

# Middle and Upper Paleolithic settlement of the Balkans interior during the cold periods

Dušan Mihailovic, Katarina Bogičević, Vesna Dimitrijević, Stefan Milošević, Draženko Nenadić, Mirjana Rokсандić



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**ABSTRACT BOOK**



# CONTENTS...

10	United Europe of Things 3: Understanding Transition - Integration - [Re]Integration through Medieval Material Culture .....	7
12	Seeing the 'Art' in Artifacts: The Inter-connections of Archaeology and the Arts .....	10
16	The Dawn, Apogee and Modern Demise of Kurgans in Southeast and East-central Europe .....	18
17	Becoming a Published Archaeologist [ECA].....	23
27	Engaging the Public, Heritage and Educators through Material Culture Research .....	23
32	Skyscape, Landscape and Archaeology. Study of Ancient Buildings from Different Perspectives and Disciplines to Give Them a Cultural Meaning [SEAC-EAA] .....	27
35	Where's My Tribe? Developing New Approaches to Connectivity, Mobility and Community in Early Medieval Europe after the Ethnic Paradigm .....	32
38	Characterization of Lithic Material in Prehistory, Methods, Problems, Results.....	36
39	Presentism and the Archaeologies of the Present: Engaged Practices and Methodologies.....	39
45	Becoming Roman: The Role of Biological Resources in the Expansion of New Economic and Cultural Models throughout the Empire .....	44
51	Conquest, Migration and Cultural Change in the Medieval Mediterranean.....	50
53	Technology, Regionalisation and Environmental Adaptation in Europe and beyond [PaM] .....	59
67	Cremation Funerary Practices across the Roman Empire: A Bioarchaeological Approach.....	61
83	Climatic Changes in the Medieval World: Evidence for Adaptation and Resilience.....	66
85	Understanding Neanderthal Symbolic and Cultural Behaviour and Their Cognitive Underpinnings. Where Do We Stand? [PaM] .....	69
86	Prehistoric Warriorhood in Transition.....	70
90	The Technology and Use of Metals in the Prehistoric Eastern Mediterranean: Recent Advances through Microscale Analysis .....	76
93	Beyond the Chronology and Pathways of Dispersal: Reasoning the Use and Abandonment of Broomcorn Millet Cultivation across Eurasia.....	79
96	Neither River nor Lake: Human-made 'Waterscapes'. The Use of Ground- and Rainwater in Neolithic Times .....	85
98	Hunter-Gatherer's Societies in the Southwestern Europe between 18,500-10,000 cal. BP [PaM].....	87
100	Human Forensic Taphonomy – How Multidisciplinary Approaches Shed Light on Past Funerary Practices .....	94
102	Campaigning Strategies for Archaeology and Cultural Heritage - Principles, Strategies, and Practical Experiences .....	100
108	The Times Are a Changing - Socio-Cultural and Ecological Change during the Atlantic Biozone and Their Impact on Human Life [PaM] .....	103
109	Animal and Plant Management in Prehistoric Hunter-Fisher-Gatherer Communities [PaM] .....	105
112	Prehistoric Inter-Societal Dynamics along the Atlantic Façade II. Neolithic to the Iron Age.....	109
126	Limiting Spaces: The Attribution of Spatial Meaning through the Creation of Boundaries .....	112
127	Integrations, Interactions, and Intersections in Islamic Archaeologies of Afro-Eurasia.....	118
128	Above and around 60 Degrees North: Movement of Ideas, Practices, Materials and People AD 300-1300 .....	123
129	Populism, Authoritarianism, Autocracy and Other Kids of Neo-liberalism – in Academia and Archaeology .....	127
130	New Interactions and Relations with Heritage. Different Approaches between Heritage and Stakeholders .....	128
134	In the Margins of the Fabric: Towards a Social Archaeology of Industrial Impact in the Modern and Contemporary Eras .....	132
135	The Medieval Marketplace in Europe - Interdisciplinary and Theoretical Approaches to Its Biographies and Developments.....	136
142	Gender Archaeology at the Crossroads: The Future and Its Challenges [AGE].....	141
143	The Evolution of Coastal Archaeological Sites: Submerged, Preserved, in Flux .....	146
149	Interactions, Innovation and Communication in the Late Neolithic and Copper Age .....	150
153	Apps and Archaeology. Use of Apps as Archaeological Tools.....	160

154	Towards an Archaeology of Household Practices – Current Archaeological and Scientific Contributions .....	163
157	Finds Stories: Archaeological Biographies in Contexts of Mobility.....	168
161	Peripheral Regions in the Prehistory of Temperate Europe.....	172
162	Digital Humanities and Medieval Archaeology: Re-Integrating Isolated, Fragmented and Overlooked Archaeological Evidence .....	175
170	The Houses of Death as Ancestral Monuments. The Archaeology of Neolithic Long Barrows in Europe .....	181
174	Rhythms of Life. Exploring the Imprints of Temporalities and Annual Cycles on Prehistoric Settled Life.....	185
176	Ornaments as a Key to Understanding the Hunter-Gatherer to Farming Transition in Europe .....	188
177	Organic Materials in Tombs: The Quiet Protagonists .....	192
180	Multi-proxy Microarchaeological Approaches: State of the Art, New Advances, Limitations and Future Perspectives .....	195
181	Control the Divine: Integrating Sacred Spaces and Rituals at the 'Fringes' (Ancient Central and South Asia).....	206
184	Center vs Periphery. Interdisciplinary Approaches to the Study of Material Culture, Architecture, and Landscape in the Caucasus Region.....	210
187	The Network Former: Trade and Exchange of Glass in Antiquity.....	212
192	Multi-proxy Approaches to Kinship in the Greco-Roman World.....	217
194	Safer-Spaces Policies in Archaeological Practice [EAA ExB] .....	220
195	Silk: A Catalyst for Interconnection in the Sixth to Tenth Centuries AD/CE.....	221
196	"A Universe with an Additional Dimension": The Socioenvironmental Archaeology of Fishing [PaM] .....	226
197	Standardization in Qualitative and Quantitative Use-wear Analysis of Prehistoric Stone Tools: Discussing Issues and Solutions [PaM] .....	229
198	From Fire to Light.....	233
201	"For the Love" – The Impact and Potential of Amateur Enthusiasts on Archaeological Sites and Activities .....	238
203	Across the Maelstrom: Searching for New Departures in the Archaeology of the Viking Age .....	238
206	No Braudel for the Balkans? Forging a New, Interconnected Prehistory of the Balkan Peninsula .....	241
207	Remembrance of Things Past: New Approaches to the Construction and Uses of Cultural Memory from Iron Age to Antiquity .....	249
208	Telling Stories about Impacts of Academic Research in Archaeology on Society: Wider Lessons from the UK Research Excellence Framework Experience [EAA ExB] .....	251
210	Digging Women: Use and Misuse of Ancient Women as Role Models in Archaeological Research and Dissemination [AGE] .....	252
211	Right Here, Let's Get It Right Now. Collaborative Creation of Standards and Guidance to Define Good Archaeology in Different Jurisdictions.....	255
213	Isoscapes, Foodwebs and Provenance – Isotope Archaeology beyond Materials and Specialisations .....	258
215	Facing Water Resources and Variations in Central Asia from Prehistory to Timurid Period: Disaster(s), Adaptation, Anticipation .....	268
218	Science or Humanities – Whither Archaeology? .....	271
220	Apprenticeship as Research Method .....	276
221	Revisiting Husbandry and Subsistence in Southwestern Asia Using Integrated Approaches and the Latest Development in Bioarchaeology .....	278
222	Ad Salubritatem Civitatum. The Archaeology of Water Evacuation Infrastructures in Roman Urban Settlements ....	281
223	Winds of Change? Post-medieval and Historical Archaeology in Southern Europe and the Mediterranean .....	284
224	Hunter-gatherers Resilience: Adaptation Patterns to Climatic Shifts at Different Latitudes from MIS3 to MIS 1 [PaM].....	290
225	Anarchy and Archaeology: Towards New Theoretical and Practical Perspectives.....	296
226	Foreign vs Local in Medieval and Modern Age Foodways in the Baltic Sea Region.....	300
229	Development and Use of Garden Archaeology in Different Parts of Europe, Comparing Individual Approaches, Interactions, Cooperation to Asses Their Effectiveness.....	302
230	Sediment and Soil Archives to Decipher Human-environment Interactions in Wetland Landscapes from the Neolithic to the XXth Century.....	305
231	Bioanthropology in Western Asia: Moving forward (A Session in Honour of Prof Holger Schutkowski) .....	314
232	Dressing Europe: Mapping and Disseminating European Textile Heritage through Digital Resources .....	319

233	Islands, Monasteries and Water Management.....	324
237	Protecting the Past Is the Key to the Future: Rights of Archaeological Heritage Stakeholders and Social Justice.....	326
239	A Look beneath the Surface: Micro-archaeological and Geoarchaeological Approaches to the Study of Occupation Surfaces.....	330
241	Archaeology as Study of the Future.....	338
243	Coming Back to Life: Reuse of Medieval Buildings.....	342
248	New Approaches to Lithic Raw Material Studies: Inferring Past Human Mobility [PaM].....	345
250	From Local to Microregional and Beyond: Spatial Structures in and around the Early Medieval Carpathian Basin.....	354
252	Borderline Lithics: From Spatial Patterns to Social Processes during the European Neolithization [PaM].....	359
254	Understanding the Dynamics of Making and Trading Goods across Medium and Long Distances in the 2nd Millennium BC.....	364
256	Curation or Reburial — Current Practices and Decision Making on Storing Human Skeletons in Archaeological and Historical Collections.....	371
257	Big Project, Big Data: Creating a Web of Knowledge.....	374
260	Whose Pot Is It Anyway? Style, Influence, Integration and Meaning in European Ceramics.....	379
263	Craft Specialization in Worked Hard Osseous Materials: Conversations on a Complex Conceptual Category in Archaeology.....	386
264	Bioarchaeological Approach to Human Health throughout the Medieval Period in Europe.....	390
267	Towards the sea: human ecology, subsistence and adaptations along the European coasts from the Lower Palaeolithic to the Neolithic [PaM].....	397
268	Human Remains: Between Objects of Science and Lived Lives. Toward a New Ethics for Human Remains in Archaeology.....	404
269	More than Walls and Fences - The Importance of Space and Boundaries in Systems of Violence and Oppression.....	407
271	The Social Role of Pottery and Potters in Neolithic and Copper Age Societies of the Balkans and Central Europe.....	410
273	FAIRly Front-loading the Archive: Moving beyond Findable, Accessible and Interoperable to Reuse of Archaeological Data.....	418
274	Approaches to Communities in the Past and the Present.....	428
275	The Role of Archaeology (and Archaeologists) in the Covid-19 Recovery Plans across Europe and beyond [EAA ExB].....	435
280	Pottery and Identity in the European Neolithic: The Interpretative Path between Archaeological Features and (Pre)Historical Narratives.....	440
283	(Re)integration of the Carpathian Basin into the European Middle Palaeolithic: Cultural Contacts, Interregional Mobilities, Variability in Subsistence and Settlement Strategies [PaM].....	447
284	Visualizing, Interpreting, and Presenting Archaeological Sites to the Public.....	452
285	Gender Dynamics at the Dawn of the Classical World: An Indigenous Perspective [AGE].....	460
286	Public Archaeology and Sites of Conflict [Public Archaeology Community].....	465
287	Macroarchaeology - Definition, Objectives and Applications of a New Archaeological Paradigm.....	468
289	The Materiality of Lived Religion Under and After Rome.....	473
291	Interaction in Neolithization, Neolithization as Interaction. Archaeological Data and Analytical Procedures for Defining Interaction Contexts [PaM].....	477
298	Raw Material Acquisition, Management and Technological Choices from the Mesolithic to the Bronze Age in South-Eastern Europe [PaM].....	481
304	Investigating Székely History through Regional and Interdisciplinary Approaches.....	487
305	Unravelling the Urban Palimpsest: The Re-use and Integration of Urban Fabric in Time and Space [Urban Archaeology Community].....	491
306	Early Iron Age Landscape Transformations in the Carpathian Basin and Adjacent Areas.....	496
309	From the Present to the Past and Back: Crossing Disciplinary and Time Boundaries in Agricultural Research.....	501
311	Community Archaeology of the Edges: Challenges and Solutions.....	508
312	Continuity and Discontinuity of Transport Systems from Antiquity to the Present.....	508
315	New Technologies, New Trends, New Ethics in Cultural Heritage Management.....	513



316	Small Objects Reflecting Great Changes .....	518
320	Archaeologies of Displacement Heritage, Memory, Materiality .....	522
321	Human Resilience during Eurasian Paleolithic and Mesolithic from a Bioarchaeological Perspective [PaM] .....	524
323	Microhistory and Social Archaeology in Western Europe .....	532
324	Roman Housing on the Shores of the Eastern Mediterranean. Global Trends, Local Responses? .....	536
325	"Open Science" in Archaeology and Heritage: Challenges and Future Perspectives.....	539
326	Machine Learning and the Creation of Archaeological Narratives.....	542
327	Stone Age Stray Finds and How to Use Them [PaM] .....	544
330	Sustainability in Archaeology and Today: An Interdisciplinary Approach .....	551
331	Possibilities and Challenges of the Archaeological Science Revolution in the Caucasus.....	556
336	Experimental approaches to Palaeolithic and Mesolithic Archaeology [PaM] .....	561
337	Archaeology Matters. The Need to Re-define the Relevance of Archaeology [EAA ExB] .....	566
338	Pottery from Post-medieval Period in Carpathian Basin. Evolution or Revolution? .....	566
339	"More than Just Bones" - Understanding Past Human Adaption and Behaviour through the Study of Human Remains.....	568
340	North European Trading Networks for Iron and Copper.....	586
341	Oversea and Inland – Culture Contact Dynamics in the Mediterranean during the 1st Millennium BCE.....	589
342	What Do Archaeologists Want from a Distributed Science Infrastructure? Introducing IPERION HS and E-RIHS .....	592
343	Metals and Metalworking in the Borderlands .....	593
344	Integrating Neanderthal Legacy: New Opportunities for Cooperation [PaM].....	601
345	Let It Burn! Experimental and Ethnoarchaeological Approaches in Pyroarchaeology .....	608
346	Bringing Roman Coarse Ware to the Point: The Challenge of a Common Approach .....	615
347	Natural Resources of Highlands and Hinterlands in the Mediterranean.....	618
349	Dark Horse – Archaeologies of Horses and Horse Culture in the Middle Ages .....	622
350	[Re]Integrating a Dispersed Agenda: Advancing Archaeological Research in Central Eurasia.....	627
351	Routed Archaeology III – Getting around.....	632
353	Ethics, Conflict Archaeology and Society in the 20th and 21st Centuries.....	636
354	'Hidden Hillforts'. The Importance of Archival Sources for the Future Study of Fortifications [COMFORT] .....	639
355	Re-visiting the Global/Local Continuum in Archaeological Heritage Practice: Contrasting Histories, Perspectives, and Experiences within and beyond Europe.....	644
358	Can You See Me? Putting the 'Human' Back into 'Human-Plant Interactions' [ARCHWILD] .....	645
359	Borderlands, Interaction Zones, and Bounded Spaces in the Prehistoric Eastern Mediterranean: Interdisciplinary Studies in the Reconstruction of Connectivity .....	651
362	Balkan Archaeology as a Laboratory: Challenging Old Paradigms and Experimenting with New Ones .....	659
365	Life and Death behind the Wall: A Multidisciplinary Approach to Monasticism in Past .....	664
366	Interdisciplinary Approaches to the Analysis of Funerary Archaeology during the Bronze - Iron Age Transition in Atlantic Europe .....	669
367	Agent-based Modelling of Socio-ecological Systems in Archaeology. Towards a New Research Community .....	672
368	Avocational Metal-Detecting in Europe: International Experiences and Local Considerations.....	676
369	Commerce in the Late Antique West: Approaches to Analyse Trade Networks in Times of Change.....	676
371	Population History and Community Formation in Early Medieval East-Central Europe: Integrating Genetic, Isotopic, Archaeological and Historical Perspectives.....	680
372	Advances in Geometric Morphometric Methods Applied to Lithic Studies [PaM] .....	690
373	Discussing the Future of Big Data for the Study of the Human Past .....	693
374	The Archaeobotanical Puzzle: (Dis)Integrating Botanical Proxies to Better Comprehend Past Plant-People Interactions.....	697
375	The Societal Impacts of Climate Changes in the Past – What Can Hunter-Gatherer Archaeology Contribute to the Current Debate? [PaM] .....	702
376	Economic Systems in the Neolithic and Bronze Age: Pathways of Production, Consumption, Storage, Control and Exchange .....	705

378	Moving beyond the Fact of Mobility? Re-evaluating the Strengths and Limitations of Strontium Isotope Analyses in Archaeology .....	711
379	The Archaeology of Large-scale Conflicts: The Emergence of the Mongol Empire and the Invasion of Central-Europe in its Eurasian Context.....	720
380	Can you Future Proof Skill Development Work in Archaeology? .....	721
381	Waterscapes: Traces of Interaction between People and Water from Neolithic to Bronze Age Europe .....	722
382	Technology, Risk, and Change.....	727
383	Scaling up: Archaeological Science Contributions to Big-picture Narratives on Human-Animal Relations .....	731
384	Women's Status and Agency in the Neolithic and Metal Ages of Central Europe [AGE] .....	732
385	Place Name and Archaeology – New Interdisciplinary Approaches in Europe .....	737
388	Towards an Open Platform for Computer Simulations of Past Socio-ecological Systems.....	741
389	Moving into the Mediterranean – New Developments in the Research on Genetics, Mobility, Culture Change and Languages.....	741
390	All on Walls. Current Issues on Historical Wall Painting Science, Conservation, and Restoration .....	747
392	The Anti-HABI Toolkit: Practical Solutions and Measures for Preventing and Addressing Harassment, Assault, Bullying and Intimidation in Archaeology [AGE] .....	752
394	So Many Settlements so Few Graves? Neolithic and Chalcolithic Practices with the Dead in Circum Pontic Region and Southeastern Europe .....	754
395	Medieval Stone Monuments: Reuse and (Re)Integration .....	757
396	Reenactment and Living Museum – Make History Accessible .....	759
397	Archaeological Prospection and Field Evaluation Practice from Bologna Process to Convention of La Valetta. Do We Practice What We Preach? [Archaeological Prospection] .....	764
399	Linking Databases for Comparing Research: Do We Need a European Hillfort Information System? [COMFORT] ....	769
400	Step by Step. The Rough Road towards Community Archaeology.....	769
401	To Use or Not to Use: 3D Documentation in Fieldwork and in the Lab [3D-Archaeology] .....	772
402	Scaling Bronze Age Societies – Between the Micro and Macro .....	776
403	Domestication of Space: Internal and External Dwelling Structures in Middle and Upper Palaeolithic Sites [PaM] ...	779
404	Socio-environmental Systems and Resilience to Disturbance Regimes .....	781
405	"The Grass Is Always Greener on the Other Side?" The Benefit of the Local and Regional Lithic Raw Materials .....	785
406	Ancient and Traditional Crafts in Changing Environments: Addressing the Needs for Temporal Perspectives .....	786
407	Digital Religioscapes: Current Methodologies and Novelities in the Analysis of Sacr(aliz)ed Spaces.....	790
416	Challenging Island Archaeology with the Third Science Revolution .....	794
417	As Far as Vases Go: Studies on Ancient Greek Pottery Trade and Its Contexts.....	801
419	Using Forensic Archaeological Approaches to Inform the Past .....	807
420	EAA Community for Climate Change and Heritage (CCH) Roundtable.....	814
421	Space Syntax: The Material Imprints of Spatial Integration Processes .....	814
422	'... In with the New!': The Future of Archaeological Research in Medieval Europe .....	818
424	Actors, Not Spectators. Community Representation in Archaeology and Cultural Heritage in the 21st century.....	819
426	From Isotope Ratios to Narratives: Exploring the Ways that Biogeochemical Studies are Impacting Eurasian Archaeology .....	823
427	Prehistoric Histories: Linking Individual Agency and Broad Transformations.....	828
430	Percussive Osseous Industry a Human Revolution between Pre-formation and Waste Selection [PaM].....	830
432	Logistics and Natural Resources: Supply and Transportation through Time (5th century BC – 5th century AD).....	833
434	Creation of European Identities – Food, Textiles and Metals in the Iron Age Between Alps, Pannonia and Balkans.....	836
436	General session.....	839
437	Reintegration in Medieval Archaeology (MERC Forum) .....	844
438	Europe's medieval past: a manifesto (MERC Round table).....	844
	Index of session organisers and authors.....	848

mass fingerprinting, and it is being increasingly used to provide information on a wide range of aspects of past societies: human evolution, paleoecology and animal-human interaction and artefact manufacture, among others.

In this study, we combine ZooMS and traditional zooarchaeological and taphonomic data to infer the subsistence strategies of the human groups that occupied La Viña rock shelter (northern Iberia) during the Solutrean and the Magdalenian. During both Upper Palaeolithic periods, human societies had to cope with the harsh climatic conditions of the Last Glacial Maximum and Greenland Stadial 2, which might influence their resources exploitation patterns.

The combined results provide information about subsistence strategies and paleoecology. The prey ranking is dominated by cervids, mainly red deer, and complemented with horse, large bovids and caprids. ZooMS results are consistent with the morphological identifications and identify horse as the main species included in the large mammal size, whereas large bovids are a minor component. In terms of paleoecology, ZooMS results also confirm the presence of cold-adapted taxa, such as reindeer and elephantids (likely mammoth).

The combination of this biomolecular method with zooarchaeology is useful to obtain a higher resolution of faunal identification, especially in contexts with high bone fragmentation or with morphologically similar species, and therefore, to increase the information available to infer past human behaviour.

## 11 MIDDLE AND UPPER PALEOLITHIC SETTLEMENT OF THE BALKANS INTERIOR DURING THE COLD PERIODS

**Abstract author(s):** Mihailovic, Dusan (University of Belgrade, Faculty of Philosophy) - Bogićević, Katarina (University of Belgrade - Faculty of Mining and Geology) - Dimitrijević, Vesna - Milošević, Štefan (University of Belgrade - Faculty of Philosophy) - Nenadić, Draženko (University of Belgrade - Faculty of Mining and Geology) - Roksandić, Mirjana (University of Winnipeg)

**Abstract format:** Oral

New dates obtained for the Middle Paleolithic and Upper Paleolithic sites in the Balkans indicate that Neanderthals and modern humans inhabited the central parts of the Balkans intensively only at the end of warm periods. Unlike the peak of interglacials - from which very few sites originate, sites dating to the end of the warm and early cold stages are relatively numerous, primarily the transition period from MIS 5 and MIS 4 and the period immediately before the beginning of the Last Glacial Maximum. Localities dated to the peak of cold phases (MIS 4, MIS 2) are also very rare. All this indicates that the Balkans interior did not represent a Paleolithic refuge at the peak of the glaciations, and that climatic changes had a similar effect on population density both in the Middle and Upper Paleolithic. Consistent with this suggestion are the indications of both Mousterian and Gravettian population movements from Central Europe to the south into the northern and central parts of the Balkans. Here we present sites, dates and environmental information available for the region. We outline the directions for further research.

## 12 EDGE DELINEATION AS A CLUE FOR THE EVOLUTION, ADAPTATION AND SPECIALISATION OF QUINA SCRAPERS IN THE LEVANT AND WESTERN EUROPE

**Abstract author(s):** Zupancich, Andrea (Archaeology of Social Dynamics Institución Milá y Fontanals, Barcelona; DANTE - Diet and ANcient TEchnology Laboratory, Sapienza Università di Roma) - Barkai, Ran - Gopher, Avi (Department of Archaeology and Near Eastern Cultures Tel-Aviv University)

**Abstract format:** Oral

Representing one of the main techno complexes within the European Middle Palaeolithic, Quina stone tool assemblages are dominated by scrapers exhibiting a specific edge retouch made of a succession of scaled and stepped enlevements. Recent research in the Balkan and the Levant leads to a rethinking of the Quina industry as a specific facies of the Mousterian of Western Europe. For example, scrapers exhibiting the same Quina retouch of their Western European counterpart have been unearthed at several Acheulo Yabrudian Levantine sites such as Qesem Cave. From a functional perspective, any significant difference in the primary use of these tools is recorded between Western Europe and the Levant, where Quina scrapers were used in tasks associated with the processing of hide. A major difference instead resides in the morphology of the tools, specifically in the delineation of the scrapers' active edge. Straight edges characterise Levantine Quina scrapers while their Western European counterparts show instead convex delineations. In this contribution, we argue that such differences in edge delineation can differences role played by Quina scrapers in the Levant and Europe. An integrated techno-functional study, combining use wear and techno-morpho functional analyses, of Quina scrapers coming from Qesem Cave, Roc de Marsal and Cueva de El Esquilleu, suggest that the role of Quina scrapers might have changed between the Acheulo Yabrudian and the Middle Palaeolithic - from multipurpose to specialised, task-specific tools. We show how techno-functional results, together with other strands of evidence from the studied contexts, allow us to trace the possible "evolution" of a specific kind of tool (i.e., Quina scrapers) and how a successful technology could adapt different needs, behaviours and environments.