-85. London: British School at Athens Studies 3
- Otte, M., Yalcinkaya, I., Kozlowski, J., Bar-Yosef, O., López Bayón, I. and Taskiran, H. 1998. Long-term technical evolution and human remains in the Anatolian Palaeolithic. *Journal of Human Evolution* 34, 413-31
- Otte, M., Yalcinkaya, I., Taskiran, H., Kozlowski, J., Bar-Yosef, O. and Noiret, P. 1995. The Anatolian Middle Paleolithic: new research at Karain Cave. *Journal of Anthropological Research* 51 (4), 287-99
- Palli, O. and Papadea, A. 2004. Le nouveaux sites paléolithiques en Thesprotie. In P. Cabanes and J.-L. Lamboley (eds), *L'Illyrie Meridionale et l'Epire dans l'Antiquité IV: Actes du IV colloque international de Grenoble (10-12 octobre 2002)*, 17-22. Paris: De Boccard
- Palmqvist, P. 1997. A critical re-evaluation of the evidence for the presence of hominids in Lower Pleistocene times at Venta micena, southern Spain. *Journal of Human Evolution* 33, 83-9
- Palmqvist, P., Martinez-Navarro, B., Toro, I., Patrocinio Espigares, M., Ros-Montoya, S., Torregrosa, V. and Pérez-Claros, J.A. 2005. Réévaluation de la présence humaine au Pléistocène inférieur dans le Sud de l'Espagne. *L'Anthropologie* 109, 411-50
- Palmqvist, P., Pérez-Claros, J.A., Gibert, J. and Santamaría J.L. 1996. Comparative morphometric study of a human phalanx from the Lower Pleistocene site at Cueva Victoria (Murcia, Spain), by means of Fourier analysis, shape coordinates of landmarks, principal and relative warps. *Journal of Archaeological Science* 23, 95-107
- Palombo, M.R. and Ferretti, M.P. 2005. Elephant fossil record from Italy: knowledge, problems and perspectives. *Quaternary International* 126-128, 107-36
- Palombo, M.R. and Mussi, M. 2006. Large mammal guilds at the time of the first human colonization of Europe: the case of the Italian Pleistocene record. *Quaternary International* 149, 94-103
- Palombo, M.R. and Sardella, R. 2007. Biochronology and biochron boundaries: a real dilemma or a false problem? An example based on the Pleistocene large mammalian faunas from Italy. *Quaternary International* 160, 30-42
- Panagopoulou, E. 1999. The Theopetra Middle Palaeolithic assemblages: their relevance to the Middle Palaeolithic of Greece and adjacent areas. In G.N. Bailey, E. Adam, E. Panagopoulou, C. Perlès and K. Zachos (eds), *The Palaeolithic Archaeology of Greece and Adjacent Areas: Proceedings of the ICOPAG Conference, Ioannina, September 1994*, 252-65. London: British School at Athens Studies 3
- Panagopoulou, E., Harvati, K., Karkanas, P., Athanassiou, A., Elefanti, P. and Frost, S.R. 2006. The West

- Macedonia Palaeolithic Survey. *The Archaeological Research in Macedonia and Thrace* 18, 631-40 (in Greek)
- Panagopoulou, E., Karkanas, P., Tsartsidou, G., Harvati, K. and Ntinou, M. 2002-2004. Late Pleistocene archaeological and fossil human evidence from Laconis Cave, southern Greece. *Journal of Filed Archaeology* 29 (3-4), 323-49
- Panagopoulou, E., Kotjabopoulou, E. and Karkanas, P. 2001. Geoarchaeological research in Alonnisos: new evidence on the Palaeolithic and Mesolithic in the Aegean region. In A. Sampson (ed.), *The archaeological research in Northern Sporades*, 121-51. Alonnisos: Municipality of Alonnisos (in Greek)
- Papagianni, D. 2000 *Middle Palaeolithic Occupation and Technology in Northwest Greece: The Evidence from Open-Air Sites*. Oxford: British Archaeological Report 882
- Papakonstantinou, V. 1991. Indications of Palaeolithic presence in Aetoloakarnania. *Proceedings of the 1st Archaeological and Historical Conference of Aetoloakarnania*, 23-6, Agrinio (in Greek)
- Papakonstantinou V. and Vassilopoulou, D. 1997. The Middle Palaeolithic industries of Epirus. In G.N. Bailey (ed.), *Klithi: Palaeolithic Settlement and Quaternary Landscapes in Northwest Greece*, vol. 2: *Klithi in its local and regional setting*, 459-80. Cambridge: McDonald Institute for Archaeological Research
- Papanikolaou, D., Fountoulis, I. and Metaxas, C. 2007. Active faults, deformation rates and Quaternary palaeogeography at Kyparissiakos Gulf (SW Greece) deduced from onshore and offshore data. *Quaternary International* 171-172, 14-30
- Parés, J.M. and Pérez- González, A. 1999. Magnetochronology and stratigraphy at Gran Dolina section, Atapuerca (Burgos, Spain). *Journal of Human Evolution* 37, 325-42
- Parés, J.M., Pérez-González, A., Rosas, A., Benito, A., Bermúdez de Castro, J.M., Carbonell, E. and Huguet, R. 2006. Matuyama-age lithic tools from the Sima del Elefante site, Atapuerca (northern Spain). *Journal of Human Evolution* 50, 163-9
- Parfitt, S.M., Barendregt, R.W., Breda, M., Candy, I., Collins, M., Coope, G.R., Durbidge, P., Field, M.H., Lee, J.R., Liter, A.M., Mutch, R., Penkman, K.E., Preece, R.C., Rose, J., Stringer, C.S., Symmons, R., Whittaker, J.E., Wymer, J.J. and Stuart, A.J. 2005. The earliest record of human activity in northern Europe. *Nature* 438, 1008-12
- Paspallis, D. 2003. *Geomorphometric characteristics of the hydrologic basins of Greece*. Unpublished Bachelor Thesis, Athens: Athens Polytechnic School (in Greek)
- Pavlides, S.B. and Mountrakis, M. 1987. Extensional tectonics of northwestern Macedonia, Greece, since the late Miocene. *Journal of Structural Geology* 9 (4), 385-92
- Peeters, I., van Oost, K., Govers, G., Verstraeten, G., Rommens, T. and Poesen, J. 2008. The compatibility of erosion data at different temporal scales. *Earth and Planetary Science Letters* 265, 138-52
- Peltier, W.R. 2002. On eustatic sea level history: Last Glacial Maximum to Holocene. *Quaternary Science Reviews* 21, 377-96
- Peretto, C. 2006. The first peopling of southern Europe: the Italian case. *Human Palaeontology and Prehistory* 5, 283-90
- Pérez-Peña, J.V., Azanón, J.M., Azor, A., Tuccimei, P., Della Seta, M. and Soligo, M. 2009. Quaternary landscape evolution and erosion rates for an intramontane Neogene basin (Guadix-Baza basin, SE Spain). *Geomorphology* 106, 206-18
- Perissoratis, C. and Conispoliatis, N. 2003. The impacts of sea-level changes during latest Pleistocene and Holocene times on the morphology of the Ionian and Aegean Seas (SE Alpine Europe). *Marine Geology* 196, 145-56
- Perissoratis, C. and Mitropoulos, D. 1989. Late Quaternary evolution of the Northern Aegean Shelf. *Quaternary Research* 32, 36-50
- Perissoratis, C., Piper, D.J.W. and Lykousis, V. 2000. Alternating marine and lacustrine sedimentation during late Quaternary in the Gulf of Corinth rift basin, central Greece. *Marine Geology* 167, 391-411
- Perissoratis, C. and van Andel, T.H. 1988. Late Pleistocene unconformity in the Gulf of Kavalla, northern Aegean, Greece. *Marine Geology* 81, 53-61
- Perissoratis, C. and van Andel, T.H. 1991. Sea-level changes and tectonism in the formation of the Quaternary basin of the South Evvoikos Gulf, Greece. *Terra Nova* 3, 294-302
- Petraglia, M.D. and Nash, D.T. 1987. The impact of fluvial processes on experimental sites. In D.T Nash and M. D. Petraglia (eds), *Natural Formation Processes and the Archaeological Record*. Oxford: British Archaeological Reports International Series 352
- Philipsson, A. 1950. *Die Griechischen Landschaften: Band I, Teil I: Thessalien und die Spercheios-Senke*. Frankfurt: V. Klostermann
- Phillips, J.D. 1993. Instability and chaos in hillslope evolution. *American Journal of Science* 293, 25-48
- Phillips, J.D. 1995. Biogeomorphology and landscape evolution: the problem of scale. *Geomorphology* 13, 337-47

REFERENCES

- Phillips, J.D. 2003. Alluvial storage and the long-term stability of sediment yields. *Basin research* 15, 153-63
- Phillips, J.D. 2005. Weathering instability and landscape evolution. *Geomorphology* 67, 255-72
- Phillips, J.D. 2006. Evolutionary geomorphology: thresholds and nonlinearity in landform response to environmental change. *Hydrology and Earth System Sciences* 10, 731-42
- Pinet, P. and Souriau, M. 1988. Continental erosion and large-scale relief. *Tectonics* 7, 563-82
- Piper, D.J.W. and Perissoratis, C. 2003. Quaternary neotectonics of the South Aegean arc. *Marine Geology* 198, 259-88
- Pitsios, T.K. 1979. Palaeoanthropological finds of inner-Mani (preliminary report). *Anthropos* 6, 98-105 (in Greek)
- Pitsios, T.K. 1996. The Tainarius Man. *Arxaiologia kai Technes* 60, 68-72 (in Greek)
- Pitsios, T.K. 1999. Paleoanthropological research at the cave site of Apidima and the surrounding region (South Peloponnese, Greece). *Anthropologischer Anzeiger* 57 (1), 1-11
- Poesen, J.W., van Wesemael, B., Bunte, K. and Solè Benet, A. 1998. Variation of rock fragment cover and size along semiarid hillslopes: a case-study from southeast Spain. *Geomorphology* 23, 323-35
- Pollard, D. and Barron, E.J. 2003. Causes of model-data discrepancies in European climate during oxygen isotope stage 3 with insights from the last glacial maximum. *Quaternary Research* 59, 108-13
- Pope, K.O., Runnels, C.N. and Ku, T.-L. 1984. Dating Middle Palaeolithic red beds in southern Greece. *Nature* 312, 264-6
- Pope, K.O. and van Andel, T.H. 1984. Late Quaternary alluviation and soil formation in the southern Argolid: its history, causes and archaeological implications. *Journal of Archaeological Science* 11, 281-306
- Poulianatos, A.N. 1980. The postcranial skeleton of the *Archanthropus europaeus petraloniensis*. *Anthropos* (Athens) 7, 13-29 (in Greek)
- Poulianatos, A.N. 1982. To spilaio tou Archanthropou ton petralonon: E anasa tis spilias. Vivliothiki anthropologikis etairias ellados, arithmos 3. Thessaloniki: Giannis Rekos ke Sia (in Greek)
- Poulos, S.E. 2009. Origin and distribution of the terrigenous component of the unconsolidated surface sediment of the Aegean floor: a synthesis. *Continental Shelf Research* 29, 2045-60
- Preece, R.C., Gowlett, J.A.J., Parfitt, S.A., Bridgeland, D.R. and Lewis, S.G. 2006. Humans in the Hoxnian: habitat, context and fire use at Breeches Pit, West Stow, Suffolk, UK. *Journal of Quaternary Science* 21 (5), 485-96
- Prentice, I.C., Guiot, J. and Harrison, S.P. 1992. Mediterranean vegetation, lake levels and palaeoclimate at the Last Glacial Maximum. *Nature* 360, 658-60
- Psilovikos, A. and Syrides, G. 1984. Neogene and Quaternary palaeoenvironments in the northern Aegean area. *Annales Géologiques des Pays Helléniques* 32, 105-14
- Pyle, D.M., van Andel, T.H., Paschos P. and van den Bogaard, P. 1998. An exceptionally thick Middle Pleistocene tephra layer from Epirus, Greece. *Quaternary International* 49, 280-86
- Raia, P., Piras, P. and Kotsakis, T. 2006. Detection of Plio-Quaternary large mammal communities of Italy. An integration of fossil faunas biochronology and similarity. *Quaternary Science Reviews* 25, 846-54
- Raposo, L. and Santonja, M. 1995. The earliest occupation of Europe: the Iberian peninsula. In W. Roebroeks and T. van Kolfschoten (eds), *The earliest occupation of Europe: Proceedings of the European Science Foundation Workshop at Tautavel (France), November 1993*, 7-25. Leiden: Leiden University Press
- Raynal, J.-P., Geraads, D., Magoga, L., Elhajraoui, A., Texier, J.P., Lefevre, D. and Sbihi-Alaoui, F.Z. 1993. La Grotte des Rhinocéros (Carrière Oulad Hamida 1, anciennement Thomas III, Casablanca), nouveau site acheuléen du Maroc atlantique. *Comptes rendus de l'Académie des Sciences Paris* (série II) 316, 1477-83
- Raynal, J.-P., Magoga, L., Sbihi-Alaoui, F.-Z. and Geraads, D. 1995. The earliest occupation of Atlantic Morocco: the Casablanca evidence. In W. Roebroeks and T. van Kolfschoten (eds), *The Earliest Occupation of Europe: Proceedings of the European Science Foundation Workshop at Tautavel (France), November 1993*, 255-62. Leiden: Leiden University Press
- Raynal, J.-P., Sbihi-Alaoui, F.Z., Geraads, D., Magoga, L. and Mohi, A. 2001. The earliest occupation of North-Africa: the Moroccan perspective. *Quaternary International* 75, 65-75
- Raynal, J.-P., Sbihi-Alaoui, F.Z., Magoga, L., Mohi, A. and Zouak, M. 2002. Casablanca and the earliest occupation of north Atlantic Morocco. *Quaternaire* 13 (1), 65-77
- Raynal, J.-P. and Texier, J.P. 1989. Découverte d'Acheuléen ancien dans la carrière Thomas I à Casablanca et problème de l'ancienneté de la présence humaine au Maroc. *Comptes rendus de l'Académie des Sciences Paris* (série II) 308, 1743-9
- Raynal, J.-P., Texier, J.P., Geraads, D. and Sbihi-Alaoui, F.Z. 1990. Un nouveau gisement paléontologique plio-pléistocène en Afrique du Nord : Ahl Al Oughlam

- (ancienne carrière Deprez) à Casablanca (Maroc) 1990. *Comptes rendus de l'Académie des Sciences Paris* (série II) 310, 315-20
- Reynard, E. and Coratza, P. 2007. Geomorphosites and geodiversity: a new domain of research. *Geographica Helvetica* 62, 138-9
- Raynaud, D., Barnola, J.-M., Souchez, R., Lorrain, R., Petit, J.-R., Duval, P. and Lipenkov, V.Y. 2005. The record for marine isotope stage 11. *Nature* 436, 39-40
- Reilinger, R., McClusky, S., Paradissis, D., Ergintav, S. and Vernant, P. 2010. Geodetic constraints on the tectonic evolution of the Aegean region and strain accumulation along the Hellenic subduction zone. *Tectonophysics* 488, 22-30
- Reisch, L. 1982. The transition from Lower to Middle Palaeolithic in Greece and the southern Balkan. In A. Ronen (ed.), *The transition from Lower to Middle Palaeolithic and the origins of modern man*, 223-31. Oxford: British Archaeological Report 151
- Rettalack, G.J. 2001. *Soils of the Past: An Introduction to Paleopedology*. London: Blackwell Science
- Rhodes, E.J., Raynal, J.-P. Geraads, D. and Sbihi-Alaoui, F.Z. 1994. Premières dates RPE pour l'Acheuléen du Maroc atlantique (Grotte des Rhinocéros, Casablanca). *Comptes rendus de l'Académie des Sciences Paris* (série II) 319, 1109-15
- Richards, M., Harvati, K., Grimes, V., Smith, C., Smith, T., Hublin, J.-J., Karkanas, P. and Panagopoulou, E. 2008. Strontium isotope evidence of Neanderthal mobility at the site of Lakonis, Greece using laser-ablation PIMMS. *Journal of Archaeological Science* 35, 1251-56
- Rick, J.W. 1976. Downslope movement and archaeological intrasite spatial analysis. *American Antiquity* 41 (2), 133-44
- Ríos, J., Iriarte, E., Garate, D., Cearreta, A. and Iriarte, M. J. 2008. The Mendieta site (Sopelana, Biscay province, northern Spain): palaeoenvironment and formation processes of a Lower Palaeolithic open-air archaeological deposit. *Comptes Rendus Palevol* 7, 453-62
- Robertson, A.H.F. and D. Mountrakis 2006. Tectonic development of the Eastern Mediterranean region: an introduction. In A.H.F. Robertson and Mountrakis, D. (eds), *Tectonic Development of the Eastern Mediterranean Region*, 1-9. London: Geological Society Special Publication 260
- Rodríguez-Sánchez, F., Pérez-Barrales, R., Ojeda, F., Vargas, P. and Arroyo, J. 2008. The strait of Gibraltar as a melting pot for plant biodiversity. *Quaternary Science Reviews* 27, 2100-17
- Roebroeks, W. 1994. Updating the earliest occupation of Europe. *Current Anthropology* 35, 301-4
- Roebroeks, W. 2001. Hominid behaviour and the earliest occupation of Europe: an exploration. *Journal of Human Evolution* 41, 437-61
- Roebroeks, W. 2006. The human colonization of Europe: where are we? *Journal of Quaternary Science* 21 (5), 425-35
- Roebroeks, W. and Corbey, R. 2001. Biases and double standards in palaeoanthropology. In R. Corbey and W. Roebroeks (eds), *Studying human origins: disciplinary history and epistemology*, 67-76. Amsterdam: Amsterdam University Press
- Roebroeks, W., Kolen, J. and E. Rensink 1988. Planning depth, anticipation and the organization of Middle Palaeolithic technology: the "archaic natives" meet Eve's descendants. *Helinium* XXVIII (1), 17-34
- Roebroeks, W. and Tuffreau, A. 1999. Palaeoenvironmental and settlement patterns of the Northwest European Middle Palaeolithic. In W. Roebroeks and C. Gamble (eds), *The Middle Palaeolithic occupation of Europe*, 121-38. Leiden: University of Leiden
- Roebroeks, W. and van Kolfschoten, T. 1994. The earliest occupation of Europe: a short chronology. *Antiquity* 68, 489-503
- Roebroeks, W. and van Kolfschoten, T. 1995. The earliest occupation of Europe: a reappraisal of artefactual and chronological evidence. In W. Roebroeks and T. van Kolfschoten (eds), *The earliest occupation of Europe: Proceedings of the European Science Foundation workshop at Tautavel (France), 1993*, 297-315. Leiden: University of Leiden
- Rogers, R.D. and Schumm, S.A. 1991. The effect of sparse vegetative cover on erosion and sediment yield. *Journal of Hydrology* 123, 19-24
- Rohais, S., Eschard, R., Ford, M., Guillocheau, F. and Moretti, I. 2007. Stratigraphic architecture of the Plio-Pleistocene infill of the Corinth Rift: implications for its structural evolution. *Tectonophysics* 440, 5-28
- Rohais, S., Eschard, R. and Guillocheau, F. 2008. Depositional model and stratigraphic architecture of rift climax Gilbert-type fan deltas (Gulf of Corinth, Greece). *Sedimentary Geology* 210, 132-45
- Rohling, E.J., Fenton, M., Jorissen, F.J., Bertrand, P., Ganssen, G. and Caulet, J.P. 1998. Magnitudes of sea-level lowstands of the past 500,000 years. *Nature* 394, 162-65
- Rolland, N. 2010. The earliest hominid dispersal beyond Subsaharan Africa: a survey of underlying causes. *Quaternary International* 223-224, 54-64
- Romero Díaz, M.A., Cabezas, E. and López Bermúdez, E. 1992. Erosion and fluvial sedimentation in the River Segura Basin (Spain). *Catena* 19, 379-92
- Ron, H. and Levi, S. 2001. When did hominins first leave Africa? New high-resolution magnetostratigraphy

REFERENCES

- from the Erk-el-Ahmar Formation, Israel. *Geology* 29, 887-90
- Ron, H., Porat, N., Ronen, A., Tchernov, E. and Horwitz, L.K. 2003. Magnetostratigraphy of the Evron Member –implications for the age of the Middle Acheulian site of Evron Quarry. *Journal of Human Evolution* 44, 633-9
- Rondoyanni, Th., Georgiou, Ch., Galanakis, D. and Kourouzidis, M. 2004. Evidences of active faulting in Thrace region (North-Eastern Greece). Proceedings of the 10th International Congress, Thessaloniki, April 2004. *Bulletin of the Geological Society of Greece* XXXVI, 1671-78
- Ronen, A. 2003. The small tools of Evron-Quarry, western Galilee, Israel. In J.M. Burdukiewicz and A. Ronen (eds), *Lower Palaeolithic small tools in Europe and the Levant*, 113-20. Oxford: British Archaeological Reports 1115
- Ronen, A. 2006. The oldest human groups in the Levant. *Comptes Rendus Palevol* 5, 343-51
- Roucoux, K.H., Shackleton, N.J. and de Abreu, L. 2001. Combined marine proxy and pollen analyses reveal rapid vegetation response to North Atlantic millennial-scale climate oscillations. *Quaternary Research* 56, 128-32
- Roucoux, K.H., Tzedakis, P.C., de Abreu, L. and Shackleton, N.J. 2006. Climate and vegetation changes 180,000 to 345,000 years ago recorded in a deep-sea core off Portugal. *Earth and Planetary Science Letters* 249, 307-25
- Roucoux, K.H., Tzedakis, P.C., Frogley, M.R., Lawson, I.T and Preece, R.C. 2008. Vegetation history of the Marine Isotope Stage 7 interglacial complex at Ioannina, NW Greece. *Quaternary Science Reviews* 27, 1378-95
- Roussakis, G., Karageorgis, A.P., Conispoliatis, N. and Lykousis, V. 2004. Last glacial-Holocene sediment sequences in N. Aegean basins: structure, accumulation rates and clay mineral distribution. *Geo-Marine Letters* 24, 97-111
- Roussos, N. and Lyssimachou, T. 1991. Structure of the Central North Aegean Trough: an active strike-slip deformation zone. *Basin Research* 3, 39-48
- Rozos, D., Pyrgiotis, L., Skias, S. and Tsagaratos, P. 2008. An implementation of rock engineering system for ranking the instability potential of natural slopes in Greek territory: an application in Karditsa County. *Landslides* 5, 261-70
- Runnels, C. 1988. A prehistoric survey of Thessaly: new light on the Greek Middle Palaeolithic. *Journal of Field Archaeology* 15, 277-90
- Runnels, C. 1995. Review of Aegean Prehistory IV: The Stone Age of Greece from the Palaeolithic to the advent of Neolithic. *American Journal of Archaeology* 99, 699-728
- Runnels, C. 2003a. The history and future prospects of Palaeolithic archaeology in Greece. In J.K. Papadopoulos and R.M. Leventhal (eds), *Theory and practice in Mediterranean archaeology: Old World and New World perspectives*, 181-93. Los Angeles: Cotsen Institute of Archaeology
- Runnels, C. 2003b. The Lower Palaeolithic of Greece and NW Turkey. In M. Özbaşaran, O. Tanindi and A. Boratav (eds.), *Archaeological Essays in Honour of Homo amatus: Güven Arsebüük*, 195-202. İstanbul: Ege Yayınları
- Runnels, C., Korkuti, M., Galary, M.L., Timpson, M.E., Stocker, S.R., Davis, J.L. and Muçaj, S. 2009. Early prehistoric landscape and land-use in the Fier region of Albania. *Journal of Mediterranean Archaeology* 22 (2), 151-82
- Runnels, C. and Özdogan, M. 2001. The Palaeolithic of the Bosphorus Region, NW Turkey. *Journal of field Archaeology* 28, 69-92
- Runnels, C. and van Andel, T.H. 1993a. A handaxe from Kokkinopilos, Epirus, and its implications for the Palaeolithic of Greece. *Journal of Field Archaeology* 20, 191-203
- Runnels, C. and van Andel, T.H. 1993b. The Lower and Middle Palaeolithic of Thessaly, Greece. *Journal of Field Archaeology* 20: 299-317
- Runnels, C. and van Andel, T. 1999. The Palaeolithic in Larissa, Thessaly. In G.N. Bailey, E. Adam, E. Panagopoulou, C. Perles & K. Zachos (eds), *The Palaeolithic Archaeology of Greece and Adjacent Areas: Proceedings of the ICOPAG Conference, Ioannina, September 1994*, 215-220. London: British School at Athens Studies 3
- Runnels, C. and van Andel, T.H. 2003. The Early Stone Age of the Nomos of Preveza: landscape and settlement. In J. Wiseman and K. Zachos (eds.), *Landscape Archaeology in Southern Epirus, Greece I*, Hesperia Supplement 32, 47-133. Athens: American School of Classical Studies at Athens
- Runnels, C., van Andel, T.H., Zachos, K. and Paschos, P. 1999. Human settlement and landscape in the Preveza region (Epirus) in the Pleistocene and early Holocene. In G.N Bailey, E. Adam, E. Panagopoulou, C. Perles and K. Zachos (eds), *The Palaeolithic archaeology of Greece and adjacent areas: Proceedings of the ICOPAG Conference, Ioannina, September 1994*, 120-29. Athens: British School at Athens Studies 3
- Sabatakakis, N., Koukis, G. and Mourtas, D. 2005. Composite landslides induced by heavy rainfalls in suburban areas: city of Patras and surrounding area, western Greece. *Landslides* 2, 202-11

- Sahnouni, M. 1998. *The Lower Palaeolithic of the Maghreb: Excavations and analyses at Ain Hanech, Algeria*. Cambridge Monographs in African Archaeology 42, Oxford: British Archaeological Reports International Series 689
- Sahnouni, M. and de Heinzelin, J. 1998. The site of Ain Hanech revisited: new investigations at this Lower Palaeolithic site in Northern Algeria. *Journal of Archaeological Science* 25, 1083-1101
- Sahnouni, M., Hadjouis, D., van der Made, J., Derradji, A., Canals, A., Medig, M. and Belahrech, H. 2002. Further research at the Oldowan site of Ain Hanech, north-eastern Algeria. *Journal of Human Evolution* 43, 925-37
- Sahnouni, M., Hadjouis, D., van der Made, J., Derradji, A., Canals, A., Medig, M., Belahrech, H., Harichane, Z. and Rabhi, M. 2004. On the human occupation in North Africa: a response to Geraads et al. *Journal of Human Evolution* 46, 763-75
- Sahnouni, M., van der Made, J. and Everett, M. in press. Ecological background to Plio-Pleistocene hominin occupation in North Africa: the vertebrate faunas from Ain Boucherit, Ain Hanech and El-Kherba, and paleosol stable-carbon-isotope studies from El-Kherba, Algeria. *Quaternary Science Reviews*
- Sakellariou, D., Lykousis, V., Alexandri, S., Kaberi, H., Rousakis, G., Nomikou, P., Georgiou, P. and Ballas, D. 2007. Faulting, seismic-stratigraphic architecture and late Quaternary evolution of the Gulf of Alyonides Basin-East Gulf of Corinth, Central Greece. *Basin Research* 19, 273-95
- Sala, B. 1991. A preliminary report on the microvertebrates of Notarchirico, Venosa. *Preistoria Alpina* 25, 7-14 (1989)
- Sala, B. and Masini, F. 2007. Late Pliocene and Pleistocene small mammal chronology in the Italian peninsula. *Quaternary International* 160, 4-16
- Sampson, A. 2006. *The prehistory of the Aegean basin: Palaeolithic, Mesolithic, Neolithic*. Athens: Atrapos
- Santisteban, J. I. and Schulte, L. 2007. Fluvial records of the Iberian Peninsula: a chronological framework. *Quaternary Science Reviews* 26, 2738-57
- Santona, M. and Pérez-González, A. 2010. Mid-Pleistocene Acheulean industrial complex in the Iberian Peninsula. *Quaternary International* 223-224, 154-61
- Santona, M. and Villa, P. 1990. The Lower Palaeolithic of Spain and Portugal. *Journal of World Prehistory* 4, 45-94
- Santona, M. and Villa, P. 2006. The Acheulian of Western Europe. In N. Goren-Inbar and G. Sharon (eds), *Axe Age: Acheulian tool-making from quarry to discard*, 429-78. London: Equinox
- Saragusti, I. and Goren-Inbar, N. 2001. The biface assemblage from Gesher Benot Ya'aqov, Israel: illuminating patterns in "Out of Africa" dispersal. *Quaternary International* 75, 85-9
- Sarantea-Micha, E. 1996. Phaneromeni and Voleri, Nea Artaki in Euboea: palaeolithic quarries and tool workshops. *Archaiologia kai Technes* 60, 43-7 (in Greek)
- Sardella, R., Palombo, M.R., Petronio, C., Bedetti, C. and Pavia, M. 2006. The early Middle Pleistocene large mammal faunas of Italy: an overview. *Quaternary International* 149, 104-9
- Schaller, M., von Blanckenburg, F., Hovius, N. and Kubik, P.W. 2001. Large-scale erosion rates from in situ-produced cosmogenic nuclides in European river sediments. *Earth and Planetary Science Letters* 188, 441-58
- Schattner, U. 2010. What triggered the early-to-mid Pleistocene tectonic transition across the entire eastern Mediterranean? *Earth and Planetary Science Letters* 289, 539-548
- Schattner, U. and Lazar, M. 2009. Subduction, collision and initiation of hominin dispersal. *Quaternary Science Reviews* 28, 1820-4
- Schick, K.D. 1987. Experimentally-derived criteria for assessing hydrologic disturbance of archaeological sites. In D.T Nash and M.D. Petraglia (eds), *Natural Formation Processes and the Archaeological Record*, 86-107. Oxford: British Archaeological Reports International Series 352
- Schiffer, M.B. 1987. *Formation processes of the archaeological record*. Albuquerque: University of New Mexico Press
- Schneider, H.E. 1968. *Zur Quartärgeologischen Entwicklungsgeschichte Thessaliens (Griechenland)*. Bonn: Rudolf Habelt Verlag
- Schumm, S.A. 1963. The disparity between present rates of denudation and orogeny. *United States Geological Survey Professional Papers* 454, 14
- Schumm, S.A. 1979. Geomorphic thresholds: the concept and its applications. *Transactions of the Institute of the British Geographers* (New Series) 4 (4), 485-515
- Scott, G.R. and Gibert, L. 2009. The oldest hand-axes in Europe. *Nature* 461, 82-5
- Scott, G.R., Gibert, L. and Gibert, J. 2007. Magnetostratigraphy of the Orce region (Baza Basin), SE Spain: new chronologies for Early Pleistocene faunas and hominid occupation sites. *Quaternary Science Reviews* 26, 415-35
- Segre, A. and Ascenzi, A. 1984. Fontana Ranuccio: Italy's earliest Middle Pleistocene hominid site. *Current Anthropology* 25 (2), 230-3

REFERENCES

- Semaw, S., Rogers, M.J., Ouade, J., Renne, P.R., Butler, R.F., Dominguez-Rodrigo, M., Stout, D., Hart, W.S., Pickering, T. and Simpson, S.W. 2003. 2.6-Million-year-old stone tools and associated bones from OGS-6 and OGS-7, Gona, Afar, Ethiopia. *Journal of Human Evolution* 45, 169-77
- Sengör, A.M.C., Tüysüz, O., Imren, C., Sakinc, M., Eyidogan, H., Görür, N., Le Pichon, X. and Rangin, C. 2005. The North Anatolian Fault: a new look. *Annual Reviews in Earth and Planetary Sciences* 33, 37-112
- Servais, J. 1961. Outils paléolithiques d' Élide. *Bulletin de la Correspondance Hellénique* 85, 1-9
- Shackleton, N.J. 1987. Oxygen isotopes, ice volume and sea level. *Quaternary Science Reviews* 6, 183-90
- Shackleton, N.J., M.F. Sanchez-Goni, D. Pailler and Y. Lancelot 2003. Marine Isotope Stage 5e and the Eemian Interglacial. *Global and Planetary Change* 36, 151-5
- Sharp, W.D., Ludwig, K.R., Chadwick, O.A., Amundson, R. and Glaserd, L.L. 2003. Dating fluvial terraces by $^{230}\text{Th}/\text{U}$ on pedogenic carbonate, Wind River Basin, Wyoming. *Quaternary Research* 59, 139-50
- Siavalas, G., Linou, M., Chatziapostolou, A., Kalaitzidis, S., Papaefthymiou, H. and Christianis, K. 2009. Palaeoenvironment of Seam I in the Marathousa Lignite Mine, Megalopolis Basin (Southern Greece). *International Journal of Coal Geology* 78, 233-48
- Sickenberg, O. 1975. Eine Säugertierfauna des tieferen Bihariums aus dem Becken von Megalopolis (Peloponnes, Griechenland). *Annales Géologiques des Pays Helléniques* 27, 25-73
- Siddall, M., Rohling, E.J., Almogi-Labin, A., Hemleben, Ch., Meischner, D., Schmelzer, I. and Smeed, D.A. 2003. Sea-level fluctuations during the last glacial cycle. *Nature* 423, 853-58
- Sidorchuk, A. 2009. A third generation erosion model: the combination of probabilistic and deterministic components. *Geomorphology* 110, 2-10
- Simms, M.J. 1994. Emplacement and preservation of vertebrates in caves and fissures. *Zoological journal of the Linnean Society* 112, 261-83
- Sirakov, N., Guadelli, J.-L., Ivanova, S., Sirakova, S., Boudadi-Maligne, M., Dimitrova, I., Fernandez, Ph., Ferrier, C., Guadelli, A., Iordanova, D., Kovatcheva, M., Krumov, I., Leblanc, J.-Cl., Miteva, V., Popov, V., Spassov, R., Taneva, S. and Tsanova, T. 2010. An ancient continuous human presence in the Balkans and the beginnings of human settlement in western Eurasia: A Lower Pleistocene example of the Lower Palaeolithic levels in Kozarnika cave (North-western Bulgaria). *Quaternary International* 223-224, 94-106
- Sitlivy, V., Sobczyk, K., Karkanas, P. and Koumouzelis M. 2007. Middle Palaeolithic lithic assemblages of the Klisoura cave, Peloponnesus, Greece: a comparative analysis. *Archaeology, Ethnology and Anthropology of Eurasia* 3, 2-15
- Skuphos, T.G. 1905. Über die palaeontologischen Ausgrabungen in Griechenland in Beziehung auf das Vorhandensein des Menschen. *Comptes Rendus du Congrès International d'Archéologie*, 231-36. Athènes
- Slimak, L., Kuhn, S., Roche, H., Mouralis, D., Buitenhuis, H., Balkan-Ath, N., Binder, D., Kuzuzuoglu, C. and Guillou, H. 2008. Kaletepe Deresi 3 (Turkey): archaeological evidence for early human settlement in Central Anatolia. *Journal of Human Evolution* 54, 99-111
- Smith, G.W., R.D. Nance and A.N. Genes 1997. Quaternary glacial history of Mount Olympus. *Geological Society of America Bulletin* 109, 809-24
- Snel, E., Mărunțeanu, M. and Meulen Kamp, J.E. 2006. Calcareous nannofossil biostratigraphy and magnetostratigraphy of the Upper Miocene and Lower Pliocene of the Northern Aegean (Orphanic Gulf-Strimon Basin areas), Greece. *Palaeogeography, Palaeoclimatology, Palaeoecology* 238, 125-50
- Sommer, R.S. and Nadachowski, A. 2006. Glacial refugia of mammals in Europe: evidence from fossil records. *Mammal Review* 36 (4), 251-65
- Sordinas, A. 1969. Investigations of the prehistory of Corfu during 1964-1965. *Balkan Studies* 10, 393-424
- Sordinas, A. 1970. Lithic tools from prehistoric Zakynthos. *Kerkyraika Chronika* 15, 122-30 (in Greek)
- Spassov, N. 2002. The Late Villafranchian and biochronology of South-East Europe: faunal migrations, environmental changes and possible first appearance of the genus *Homo* on the continent. *Annales Géologiques des Pays Helléniques* 39A, 221-43
- Stallard, R.E. 1995. Tectonic, environmental, and human aspects of weathering and erosion: a global review using a steady-state perspective. *Annual Review of Earth and Planetary Sciences* 23, 11-39
- Stanley, D.J. and Perissoratis, C. 1977. Aegean Sea ridge barrier-and-basin sedimentation patterns. *Marine Geology* 24, 97-107
- Starkel, L. 2003. Climatically controlled terraces in uplifting mountain areas. *Quaternary Science Reviews* 22, 2189-98
- Stearns, C.E. 1978. Pliocene-Pleistocene emergence of the Moroccan Meseta. *Geological Society of the American Bulletin* 89, 1630-44
- Stiros, S.C. 2009. Earthquakes. In J.C. Woodward (ed.), *The Physical Geography of the Mediterranean*, 469-91. Oxford: Oxford University Press

- Storme, A.L.H. 2008. *The landscape at Zakynthos: detailed geomorphological description of the south-eastern part of the Vassilikos Peninsula*. Unpublished MSc Thesis, Amsterdam: Vrije Universiteit
- Straßer, T.F., Panagopoulou, E., Runnels, C., Murray, P., Thompson, N., Karkanas, P., McCoy, F. and Wegmann, W. 2010. Stone Age seafaring in the Mediterranean: evidence from the Plakias region for Lower Palaeolithic and Mesolithic habitation of Crete. *Hesperia* 79 (2), 145-90
- Straus, L.G. 2001. Africa and Iberia in the Pleistocene. *Quaternary International* 75, 91-102
- Stringer, C.B. 1983. Some further notes on the morphology and dating of the Petralona hominid. *Journal of Human Evolution* 1983, 731-42
- Stringer, C.B. 1992. Evolution of early humans. In S. Jones, R. Martin and D. Pilbeam (eds.), *The Cambridge Encyclopedia of Human Evolution*, 241-51. Cambridge: Cambridge University Press
- Stringer, C.B. 2000a. Petralona. In A.S. Delson, I. Tattersall, J.A. van Couvering and A.S. Brooks (eds.), *Encyclopedia of Human Evolution and Prehistory*, 1144. New York: Garland Publishing, 2nd edition
- Stringer, C.B. 2000b. Coasting out of Africa. *Nature* 405, 53-5
- Stringer, C.B., Finlayson, J.C., Barton, R.N.E., Fernández-Jalvo, Y., Cáceres, I., Sabin, R.C., Rhodes, E.J., Currant, A.P., Rodríguez-Vidal, J., Giles-Pacheco, F. and Riquelme-Cantal, J.A. 2008. Neanderthal exploitation of marine mammals in Gibraltar. *Proceedings of the National Academy of Sciences of the United States of America* 105, 14319-324
- Stringer, C.B., F.C. Howell and J.K. Melentis 1979. The significance of the fossil hominid skull from Petralona, Greece. *Journal of Archaeological Science* 6, 235-53
- Stroosnijder, L. 2005. Measurement of erosion: is it possible? *Catena* 64, 162-73
- Stuart, A.J. 2005. The extinction of woolly mammoth (*Mammuthus primigenius*) and straight-tusked elephant (*Palaeoloxodon antiquus*) in Europe. *Quaternary International* 126-128, 171-7
- Sturdy, D., Webley, D. and Bailey, G. 1997. The Palaeolithic geography of Epirus. In G.N. Bailey (ed.), *Klithi: Palaeolithic Settlement and Quaternary Landscapes in Northwest Greece*, vol. 2: *Klithi in its local and regional setting*, 587-614. Cambridge: McDonald Institute for Archaeological Research
- Suc, J.-P. 1984. Origin and evolution of the Mediterranean vegetation and climate in Europe. *Nature* 307, 429-32
- Suc, J.-P. and Popescu, S.-M. 2005. Pollen records and climatic cycles in the North Mediterranean region since 2.7 Ma. In M.J. Head and P.L. Gibbard (eds), *Early-Middle Pleistocene Transitions: the Land-Ocean Evidence*, 147-58. London: Geological Society Special Publications 247
- Surovell, T.A. and Brantingham, P.J. 2007. A note on the use of temporal frequency distributions in studies of prehistoric demography. *Journal of Archaeological Science* 34, 1868-77
- Surovell, T.A., Finley, J.B., Smith, G.M., Brantingham, P.J. and Kelly, R. 2009. Correcting temporal frequency distributions for taphonomic bias. *Journal of Archaeological Science* 36, 1715-24
- Szabó, K., Brumm, A. and Bellwood, P. 2007. Shell artefact production at 32,000-28,000 BP in island southeast Asia. *Current Anthropology* 48 (5), 701-23
- Taşkiran, H. 2008. Réflexions sur l' Acheuléen d'Anatolie. *L'anthropologie* 112, 140-52
- Tattersall, I. and Schwartz, J.H. 2009. Evolution of the Genus *Homo*. *Annual Review of Earth and Planetary Sciences* 37, 67-92
- Templeton, A.R. 2002. Out of Africa again and again. *Nature* 416, 45-51
- Texier, J.P., Lefèvre, D. and Raynal, J.-P. 1994. Contribution pour un nouveau cadre stratigraphique des formations littorales quaternaires de la région de Casablanca. *Comptes rendus de l'Académie des Sciences Paris* (série II) 318 (9), 1247-53
- Texier, J.P., Raynal, J.-P. and Lefèvre, D. 1985. Nouvelles propositions pour un cadre chronologique raisonné du Quaternaire marocain. *Comptes rendus de l'Académie des Sciences Paris* (série II) 301 (3), 183-8
- Theocharis, D. 1967. *The dawn of Thessalian prehistory*. Volos: Filarchaios Etaireia Volou (in Greek).
- Thieme, H. 1997. Lower Palaeolithic hunting spears from Germany. *Nature* 385, 807-10
- Thornes, J.B. 1985. The ecology of erosion. *Geography* 70 (3), 222-35
- Thornes, J.B. 2002. The evolving context of Mediterranean desertification. In N.A. Geeson, C.J. Brandt and J.B. Thornes (eds) *Mediterranean Desertification. A mosaic of Processes and Responses*, 5-11. Chichester: John Wiley & Sons
- Thornes, J.B. 2009. Land degradation. In J.C. Woodward (ed.), *The Physical Geography of the Mediterranean*, 563-81. Oxford: Oxford University Press
- Thornes, J.B., López-Bermúdez, F. and Woodward, J.C. 2009. Hydrology, river regimes and sediment yield. In J.C. Woodward (ed.), *The Physical Geography of the Mediterranean*, 229-53. Oxford: Oxford University Press
- Tourloukis, E. 2009. New bifaces from the Palaeolithic site of Kokkinopilos, Greece and their stratigraphic significance. *Antiquity* 83 (320) Project Gallery

REFERENCES

- (available at <http://www.antiquity.ac.uk/projgall/tourloukis320/>)
- Tourloukis, E. and Palli, O. The first Medolithic site of Thesprotia. In B. Forsén (ed.), *Thesprotia Expedition I: towards a regional history*, 25-38. Helsinki: Papers and Monographs of the Finnish Institute at Athens XV
- Trauth, M.H., Larrasoña, J.C. and Mudelsee, M. 2009. Trends, rhythms and events in Plio-Pleistocene African climate. *Quaternary Science Reviews* 28, 399-411
- Tsapanos, T.M., Mäntyniemi, P. and Kijko, A. 2004. A probabilistic seismic hazard assessment for Greece and the surrounding region including site-specific considerations. *Annals of Geophysics* 47 (6), 1675-88
- Tselepidakis, I.G. and Theoharatos, G.A. 1989. A bioclimatic classification of the Greek area. *Theoretical and Applied Climatology* 40, 147-53
- Tsoukala, E.S. 1991. Contribution to the study of the Pleistocene fauna of large mammals (Carnivora, Perissodactyla, Artiodactyla) from Petralona Cave (Chalkidiki, N. Greece): Preliminary report. *Comptes rendus de l'Academie des Sciences Paris* 312 (série II), 331-36
- Tsoukala, E. 1999. Quaternary large mammals from the Apidima Caves (Lakonia, S Peloponnese, Greece). *Beiträge zur Paläontologie* 24, 207-29
- Tsoukala, E.S. and Melentis, J.K. 1994. Deinotherium giganteum KAUP (Proboscidea) from Kassandra Peninsula (Chalkidiki, Macedonia, Greece). *Geobios* 27 (5), 633-40
- Turner, C. 2002. Problems of the duration of the Eemian Interglacial in Europe north of the Alps. *Quaternary Research* 58, 45-8
- Tzedakis, P.C. 1994. Vegetation change through glacial-interglacial cycles: a long pollen sequence perspective. *Philosophical Transactions of the Royal Society of London B* 345, 403-32
- Tzedakis, P.C. 2000. Vegetation variability in Greece during the last interglacial. *Geologie en Mijnbouw / Netherlands Journal of Geosciences* 79, 255-367
- Tzedakis, P.C. 2005. Towards an understanding of the response of southern European vegetation to orbital and suborbital climate variability. *Quaternary Science Reviews* 24, 1585-99
- Tzedakis, P.C. 2007. Seven ambiguities in the Mediterranean palaeoenvironmental narrative. *Quaternary Science Reviews* 26, 2042-66
- Tzedakis, P.C., Andrieu, V., de Beaulieu, J.-L., Birks, H.J. B., Crowhurst, S., Follieri, M., Hooghiemstra, H., Magri, D., Reille, M., Sadari, L., Shackleton, N.J. and Wijmstra, T.A. 2001. Establishing a terrestrial chronological framework as a basis for biostratigraphical comparisons. *Quaternary Science Reviews* 20, 1583-92
- Tzedakis, P.C., Andrieu, V., de Beaulieu, J.-L., Crowhurst, S., Follieri, M., Hooghiemstra, H., Magri, D., Reille, M., Sadari, L., Shackleton, N.J. and Wijmstra, T.A. 1997. Comparison of terrestrial and marine records of changing climate of the last 500,000 years. *Earth and Planetary Science Letters* 150, 171-6
- Tzedakis, P.C., Frogley, M.R. and Heaton, T.H.E. 2002a. Duration of Last Interglacial Conditions in North-western Greece. *Quaternary Research* 58, 53-5
- Tzedakis, P.C., Frogley, M.R. and Heaton, T.H.E. 2003a. Last interglacial conditions in southern Europe: evidence from Ioannina, northwest Greece. *Global and Planetary Change* 36, 157-70
- Tzedakis, P.C., Frogley, M.R., Lawson, I.T., Preece, R.C., Cacho, I. and de Abreu, L. 2004a. Ecological thresholds and patterns of millennial-scale climate variability: The response of vegetation in Greece during the last glacial period. *Geological Society of America* 32 (2), 109-12
- Tzedakis, P.C., Hooghiemstra, H. and Pälike, H. 2006. The last 1.35 million years at Tenaghi Philippon: revised chronostratigraphy and long-term vegetation trends. *Quaternary Science Reviews* 25 (23-24), 3416-30
- Tzedakis, P.C., Lawson, I.T., Frogley, M.R., Hewitt, G.M. and Preece, R.C. 2002b. Buffered tree population changes in a Quaternary refugium: evolutionary implications. *Science* 297, 2044-7
- Tzedakis, P.C., McManus, J.F., Hooghiemstra, H., Oppo, D.W. and Wijmstra, T.A. 2003b. Comparison of changes in vegetation in northeast Greece with records of climate variability on orbital and suborbital frequencies over the last 450 000 years. *Earth and Planetary Science Letters* 212, 197-212
- Tzedakis, P.C., Roucoux, K.H., de Abreu, L. and Shackleton, N.J. 2004b. The duration of forest stages in Southern Europe and interglacial climate variability. *Science* 306, 2231-5
- Uluğ, A., Duman, M., Ersoy, S., Öznel, E. and Avci, M. 2005. Late Quaternary sea-level change, sedimentation and neotectonics of the Gulf of Gökova: south-eastern Aegean Sea. *Marine Geology* 221, 381-95
- UNESCO-FAO 1963. Bioclimatic map of the Mediterranean zone. *Ecological Study of the Mediterranean Zone, Arid Zone Research*. Paris: UNESCO
- Valladas, H., Mercier, N., Froget, L., Joron, J.-L., Reyss, J.-L., Karkanas, P., Panagopoulou, E. and Kyparissi-Apostolika N. 2007. TL age estimates for the Middle Palaeolithic layers at Theopetra cave (Greece). *Quaternary Geochronology* 2, 303-8

- Van Andel, T.H. 1989. Late Quaternary sea-level changes and archaeology. *Antiquity* 63, 733-45
- Van Andel, T.H. 1998. Paleosols, red sediments and the Old Stone Age in Greece. *Geoarchaeology* 13, 361-90
- Van Andel, T.H. and Lianos, N. 1984. High-resolution seismic reflection profiles for the reconstruction of postglacial transgressive shorelines: an example from Greece. *Quaternary Research* 22, 31-45
- Van Andel, T.H. and Perissoratis, C. 2006. Late Quaternary depositional history of the North Evvoikos Gulf, Aegean Sea, Greece. *Marine Geology* 232, 157-72
- Van Andel, T.H. and Runnels, C. 2005. Karstic wetland dwellers of Middle Palaeolithic Epirus, Greece. *Journal of Field Archaeology* 30 (4), 367-84
- Van Andel, T.H., Runnels, C. and Pope, K.O. 1986. Five thousand years of land use and abuse in the Southern Argolid, Greece. *Hesperia* 55, 103-28
- Van Andel, T.H. and Shackleton, J.C. 1982. Late Palaeolithic and Mesolithic coastlines of Greece and the Aegean. *Journal of Field Archaeology* 9 (4), 445-54
- Van Andel, T.H. and Tzedakis, P.C. 1996. Palaeolithic landscapes of Europe and environs, 150,000-25,000 years ago: an overview. *Quaternary Science Reviews* 15, 481-500
- Van Andel, T.H. and Zangerl, E. 1990. Landscape stability and destabilization in the prehistory of Greece. In S. Bottema, G. Emtjes-Nieborg and W. van Zeist (eds.), *Man's role in the shaping of the eastern Mediterranean landscape*, 139-57. Rotterdam: Balkema
- Van Andel, T.H., Zangerl, E. and Demittrack, A. 1990a. Land use and soil erosion in prehistoric and historical Greece. *Journal of Field Archaeology* 17, 379-96
- Van Andel, T.H., Zangerl, E. and Perissoratis, C. 1990b. Quaternary transgressive / regressive cycles in the Gulf of Argos, Greece. *Quaternary Research* 34, 317-29
- Van der Made, J. and Mateos, A. 2010. Longstanding biogeographic patterns and the dispersal of early *Homo* out of Africa and into Europe. *Quaternary International* 223-224, 195-200
- Van der Meulen, A.J. and van Kolfschoten, T. 1986. Review of the Late Turolian to Early Biharian mammal faunas from Greece and Turkey. *Memorie della Società Geologica Italiana* 31, 201-11
- Van Hinsbergen, D.J.J. 2004. *The evolving anatomy of a collapsing orogen*. Ph.D. Thesis, Geologica Ultrajectina 243. Utrecht: Utrecht University
- Van Hinsbergen D.J.J., Lengereis, C.G. and Meulencamp, J.E. 2005. Revision of the timing, magnitude and distribution of Neogene rotations in the western Aegean region. *Tectonophysics* 396, 1-34
- Van Hinsbergen, D.J.J., van der Meer, D.G., Zachariasse, W.J. and Meulencamp, J.E. 2006. Deformation of western Greece during Neogene clockwise rotation and collision with Apulia. *International Journal of Earth Sciences (Geologische Rundschau)* 95, 463-90
- Van Kolfschoten, T. 1998. Biostratigraphical evidence of the earliest occupation of Europe. In E. Carbonell, J. M. Bermúdez de Castro, J.L. Arsuaga and X.P. Rodriguez (eds), *Los primeros pobladores de Europa: Últimos descubrimientos y debate actual*, 101-15. Burgos: Diario de Burgos
- Van Kolfschoten, T. 2007. Quaternary Stratigraphy/Biostratigraphy. In S.A. Elias (ed), *Encyclopedia of Quaternary Science*, 2808-11. Amsterdam: Elsevier
- Van Vugt, N., de Brujin, H., van Kolfschoten, T. and Langereis, C.G. 2000. Magneto- and cyclostratigraphy and mammal-fauna's of the Pleistocene lacustrine Megalopolis Basin, Peloponnesos, Greece. *Geological Ultrajectina* 189, 69-92
- Van Wijngaarden, G.J.M., Arapogianni, X., Tourloukis, V. and Rink, R. 2006. The Zakynthos Survey 2005: preliminary report of a pilot survey. *Pharos* 13, 59-76 (2005)
- Van Wijngaarden, G.J.M., Sotiriou, A., Horn Lopes, J., Gkouma, M., Koster, K., Stoker, A., Susan, D. and Tourloukis, V. 2009. The Zakynthos Archaeology Project: preliminary report on the 2008 season. *Pharos* XVI, 61-83 (2008)
- Van Wijngaarden, G.J.M., Sotiriou, A., Pieters, A. and Tourloukis, V. 2007. The Zakynthos Archaeology Project 2006: preliminary report of the first season. *Pharos* 14, 29-46 (2006)
- Vandekerckhove, L., Poesen, J., Oostwoud Wijdenes, D. and de Figueiredo, T. 1998. Topographical thresholds for ephemeral gully initiation in intensively cultivated areas of the Mediterranean. *Catena* 33, 271-92
- Vandekerckhove, L., Poeseasn, J., Oostwoud Wijdenes, D., Nachtergaele, J., Kosmas, C., Roxo, M.J. and de Figueiredo, T. 2000. Thresholds for gully initiation and sedimentation in Mediterranean Europe. *Earth Surface Processes and Landforms* 25, 1201-20
- Vandenbergh, J. 1995. Timescales, climate and river development. *Quaternary Science Reviews* 14, 631-8
- Vandenbergh, J. 2003. Climate forcing of fluvial system development: an evolution of ideas. *Quaternary Science Reviews* 22, 2053-60
- Vandenbergh, J. 2008. The fluvial cycle at cold-warm-cold transitions in lowland regions: a refinement of theory. *Geomorphology* 98, 275-84
- Verheijen, F.G.A., Jones, R.J.A., Rickson, R.J. and Smith, C.J. 2009. Tolerable versus actual soil erosion rates in Europe. *Earth-Science Reviews* 94, 23-38

REFERENCES

- Villa, P. 1996. The first Italians: Le industrie litiche del giacimento paleolitico di Isernia La Pineta. *Lithic Technology* 21 (1), 71-9
- Villa, P. 2001. Early Italy and the colonization of Western Europe. *Quaternary International* 75, 113-30
- Villa, P., Soto, E., Santonja, M., Pérez-González, A., Mora, R., Parcerisas, J. and Sesé, C. 2005. New data from Ambrona: closing the hunting versus scavenging debate. *Quaternary International* 126-8, 223-50
- Vinken, R. 1965. Stratigraphie und Tektonik des Beckens von Megalopolis (Peloponnes, Griechenland). *Geologisches Jahrbuch* 83, 97-148
- Vita-Finzi, C. 1969. *The Mediterranean valleys*. Cambridge: Cambridge University Press
- Von Blanckenburg, F. 2005. The control mechanisms of erosion and weathering at basin scale from cosmogenic nuclides in river sediment. *Earth and Planetary Science Letters* 237, 462-79
- Waelbroeck, C., Labeyrie, L., Michel, E., Duplessy, J.C., McManus, J.F., Lambeck, K., Balbon, E. and Labracherie, M. 2002. Sea-level and deep water temperature changes derived from benthic foraminifera isotopic records. *Quaternary Science Reviews* 21, 295-305
- Wainwright, J. 1992. Assessing the impact of erosion on semi-arid archaeological sites. In J. Boardman and M. Bell (eds), *Past and Present Soil Erosion*, 227-41. Oxford: Oxbow Books
- Wainwright, J. 2009. Weathering, soils and slope processes. In J.C. Woodward (ed.), *The Physical Geography of the Mediterranean*, 169-202. Oxford: Oxford University Press
- Ward, I. and Larcombe, P. 2003. A process-oriented approach to archaeological site formation: application to semi-arid Northern Australia. *Journal of Archaeological Science* 30, 1223-36
- Waters, M.R. and Kuehn, D.D. 1996. The Geoarchaeology of place: the effect of geological processes on the preservation and interpretation of the archaeological record. *American Antiquity* 61, 483-97
- Wells, L.E. 2001. A geomorphological approach to reconstructing archaeological settlement patterns based on surficial artifact distribution: replacing humans on the landscape. In P. Goldberg, V.T. Holliday and C.R. Ferring (eds), *Earth Sciences and Archaeology*, 107-41. New York: Kluwer Academic / Plenum Publishers
- Westaway, R. 2002. Long-term river terrace sequences: Evidence for global increases in surface uplift rates in the Late Pliocene and early Middle Pleistocene caused by flow in the lower continental crust induced by surface processes. *Netherlands Journal of Geosciences* 81, 305-28
- Westaway, R. 2007. Improved modeling of the Quaternary evolution of the Gulf of Corinth, incorporating erosion and sedimentation coupled by lower-crustal flow. *Tectonophysics* 440, 67-84
- Westley, K. and Dix, J. 2006. Coastal environments and their role in prehistoric migrations. *Journal of Maritime Archaeology* 1, 9-28
- Werz, B.E.J.S. and Flemming, N.C. 2001. Discovery in Table Bay of the oldest handaxes yet found underwater demonstrates preservation of hominid artefacts on the continental shelf. *South African Journal of Science* 97, 183-85
- White, M. and Ashton, N. 2003. Lower Palaeolithic core technology and the origins of the Levallois method in North-Western Europe. *Current Anthropology* 44 (4), 598-609
- Wilkinson, K.N. and Pope, R.J.J. 2003. Quaternary alluviation and archaeology in the Evrotas Valley, southern Greece. In A.J. Howard, M.G. Macklin and D.G. Passmore (eds), *Alluvial Archaeology in Europe*, 187-99. Lisse: Swets and Zeitlinger
- Willis, K.J. 1994. The vegetational history of the Balkans. *Quaternary Science Reviews* 13, 769-88
- Wintle, A.G. and Jacobs, J.A. 1982. A critical review of the dating evidence for Petralona cave. *Journal of Archaeological Science* 9, 39-47
- Wolpoff, M. 1980. Cranial remains of Middle Pleistocene European hominids. *Journal of Human Evolution* 9, 339-58
- Wood, B. and Collard, M. 1999. The Human Genus. *Science* 284, 65-71
- Woodward, J.C., Hamlin, R.H.B., Macklin, M.G., Hughes, P.D. and Lewin, J. 2008. Glacial activity and catchment dynamics in northwest Greece: long-term river behavior and the slackwater sediment record for the last glacial to interglacial transition. *Geomorphology* 101, 44-67
- Woodward, J.C., Lewin, J. and Macklin, M.G. 1995. Glaciation, river behavior and the Palaeolithic settlement of upland northwest Greece. In J. Lewin, M.G. Macklin and J.C. Woodward (eds), *Mediterranean Quaternary River Environments*, 115-29. Rotterdam: Balkema
- Woodward, J.C., Macklin, M.G. and Lewin, J. 1994. Pedogenic weathering and relative-age dating of Quaternary alluvial sediments in the Pindus Mountains of northwest Greece. In: D.A. Robinson and R. B.G. Williams (eds), *Rock weathering and landform evolution*, 259-83. Chichester: John Wiley & Sons
- Wrangham, R. 2009. *Catching fire: how cooking made us human*. New York: Basic Books

- Xeidakis, G.S., Delimani, P. and Skias, S. 2007. Erosion problems in Alexandroupolis coastline, north-eastern Greece. *Environmental Geology* 53, 835-48
- Xirotiris, N., Henke, W. and Symeonidis, N. 1979. Der M^3 von Megalopolis –ein Beitrag zu seiner morphologischen Kennzeichnung. *Zeitschrift für Morphologie und Anthropologie* 70, 117-22
- Xoplaki, E., Gonzalez-Rouco, J.F., Gyalistras, D., Luterbacher, J., Rickli, R. and Wanner, H. 2003. Inter-annual summer air temperature variability over Greece and its connection to the large-scale atmospheric circulation and Mediterranean SSTs 1950–1999. *Climate Dynamics* 20, 537-54
- Yassoglou, N., Kosmas, C. and Moustakas, N. 1997. The red soils, their origins, properties, use and management in Greece. *Catena* 28, 261-78
- Yaalon, D.H. 1997. Soils in the Mediterranean region: what makes them different? *Catena* 28, 157-69
- Yaalon, D.H. 2009. Brief comments on red Mediterranean soils. *Catena* 76, 224
- Yokoo, Y., Sivapalan, M. and Oki, T. 2008. Investigating the roles of climate seasonality and landscape characteristics on mean annual and monthly water balances. *Journal of Hydrology* 357, 255-69
- Zangger, E. 1992. Neolithic to present soil erosion in Greece. In J. Boardman and M. Bell (eds), *Past and Present Soil Erosion*, 133-47. Oxford: Oxbow Books
- Zangger, E. 1994. Landscape changes around Tiryns during the Bronze Age. *American Journal of Archaeology* 98 (2), 189-212
- Zelilidis, A. and Kontopoulos, N. 1999. Plio-Pleistocene alluvial architecture in marginal extensional narrow sub-basins: examples from southwest Greece. *Geological Magazine* 136 (3), 241-62
- Zelilidis, A., Kontopoulos, N., Avramidis, P. and Piper, J. W.D. 1998. Tectonic and sedimentological evolution of the Pliocene-Quaternary basins of Zakynthos Island, Greece: case study of the transition from compressional to extensional tectonics. *Basin Research* 10, 393-408
- Zhou, L.P., van Andel, T.H. and Lang, A. 2000. A luminescence dating study of open-air Palaeolithic sites in western Epirus, Greece. *Journal of Archaeological Science* 27, 609-20
- Zwolinski, Z. 2004. Geodiversity. In A.S. Goudie (ed.), *Encyclopedia of Geomorphology*, 417-8. London: Routledge