Use Wear And Residue Analysis In Archaeology
Manuals In Archaeological Method Theory And
Technique

Quartzite is a particularly frequently used lithology for knapping stone tools throughout all stages of human evolution. Despite this, however, there is a surprising lack of detailed methodological research on the formation and appearance of use-wear on this type of rock. As such, this book fills in a gap in the research, and proposes a new method to analyse use-wear on quartzite, by evaluating the variability of use-wear appearance on different rock varieties. This book is conceived as a handbook for the application of microwear analysis on quartzite, and is addressed to both students and lithic use-wear analysts. The extreme surface irregularities of quartzite, mainly due to its microcrystalline structure and the diverse orientation of quartz crystals surfaces, have always been regarded as a major obstacle when applying use-wear analysis. As shown here, the use of scanning electron microscopy allows this and other obstacles when observing highly reflective surfaces, such as quartzite, to be overcome.

The use of chemistry in archaeology can help archaeologists answer questions about the nature and origin of the many organic and inorganic finds recovered through excavation, providing valuable information about the social history of humankind. This textbook tackles the fundamental issues in chemical studies of archaeological materials. Examining the most widely used analytical techniques in archaeology, the third edition of this comprehensive textbook features a new chapter on proteomics, capturing significant developments in protein recognition for dating and
characterisation. The textbook has been updated to encompass the latest developments in the field. The textbook explores several archaeological investigations in which chemistry has been employed in tracing the origins of or in studying artefacts, and includes chapters on obsidian, ceramics, glass, metals and resins. It is an essential companion to students in archaeological science and chemistry, as well as to archaeologists, and those involved in conserving human artefacts.

Use wear and residue analysis of stone tools found in the Ottleys Creek Valley, in the Moree Inverell area; backed blades; eloueras; grindstones; hatchets; grinding grooves.

Includes papers by J. Kamminga which has been annotated separately.

Investigating Middle Palaeolithic Subsistence Using an Optimal Foraging Perspective
Archaeological Science Under a Microscope
A Study of Microscopic Polish on Flint Implements
Archaeology in Practice
Prehistory of Agriculture
Bronze Age Combat
Lithic Biographies in the Neolithic and Bronze Age

Dissatisfaction has matured in Africa and elsewhere around the fact that often, the dominant frameworks for interpreting the continent’s past are not rooted on the continent’s value system and philosophy. This creates knowledge that does not make sense especially to local communities. The big question therefore is can Africans develop theories that can contribute towards the interpretation of the African past, using their own experiences? Framed within a concept revision substrate, the collection of papers in this
thought provoking volume argues for concept revision as a step towards decolonizing knowledge in the post-colony. The various papers powerfully expose that ‘cleansed’ knowledge is not only locally relevant: it is also locally accessible and globally understandable.

This volume uses the case study of Qesem Cave (Israel) to explore two important topics from the Middle Pleistocene: the practice of recycling old discarded flakes for the production of new objects by means of recycling, and the production of flakes and tools of small dimensions—topics that have not gained sufficient attention from the scientific co

This volume offers a detailed study of six exceptional rockshelter sites from the inland Pilbara Region of Western Australia. Consisting of 18 chapters, it is rich with colour photographs, illustrations, and figures, including high-resolution images of the rockshelter sites, excavations, stratigraphic sections, cultural features, and artefacts.

Scores of talented and dedicated people serve the forensic science community, performing vitally important work. However, they are often constrained by lack of adequate resources, sound policies, and national support. It is clear that change and advancements, both systematic and scientific, are needed in a number of forensic science disciplines to ensure the reliability of work, establish enforceable standards, and promote best practices with consistent application. Strengthening Forensic Science in the United States: A Path Forward provides a detailed plan for addressing these needs and suggests the creation of a new government entity, the National Institute of Forensic Science, to establish and enforce
standards within the forensic science community. The benefits of improving and regulating the forensic science disciplines are clear: assisting law enforcement officials, enhancing homeland security, and reducing the risk of wrongful conviction and exoneration. Strengthening Forensic Science in the United States gives a full account of what is needed to advance the forensic science disciplines, including upgrading of systems and organizational structures, better training, widespread adoption of uniform and enforceable best practices, and mandatory certification and accreditation programs. While this book provides an essential call-to-action for congress and policy makers, it also serves as a vital tool for law enforcement agencies, criminal prosecutors and attorneys, and forensic science educators.

Prehistoric Technology
Archives, Objects, Places and Landscapes
Pottery Function
Studies in Residue and Ancient DNA Analysis in Honour of Thomas H. Loy
Standard Methods for the Examination of Water and Wastewater
A Functional and Chemical Investigation of Small Flakes
Beyond Use-Wear Traces

This volume introduces a methodology, based on a systematic, in-depth study of prehension and hafting traces on experimental stone artifacts. The author proposes a number of distinctive macro- and microscopic wear
traits for identifying handheld tools. These highly varied studies, spanning the world, demonstrate how much modern analyses of microscopic traces on artifacts are altering our perceptions of the past. Ranging from early humans to modern kings, from ancient Australian spears or Mayan pots to recent Maori cloaks, the contributions demonstrate how starches, raphides, hair, blood, feathers, resin and DNA have become essential elements in archaeology’s modern arsenal for reconstructing the daily, spiritual, and challenging aspects of ancient lives and for understanding human evolution. The book is a fitting tribute to Tom Loy, the pioneer of residue studies and gifted teacher who inspired and mentored these exciting projects.

This volume is the official report of the Las Montanas archaeological investigation that occurred in the late 1980s. The Las Montanas site is located near Jamul, California, and represents a small, Native American seasonal camp occupied approximately 2,500 years ago. Extensive backhoe trench excavation and soil chemical analyses were used to identify the subsurface deposit at the site. The research conducted at the site focused on examining Milling Stone Horizon activities, and studying the function of the ?scraper plane.? Pollen and floral remains analysis was
conducted, with inconclusive results, although the deposits were relatively undisturbed. Two surface and eleven subsurface features were investigated. The two surface features were “milling platforms,” identified as bedrock outcrops with milling slicks. The subsurface features consisted of piles of rocks, mano clusters (3), and mixed artifact clusters. Artifact analysis included a consideration of stone tool reuse. Cobbles were found that had been used as manos, hammers, or cooking stones, then were flaked or re-used. The analysis of “scraper planes” did not support their use for plant processing; evidence of use wear assumed to be related to processing yucca was absent. Blood residue analysis was done on selected ground stone artifacts. Both protein residue and plant residue were found on the ground stone artifacts, suggesting multifunctional use of these artifacts. No specialized activity areas were identified at the site, although one of the mano clusters was a stockpile, buried in a pit and marked by a rock cairn. These tools may have been cached by users pending their return during the next seasonal cycle. Elizabeth Lawlor and Robert Gutzler conducted analyses of plant phytoliths and pollen, respectively. Although their results were inconclusive, these studies are of interest as local archaeologists build a body of evidence for paleoclimate
Read Book Use Wear And Residue Analysis In Archaeology Manuals In Archaeological Method Theory And Technique

and site environment.
The biographies of flint objects reveal their various and changing roles in prehistoric life. Using raw material sourcing, technological analysis, experimental archaeology, microwear and residue studies the author tells the story of flint from the Early Neolithic to its virtual demise in the Late Bronze and Early Iron Age, incorporating data from settlements, burials and hoards from the region of the present-day Netherlands. This richly illustrated book shows the way flint functioned in daily life, how simple domestic tools became ritualized, how flint was used to negotiate change and how the biography of flint objects was related to personhood.

Multidisciplinary approaches to Decolonised Zimbabwean pasts
A Paleo- Economic Interpretation of a Milling Stone Horizon Site, San Diego County, California
Supporting Information
Understanding Lithic Recycling at the Late Lower Paleolithic Qesem Cave, Israel
An Experimental and Microwear Approach to Early Iron Age Vessel Biographies
An Application of Use-wear and Residue Analysis to Wooden Digging
Sticks

New Methods and Techniques in the Study of Archaeological Materials from the Caribbean

Using original experimental methodologies and the best replica weapons to hand, five researchers set out to unlock Bronze Age combat. Their results of the first truly detailed and systematically described combat experiments with replica Late Bronze Age swords, spears and shields are presented in this book.

Surveys the archaeology of food: its methods and its themes (economics, politics, status, identity, gender, ethnicity, ritual, religion).


Starch residue analysis, ground stone, and use-wear analysis on milling equipment from High Rise Village and the White Mountain Village sites reveals a subsistence system that included geophyte processing at high elevation. High altitude residential use is little understood in North America and has often been thought to relate to intensive pine nut exploitation. This research indicates that this is not the case, and that geophytes were a targeted resource at high elevation. A closer look at the archaeological record in the two regions reveals that root processing was a common occurrence in nearby lowland
regions and that high altitude villages may fit into this broader regional pattern of geophyte processing, a fact that has been overlooked by archaeologists and ethnographers alike, and something starch residue analysis is well suited to demonstrate.

The Analysis of Archaeological Evidence
Going from Tools to People by Means of Archaeological Wear and Residue Analyses
Understanding Stone Tools and Archaeological Sites
Pots and Practices
A Functional Perspective
An Experimental Approach
The Experimental Development of a Method

In 2008-9, a 14-in. natural gas liquids pipeline was constructed in Colorado and Wyoming. Alpine Archaeological Consultants, Inc. was hired to survey the route; the major research themes presented here synthesize chronometric and spatial information, subsistence, prehistoric technology, small cultural features, and prehistoric architecture. This book introduces the hands-on analysis of North American stone tools and prehistoric stone tool technology. It considers the types of tools, the materials from which they were crafted, and the methods by which they were produced. One chapter is
devoted to the stone tools cultural history of the northern plains. Included are numerous illustrations and examples from previous fieldwork. Kooyman teaches archeology at the University of Calgary. Annotation copyrighted by Book News, Inc., Portland, OR. The sophistication of Neanderthal behavioural strategies have been the subject of debate from the moment of their recognition as a separate species of hominin in 1856. This book presents a study on Neanderthal foraging prowess. Novel ethnographic and primatological insights, suggest that increasing dependence on high quality foods, such as meat, caused the brain to evolve to a large size and thus led to highly intelligent hominins. From this baseline, the author studies the Neanderthal archaeological record in order to gain insight into the knowledge-intensity of Neanderthal hunting behaviour. In this research, an optimal foraging perspective is applied to Pleistocene bone assemblages. According to this perspective, foraging success is an important factor in an individual's evolutionary fitness. Therefore foraging is organised as efficiently as possible. The prey species that were selected and hunted by Neanderthals are analysed. The author investigates economic considerations that influenced Neanderthal prey choice. These considerations are based on estimates of the population densities of the available prey species and on estimates of the relative difficulty of hunting those species. The results demonstrate that when Neanderthals operated within poor environments, their prey choice was constrained: they were not able to hunt species living
in large herds. In these environments, solitary species were the preferred prey. It is striking that Neanderthals successfully focussed on the largest and most dangerous species in poor environments. However, in richer environments, these constraints were lifted and species living in herds were successfully exploited. In order to assess the accuracy of this approach, bone assemblages formed by cave hyenas are also analysed. The combined results of the Neanderthal and hyena analyses show that an optimal foraging perspective provides a powerful tool to increase our understanding of Pleistocene ecology. The niches of two social carnivores of similar size, which were seemingly similar, are successfully distinguished. This result lends extra credence to the conclusions regarding Neanderthal foraging strategies. This book contributes to the debate surrounding Neanderthal competence and ability. It combines an up-to-date review of current knowledge on Neanderthal biology and archaeology, with novel approaches to the archaeological record. It is thus an important contribution to the current knowledge of this enigmatic species.

This second edition of the classic textbook, The Archaeologist’s Laboratory, is a substantially revised work that offers updated information on the archaeological work that follows fieldwork, such as the processing and analysis of artifacts and other evidence. An overarching theme of this edition is the quality and validity of archaeological arguments and the data we use to support them. The book introduces
many of the laboratory activities that archaeologists carry out and the ways we can present research results, including graphs and artifact illustrations. Part I introduces general topics concerning measurement error, data quality, research design, typology, probability and databases. It also includes data presentation, basic artifact conservation, and laboratory safety. Part II offers brief surveys of the analysis of lithics and ground stone, pottery, metal artifacts, bone and shell artifacts, animal and plant remains, and sediments, as well as dating by stratigraphy, seriation and chronometric methods. It concludes with a chapter on archaeological illustration and publication. A new feature of the book is illustration of concepts through case studies from around the world and from the Palaeolithic to historical archaeology. The text is appropriate for senior undergraduate students and will also serve as a useful reference for graduate students and professional archaeologists.

The Archaeologist's Laboratory

Flint in Focus

Crossing the Borders

The Archaeology of Las Montanas (CA-SDI-10246)

A Student Guide to Archaeological Analyses

Rockshelter Excavations in the East Hamersley Range, Pilbara Region, Western Australia
International Conference on Use-Wear Analysis
Explores the application of a selected number of newly emerging methods and techniques. During the past few decades, Caribbean scholars on both sides of the Atlantic have increasingly developed and employed new methods and techniques for the study of archaeological materials. The aim of earlier research in the Caribbean was mainly to define typologies on the basis of pottery and lithic assemblages leading to the establishment of chronological charts for the region, and it was not until the 1980s that the use of technological and functional analyses of artifacts became widespread. The 1990s saw a veritable boom in this field, introducing innovative methods and techniques for analyzing artifacts and human skeletal remains. Innovative approaches included microscopic use-wear analysis, starch residue and phytolith analysis, stable isotope analysis, experimental research, ethnoarchaeological studies, geochemical analyses, and DNA studies. The purpose of this volume is to describe new methods and techniques in the study of archaeological materials from the Caribbean and to assess possible avenues of mutual benefit and integration. Exploring the advantages and disadvantages in the application of a selected number of newly emerging methods and techniques, each of these approaches is illustrated by a case study. These studies benefited from a diverse array of
experience and the international background of the researchers from Canada, the Netherlands, Cuba, Puerto Rico, Martinique, Italy, Mexico, Dominican Republic, England, and the United States who are integral members of the archaeological community of the Caribbean. A background to the study of archaeological materials in the Caribbean since the 1930s is provided in order to contextualize the latest developments in this field. Contributors: Benoît Bérard, Mathijs Booden, Iris Briels, Jago Cooper, Alfredo Coppa, Andrea Cucina, Gareth Davies, Hylke de Jong, Christy de Mille, Corinne L. Hofman, Menno L. P. Hoogland, Charlene Dixon Hutcheson, Daan Isendoorn, Loe Jacobs, William F. Keegan, Harold J. Kelly, Sebastiaan Knippenberg, Yvonne M. J. Lammers-Keijsers, Fernando Luna Calderón, Marcos Martinón-Torres, Lee A. Newsom, Channah Nieuwenhuis José R. Oliver, Jaime R. Pagán Jiménez, Raphaël G. A. M. Panhuysen, Roberto Rodríguez Suárez, Glenis Tavarez María, Michael Turney, Roberto Valcárcel Rojas, Annelou L. van Gijn, Rita Vargiu, Tamara Varney, Johannes Zijlstra

The significance of use-wear studies in archaeological research plays an important role as a proxy to prehistoric techno-cultural reconstruction. The present volume, divided into five thematic sections, includes chapters discussing various different research methods, techniques, chronologies and regions. As such, this volume will be of interest to both archaeologists and
Archaeology in Practice: A Student Guide to Archaeological Analyses offers students in archaeology laboratory courses a detailed and invaluable how-to manual of archaeological methods and provides insight into the breadth of modern archaeology. Written by specialists of material analyses, whose expertise represents a broad geographic range. Includes numerous examples of applications of archaeological techniques. Organized by material types, such as animal bones, ceramics, stone artifacts, and documentary sources, or by themes, such as dating, ethics, and report writing. Written accessibly and amply referenced to provide readers with a guide to further resources on techniques and their applications. Enlivened by a range of boxed case studies throughout the main text.

"The signature undertaking of the Twenty-Second Edition was clarifying the QC practices necessary to perform the methods in this manual. Section in Part 1000 were rewritten, and detailed QC sections were added in Parts 2000 through 7000. These changes are a direct and necessary result of the mandate to stay abreast of regulatory requirements and a policy intended to clarify the QC steps considered to be an integral part of each test method. Additional QC steps were added to almost half of the sections."--Pref. p. iv.
Hunter-Gatherers’ Tool-Kit
Use-wear and Residue Analysis of Birrigai Stone Artefacts
Use-wear and Residue Analysis of Selected Stone Points from Mudgegonga
An Experimental Study of the Oldest Tools and Artefacts from Traces of Manufacture and Wear

Organic Residue Analysis and Archaeology
This book brings together 30 papers by leading scholars in the field of usewear and residue analysis. This publication aims to revive the debate on the role of traceology (use-wear and residues) in multidisciplinary approaches that address archaeological questions. Many studies on technological aspects of material culture deal with specific material categories (e.g. flint, ceramics, bone), often in separate or isolated ways, and this division does not really reflect the integrated nature of technical systems in which different material categories are in dynamic interaction. Hence, exploring the interaction between different chaînes opératoires is crucial for a more global concept of the toolkit with all its
components and it is a precondition for paleo-ethnographic reconstructions of technical systems and economies. Starting from a functional perspective, the papers in this book explore various topics such as apprenticeship, group dynamics, social status, economy, technological evolution, spatial organization, mobility patterns and territories, or adaptations to cultural and environmental changes. This collection of papers, presented at the AWRANA conference in 2018, constitutes a major sign of the dynamism, popularity and scientific importance of our discipline in current archaeological research. AWRANA 2018 was dedicated to the memory of H. Keeley.

Gebrauchsspurenanalyse - England - Methodik.

There are many ways to study pots or the sherds of pots. In this book James Skibo has focused on the surface wear and tear found on the resin-coated, low-fired cooking pots of the Kalinga people in north western Luzon. This detailed analysis is part of a much larger evaluation of Kalinga pottery production and use by the staff members and students at the University of Arizona that has been underway since 1972. Here he has
analyzed the variants among the possible residual clues on pots that have endured the stresses of having been used for cooking meat and vegetables or rice; standing on supports in the hearth fire; wall scrapings while distributing the food; being transported to the water source for thorough washing and scrubbing; followed by storage until needed again—a repetitive pattern of use. This well-controlled study made use of new pots provided for cooking purposes to one Kalinga household, as well as those pots carefully observed in other households—189 pots in all. Such an ethnoarchaeological approach is not unlike following the course of the firing of a kiln-load of pots in other cultures, and then purchasing the entire product of this firing for analysis. Other important aspects of this Kalinga study are the chemical analysis of extracts from the ware to deduce the nature of the food cooked in them, and the experimental study of soot deposited on cooking vessels when they are in use.

This document provides guidance for good practice in the recovery, analysis and publication of organic residues from archaeological sites. It has been written for a range of
archaeological professionals, including local authority archaeology officers, archaeological units and consultants, project managers, museum curators, conservators and pottery specialists, with the aim of ensuring that approaches are suitable, cost-effective and informative. The objectives of the guidelines are to: * inform practicing archaeologists of the principles and potential applications of organic residue analysis (ORA) * provide clear and coherent guidance on organic residues recovery, sampling and analysis * demonstrate the research potential of the approach The Supporting Information document contains further detail on terms and concepts used in ORA and analytical techniques used to identify organic residues, together with guidance on where future research themes involving ORA might usefully be targeted. A thematically organised bibliography and details of where to access literature relating to ORA is also included. It also incorporates a short section on reporting, publishing and digital archiving, and guidance for museum curators and conservators in archiving ceramics with potential to be used for
ORA.
New Experimental and Ethnographic Approaches
Lithic Analysis
Use-Wear 2012
A Use-wear and Residue Analysis
An Integration of the Use-wear and Residue Analysis for the Identification of the Function of Archaeological Stone Tools
Identity, Politics, and Ideology in the Prehistoric and Historic Past
Use-wear Analysis of Flaked Stone Tools
This book is designed to act as a readily accessible guide to different methods and techniques of use-wear and residue analysis and therefore includes a wide range of different and complementary essential topics: experimental tests, observation and record methods and techniques and the interpretation of a diversity of tool types and worked raw materials. The onset of use-wear studies was marked by the development of theory, method and techniques in order to infer prehistoric tools functionality and, therefore, understand human technological, social and cultural behavior. The last decade of functional studies, use-wear and residue analysis have been aimed at the observation, recording and interpretation
of different activities and worked materials found on archaeological tools made on different types of organic and non-organic materials. This international group of contributions will be fundamental for all researchers and students of the discipline. The twenty eight contributors to this book show how experimental and ethnographic approaches are being used to shed new light on the process of domestication, and harvesting techniques, tools and technology in the period just before and just after the appearance of agriculture. The book takes an explicity comparative approach, with chapters on SW Asia, Europe, Australia and Africa. Microscopic analysis of 10 retouched points. "This important new methodologically-oriented work represents a major step forward in the expanding field of traceological studies. . . . The text is exceptionally well written and documented. Schematic artifacts line drawings . . . clearly indicate different use zones on edges and are preceded by a coded use-type key. The 280 x photomicrographs in section III are exceptional as is also the presentation of qualitative and quantitative data."--American Antiquity "Vaughan's monograph provides a thorough treatment of the high-power microscopic approach to lithic use-wear analysis and will contribute to the resolution of this issue. . . . An excellent introduction to the subject."--North American Archaeologist Archaeological Chemistry
Use-wear Analysis on Quartzite Flaked Tools
Understanding Pottery Function
A Methodology
Artefact Task Association and Function at Christmas Creek Rockshelter, S.E. Queensland
Archaeology at Graman Sites B1 and B4
A View to a Kill
The 1992 publication of Pottery Function brought together the ethnographic study of the Kalinga and developed a method and theory for how pottery was actually used. Since then, there have been considerable advances in understanding how pottery was actually used, particularly in the area of residue analysis, abrasion, and sooting/carbonization. At the 20th anniversary of the book, it is time to assess what has been done and learned. One of the concerns of those working in pottery analysis is that they are unsure how to “do” use-alteration analysis on their collection. Another common concern is understanding intended pottery function—the connections between technical choices and function. This book is designed to answer these questions using case studies from the author and his colleagues for applying use-alteration analysis to infer actual pottery function. The focus
of Understanding Pottery Function is on how practicing archaeologists can infer function from their ceramic collection. The book publishes the proceedings of the workshop held in Rome in March 2012 that was intended to bring together archaeologists, scientists and students involved in the study of use-wear traces on prehistoric stone tools and/or in the identification of micro residues that might be present in them in order to hypothesize their function. Use-wear analysis carried out with microscopic analysis at low or high magnification is, at present, a settled procedure. The individuation and identification of residues is attempted using morphological and chemical techniques, these latter divided between invasive and non-invasive. Each employed technique has its own advantages and limitations. Both traces and residues analysis require a comparison to useful replicas. Even with regard to the making of replicas, no shared protocol exists. The workshop underlined the necessity to outline the basis for developing a common protocol concerning both analysis procedures and replicas realization. The adoption of consistent methods will make it possible for data obtained by multiple researchers
to become interchangeable.

Use-Wear and Residue Analysis in Archaeology

This volume provides the reader with a multifaceted overview of the study of stone tools used by humans in the past. Including case studies from various geographic regions and different continents, and covering a wide range of chronologies, the contributions here are centred on the study of human communities based on a hunter-gatherer lifestyle. A number of essays in this volume focus on tool production and use, and address major paleoanthropological questions related to past human economic and social behaviour. The book also includes detailed and careful studies of human technology during Prehistory.

Use-Wear and Residue Analysis in Archaeology

Lithic Use-wear Analysis

High Rise Village, Wyoming and the White Mountain Village Sites, California

Proceedings of the International Workshop, Rome, March 5th-7th, 2012

Strengthening Forensic Science in the United States

The Archaeology of Food
Archaeological Data Recovery in the Piceance and Wyoming Basins of Northwestern Colorado and Southwestern Wyoming

This practical volume does not intend to replace a mentor, but acts as a readily accessible guide to the basic tools of lithic analysis. The book was awarded the 2005 SAA Award for Excellence in Archaeological Analysis. Some focuses of the manual include: history of stone tool research; procurement, manufacture and function; assemblage variability. It is an incomparable source for academic archaeologists, cultural resource and heritage management archaeologists, government heritage agencies, and upper-level undergraduate and graduate students of archaeology focused on the prehistoric period.

Prehension and Hafting Traces on Flint Tools
Starch Residue Analysis from Two High Altitude Village Locations
A Use-Alteration Perspective