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NEWS AND INFORMATION

IAOS Election!

Enclosed with this edition of the IAOS Bulletin you should find an election ballot. Candidate statements were included in the Summer Bulletin. Please be sure you vote at your earliest opportunity.

Online Obsidian-Dating Bibliography

You can now access over 200 obsidian-dating references via the IAOS webpage. Compiled by Mike Gottesman, the purpose of the document is to establish a bibliographic baseline for future researchers. The bibliography is an excellent resource for students and researchers. Adobe Acrobat is needed to view the bibliography at:

www.peak.org/obsidian/downloads.html

Annual Board Meeting

The IAOS annual board meeting will be held 3-4 Wednesday (3/20) at the 67th Meeting of the SAAs this March. Last years meeting was extremely productive and this year we hope to build on that momentum. As the meetings willn be held in Denver CO this year we hope many of our West-Coast members will take this opportunity to become reacquainted with the association.

In an effort to guide discussion at the meeting, Mike Gottesman has compiled a questionnaire highlighting several issues of concern. The questionnaire and his comments can be found on the last page of this bulletin.

OBSIDIAN PROVENANCE STUDIES FROM STRUCTURAL PROPERTIES?

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Introduction

It has been shown over the years that the determination of obsidian elementary composition was a very powerful tool in obsidian provenance studies (see f.i. Shackley, 1998 ; Cauvin et al.,1998). However, in some instances, the geochemical fingerprinting is not able to give a unique solution for the origin of an "archaeological" obsidian. This is the case f.i. in Eastern Anatolia where most often it is not possible to discriminate peralcaline samples of the Bingöl area from that of the Nemrut Dag massif (Poidevin 1998,but Bellot-Gurlet, 1998). Fission track dating (FTD) of the obsidian formation times offers a clue to this problem, with ages of respectively ~4 Ma and 20 ka (Bigazzi et al.,1998). In Ecuador, FTD of obsidian artefacts showed that several obsidian sources, of which only one (the Mullumica-Callejones flow) is known, present similar compositions (Dorighel et al., 1997), which cannot be distinguished even by ICP-MS (Bellot-Gurlet, 1998 ; Dorighel, 2000 ; Bellot-Gurlet, Dorighel and Poupeau, unpub. data). A combined geochemical/FTD approach was thus proposed for obsidian artefact sourcing studies (Poupeau et al.,1996 ; Bellot-Gurlet et al.,1999).

As FTD cannot be applied to all samples (see f.i. Poupeau et al., 1998) we are presently revisiting the potentialities of structural fingerprinting in obsidian sourcing studies, based on ^{57}Fe Mössbauer spectroscopy (MS), electron paramagnetic resonance (EPR) and magnetization properties (MP). We summarize here the present status of this on-going program.

^{57}Fe Mössbauer spectroscopy

The first attempt to use MS for obsidian provenance studies was made in the late seventies by Longworth and Warren (1979), following an early suggestion by Herzenberg (1970). As in the Western Mediterranean basin and its bordering areas obsidians are often found as Neolithic artefacts, these authors investigated whether or not ^{57}Fe MS could characterize uniquely the obsidians of the potential Italian source-islands of Lipari, Palmarola, Pantelleria and Sardinia. In this preliminary work, the five MS parameters determined were the Fe^{2+}/Fe^{3+} ratio, the quadrupole splitting and the isomer shift of the Fe^{3+} and Fe^{2+} ions. The results did not permitted to discriminate the samples of respectively Lipari and Palmarola and this approach to sourcing studies was then discarded. Later on, Schmidbauer et al. (1986) estimated that the poor resolution of the MS spectra they obtained for obsidians of Lipari and of Greek islands precluded the application of this method for identification purposes.

We revisited the obsidians MS of these sources taking into account that in these volcanic glasses the Fe^{2+} ions occupy two structural sites (Petrick et al., 1997a). In some sources the MS spectra present also an Fe^{3+} site and/or a magnetic component (Figure 1). Eight MS parameters were determined : the isomer shift and the quadrupole splitting of the Fe^{3+} and the two Fe^{2+} sites, the Fe^{2+}/Fe^{3+} area ratio and the relative area of the spectrum occupied by the magnetic component when present (>5%).

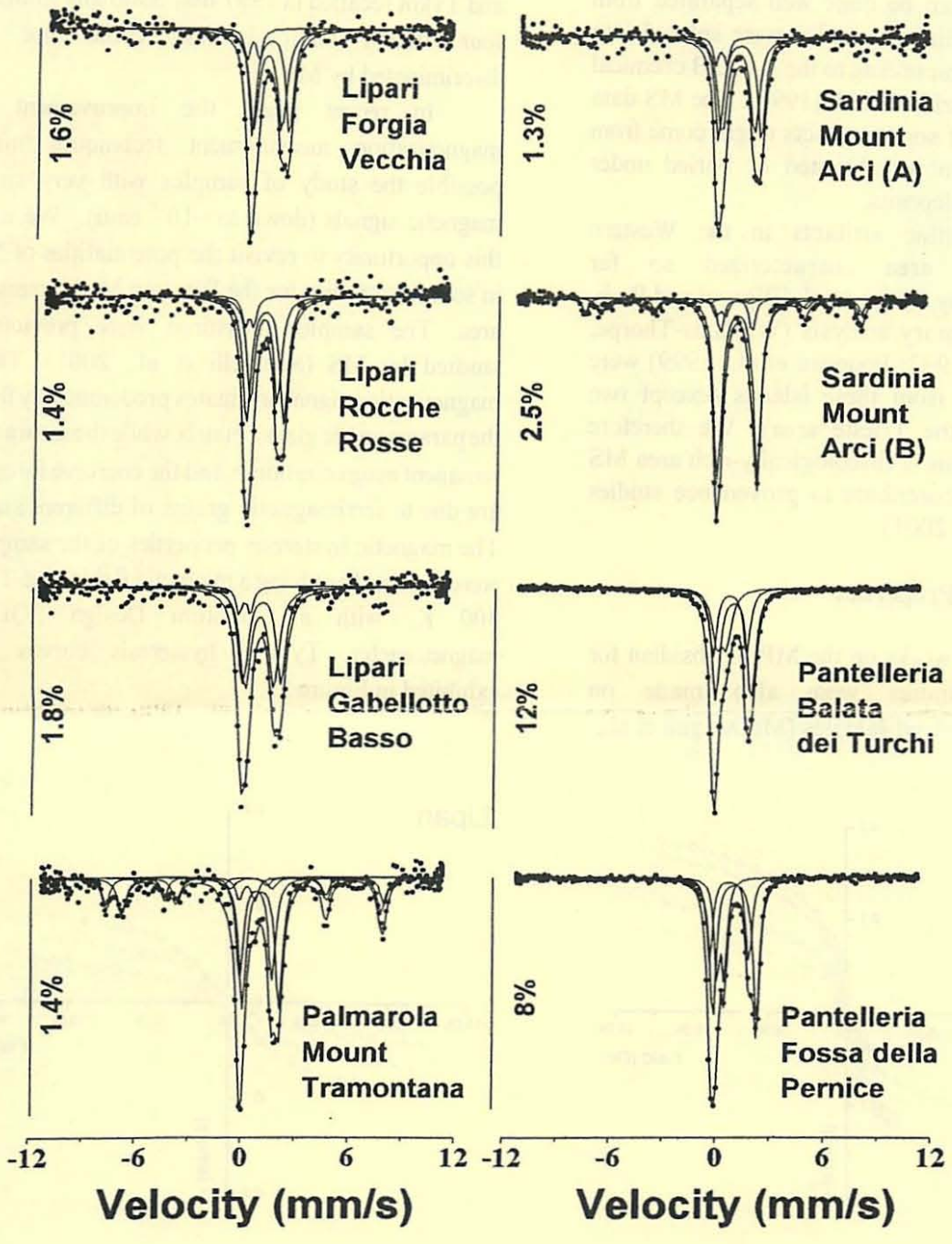

Fig. 1 : Room temperature Mössbauer spectra of geological obsidians from Palmarola and Pantelleria (modified from Scorzelli et al., 2001).

Fifty samples were analysed and the data submitted to a multivariate analysis in an eight dimensions space. We found that the four Italian source-islands can be quite well separated from each other. Sardinian samples were splitted into two groups corresponding to the A and B chemical groups of Bigazzi and Radi (1996). The MS data also suggest that some artifacts might come from Lipari sources now exhausted or buried under recent volcanic deposits.

All Neolithic artifacts in the Western Mediterranean area characterized so far conventionally by fission track (Bigazzi and Radi, 1996) or elementary analysis (Williams-Thorpe, 1995 ; Tykot, 1997; Poupeau et al., 1999) were found to come from these islands (except two samples from the Trieste area). We therefore believe that in this archaeologically-rich area MS can efficiently contribute to provenance studies (Scorzelli et al., 2001).

Magnetisation Properties

The first works on the MP of obsidian for provenance studies were also made on Mediterranean island samples (McDougall et al., 1983 ; Schmidbauer et al., 1986). Schmidbauer et al. estimated that the poor resolution of their spectra precluded the use of MP in sourcing studies and Tykot recalled in 1997 that obsidians from the four Italian source-islands could not be discriminated by MP.

In recent years the improvement of magnetization measurement techniques made possible the study of samples with very small magnetic signals (down to $\sim 10^{-7}$ emu). We used this opportunity to revisit the potentialities of MP in sourcing studies for the Western Mediterranean area. The samples measured were previously studied by MS (Scorzelli et al., 2001). Their magnetization signal originates predominantly from the paramagnetic glassy matrix while the saturation remanent magnetization σ_r and the coercive force H_c are due to ferrimagnetic grains of different sizes. The magnetic hysteresis properties of the samples were obtained applying a magnetic field (±1.5 T) at 300 K, with a Quantum Design SQUID magnetometer. Typical hysteresis curves are exhibited in Figure 2.

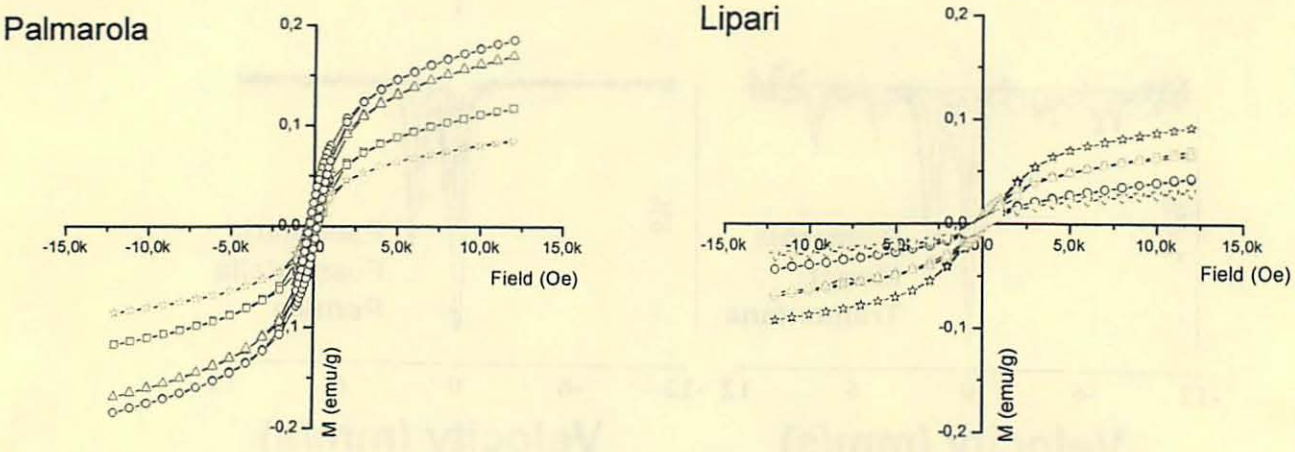

Fig 2 : Hysteresis curves of samples from different origins in the Lipari and Palmarola islands. Field (Oe) and M (emu/g), respectively applied magnetic field and magnetization.

To date, more than 20 samples were analysed. In a plot of the relative saturation magnetization σ_r/σ_s vs. the relative remanent coercive force H_c/H_{cr} obsidian specimens from different source-islands are located, with only few exceptions, in discrete areas. Although many more samples remain to be measured, these preliminary result suggest MP might also contribute to provenance studies (Ranieri et al., 2001 ; Cernicchiaro et al., submitted).

Electron paramagnetic resonance

EPR spectroscopy might be used in provenance studies at least as a complementary technique to MS. With EPR it is possible to investigate the properties of paramagnetic and ferromagnetic particles, which were formed during the obsidian magma cooling history. Up to now, although several studies have been done about the characteristics of the EPR spectra of obsidian from different sources (e.g. Bard et al. 1982 ; Mello, 1983 and the review article by Griscom, 1984), this method was considered as an insufficient discriminator in sourcing studies (see Tykot, 1997).

Our investigations were again performed mostly with samples from the Western Mediterranean islands. It was shown that the EPR spectra are mainly due to the contribution of Fe^{3+} as isolated ions or as nano-magnetic particles in the obsidian structure. Some samples presented a Mn^{2+} spectrum, which was also considered. Strong variations of line position, lineshape and linewidth were observed when samples of different sources were compared. Our present data show that obsidians from Pantelleria and Sardinia are easily separated from each other and from the other Italian islands while the EPR spectra of Lipari and Palmarola exhibit some similarities. EPR experiments with sample temperature varying from 300 K to 4.2 K are presently being performed in order to detect possible specific source behaviour of the ferromagnetic spectral component (Scorzelli et al., 2001).

We also observed that in other parts of the world, as in Chile (Bustamante et al, 1998) or Anatolia (Petrick et al.,1997b) the X-band EPR spectra of obsidian may differ from source to source. Thus, although we are only in a preliminary stage of investigation, we suspect that EPR could have some future in obsidian sourcing (Scorzelli et al., 2001).

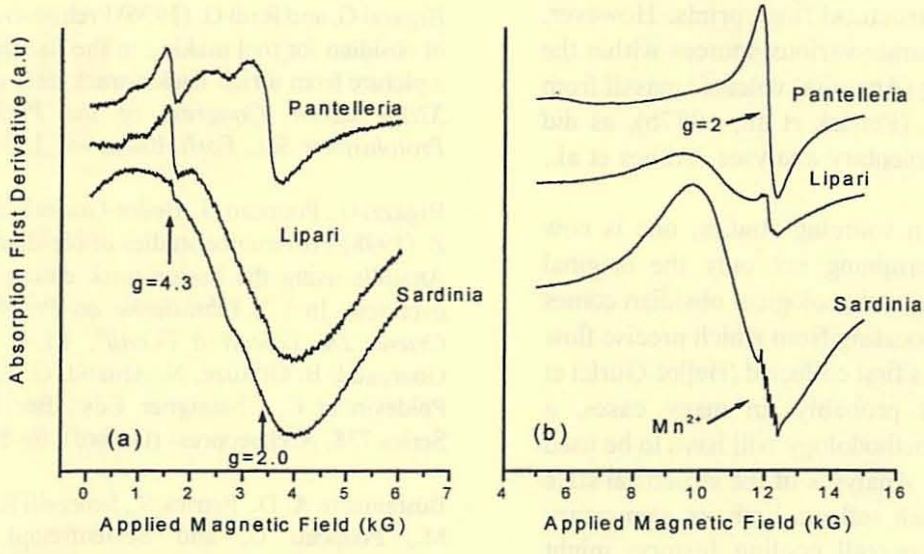

Fig. 3 : ESR spectra of three obsidian samples taken from Pantelleria (Balata dei Turchi), Lipari (Gabellotto Valley) and Sardinia (Monte Arci, A-group of Bigazzi and Radi, 1996). The spectra were measured at RT in microwave frequencies of (a) 9.5 GHz and (b) 34 GHz (modified from Scorzelli et al., 2001).

Conclusion

The perspectives of using structural properties of obsidian in provenance studies look presently much more open than a few years ago. At least in Western Mediterranean, if the complete potentialities of EPR and MP are still under study, MS has proven its capabilities. We have recently considerably increased our sampling of Italian source-islands and we have now geological samples also from Greek source-islands. Thus we expect to have soon at our disposal a large enough data base to examine how to combine MS, MP and EPR with more classical approaches in the "best" low cost/time-consuming/discriminant conditions for provenance studies. In particular, it is not clear at present up to which point the structural properties might allow one to distinguish different sources in a given island, as for Sardinia, where the three SA, SB and SC chemical groups do correspond to various extraction locations in the Monte Arci massif (Hallam et al., 1976). Distinguishing then sub-groups as SB1 and SB2 (Tykot 1997) might still require trace element analysis.

The perspectives open by the analysis of obsidian structural properties might not be limited to Western Mediterranean. Thus we have shown that Chilean (Bustamante et al.,1998) or Ecuadorian (unpub. data) obsidian sources might present specific structural fingerprints. However, an attempt to separate various sources within the eastern Gollu Dag (Anatolia) volcanic massif from their EPR failed, (Petrick et al., 1997b), as did ICP-AES/MS elementary analyses (Abbes et al., 2001).

In effect, in sourcing studies, one is now interested in determining not only the original volcanic massif an archaeological obsidian comes from, but also in locating from which precise flow or workshop it was first collected (Bellot-Gurlet et al., 2001). Most probably, in many cases, a multiparametric methodology will have to be used to reach this goal. Analyses of the structural state of obsidians, which reflects both its elementary composition and overall cooling history, might contribute to such a methodology.

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ABSTRACTS AND ANNOTATIONS

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Michael Manga (1998) Orientation distribution of microlites in obsidian. *Journal of Volcanology and Geothermal Research*, 86:107-115

The shape and three-dimensional orientation distribution of microlites are measured in obsidian from Little Glass Mountain, CA. Measurements are made from thin sections using an image series of high magnification digital micrographs taken serially through different focal depths. These measurements agree well with the theoretically predicted and experimentally measured distribution of long slender rods in a Newtonian fluid undergoing simple shear flow. In this type of flow, rods in a dilute suspension rotate periodically, spending most of the time aligned with the flow. Measurements of the detailed orientation distribution integrated with theoretical models provide a tool for inferring flow dynamics and the timing of magmatic processes.

C. Chataigner, J.L. Poidevin and N.O. Arnaud (1998) Turkish occurrences of obsidian and use by prehistoric peoples in the Near East from 14,000 to 6000 BP, *Journal of Volcanology and Geothermal Research*, 85:517-53

Obsidian was widely used as a raw material for making tools and luxury objects by prehistoric peoples of the Near and Middle East. To identify the origin of archaeological obsidians and the volcanic complexes which produced the blocks from which they were knapped, the different methods of mineralogy, chemistry or dating are used. In this paper we develop the geochemical identification of Turkish obsidian sources, from the volcano to the artefacts, introducing the use of spidergrams and argon geochronology as useful tools. This leads to a reevaluation of the possible obsidian sources, to the identification of new sources and to wider archaeological conclusions. Analyses carried out on a selection of samples of Turkish geological obsidians and obsidian artefacts from Near East sites demonstrate that this obsidian came essentially from central and south-eastern Anatolia. However, although there are numerous sources in these regions, at the present time only some of the deposits are known to have been exploited: in Cappadocia, Göllüü. The obsidian from Cappadocia was widely used in central Anatolia; its use spread westward to the sea of Marmara, and eastward to the middle Euphrates, then along the Mediterranean coast to the Negev. The obsidian of Lake Van was diffused through the basins of the Tigris and Euphrates to the shores of the Persian Gulf, even reaching Arabia; to the west it penetrated the valleys of the Orontes and Jordan rivers as far as the Dead Sea.

Adella Schroth and Robert M. Yohe II (2001) Obsidian Use and Technological Change in Rove Valley: Conclusions Based on Analysis of Debitage from Two Sites. *Lithic Technology*, 26 (1)

A comprehensive obsidian analysis of two important archaeological sites (Rose Island and Stahl) in eastern California shows a significant change in lithic reduction strategies of locally obtained obsidian approximately 5000 years ago. The technological analysis of the debitage used to define the two trajectories is summarized and the importance of the conclusions to our understanding of culture change through observed shifts in lithic technology is discussed.

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Abstracts from the 66th Annual Meeting of the Society for American Archaeology April 2001, New Orleans

Compiled by Janine Loyd

Andrew, Workinger
Obsidian and Trade at San Francisco de Arriba, Oaxaca, Mexico.

This paper presents the results of Neutron Activation Analysis of obsidian from San Francisco de Arriba, Oaxaca, Mexico where archaeological investigations have raised intriguing questions about changing patterns of procurement from the Late Formative through the Classic. The obsidian data reveal particularly strong ties with the Basin of Mexico and the Pachuca source despite lack of trade goods commonly associated with Teotihuacan. These results are compared to other studies in and around Oaxaca including the Isthmus of Tehuantepec and the Valley of Oaxaca to illustrate the coast's independent trade networks.

Barber, S.
Consumers and States: Flaked Lithic Artifacts and Domestic Decision Making in the Maya Area.

Studies of Classic Period Maya flaked lithic artifact use frequently focus upon the production, distribution and consumption of obsidian prismatic blades. The lithic assemblages from various Maya sites, however, show that numerous raw materials were employed to create flaked lithic artifacts, giving domestic consumers multiple options for their flaked lithic implements. In this paper, it is suggested that the economic systems of preindustrial complex societies like the Classic Period Maya included formal and informal forums for exchange, the goods from which consumers chose based upon economic and social requirements. Such decision making reflected relations of power between producers and consumers.

Beck, C. and G. Jones
Lithic Source Use and Foraging Patterns in the Great Basin Paleoarchaic.

In the traversal of large subsistence territories, the earliest occupants of the Great Basin foraged over territories upwards of 400 km from north to south. In their movements these early peoples encountered numerous lithic sources from which they manufactured tools. As we demonstrate in this paper, the representation of different raw material types reflects both changes in mobility patters through time, as well as selection for functional qualities of each material type. Further, the changes in source representation over a 4,000-year period, from late Pleistocene to the mid-Holocene, suggests changes in Paleoarchaic foraging patterns over this period.

Bencic, C.
Conchopata Rocks: Lithic Use and Production During the Middle Horizon.

Recent excavations at Conchopata have yielded a great deal of new information concerning social differentiation and complexity in the Peruvian central highlands during the Middle Horizon. An examination of lithic traditions provides for a more complete perspective of social organization and daily activities. This paper focuses on lithic use and production at Conchopata. Both flaked and ground stone are discussed, as well as formal and expedient tool types, the use of obsidian, and evidence for the specialization of lithic production. Implications for understanding social complexity in the Andes through the organization of lithic technology are explored.

Benitez, A.
Obsidian Eccentrics from the Toluca Valley, Mexico: Water Symbols or Functional Tools?

Two seasons of field excavations at the Classic-Epiclassic period site of Santa Cruz Atizapan in the Toluca Valley, Mexico, have produced over forty crescent and tri-lobed shaped eccentrics made of obsidian. Similar obsidian eccentric forms previously recovered from several sites in Central Mexico have been interpreted as water or blood symbols based on their resemblance to pictorial representations that more clearly convey their meaning. Attribute analyses and recovery contexts are evaluated here for the present collection to determine the probability that these eccentrics also represent water symbols and, more broadly, the existence of water based cult at the site.

Berg, C.
Flaked Stone Technology and its Relationship to Agriculture and Sedentism in Southwestern Colorado.

In the southwestern United States, it is generally accepted that as sedentism and reliance on agriculture increased, manufacture and use of formal tools decreased while the use of informal tools increased. The research presented here addresses changing flaked stone production strategies from the Archaic through the Puebloan periods in southwestern Colorado. Flaked stone and use wear analyses were correlated with changes in the use of cultigens, fauna, groundstone, and with evidence for increased sedentism to address the timing of this technological change in flaked stone and to provide a model using flaked stone for the transitions to sedentism and agriculture.

Beyer, L., R. Tykot, B. Vargo, and J. Bliss
Obsidian Sources on Lipari: A Reexamination of a Complex Island System.

A geoarchaeological survey of the multiple obsidian sources on the island of Lipari has been conducted to characterize each volcanic flow and to identify lithic procurement patterns during the Neolithic period. Geological specimens were characterized using non- and minimally destructive techniques ranging from the physical characteristics of color, transparency, luster, density, banding, and the inclusion of phenocrysts and microlites, to major and trace analysis. The identification of individual flows will be extended to prehistoric artifacts and then integrated with typological attributes (whether function and/or fashion) to reconstruct spatial and contextual patterns of these materials within the Neolithic socio-economic landscape.

Boeka, M.
Hunter-gather Land use Patterns and Economies of Jackson Hole, Wyoming: A Diversity Study of Geochemical Sources of Volcanic Glasses.

Recent archaeological investigations in Jackson Hole Wyoming provide evidence of hunter-gather occupations beginning in terminal Pleistocene and continuing throughout the Holocene. Lithics dominate artifact assemblages and provide pertinent information for assessing hunter-gather economies in the valley. Changes in procurement patterns are evaluated through geographic and temporal diversity of the results of geochemical analysis of volcanic glasses, which predominate most lithic assemblages. These data indicate an extensive procurement network that extends north onto Yellowstone Plateau and westward into Idaho. The diversity in geochemical sources represented in the assemblages illustrates changes in land use patterns and economies.

Dello-Russo, R.
Results of EDXRF Analysis of Materials from Two Prehistoric Quarries Near Socorro, New Mexico.

Recent research has demonstrated that energy dispersive X-ray fluorescence analysis can be used to successfully identify trace element variations in geologic sources of obsidians. While the raw material available at the Black Canyon and Sedillo Hill quarry sites near Socorro, New Mexico have, in the past been described as cherts or jaspers, geological indications suggest they could more appropriately be classified as silicified rhyolites. The results of the EDXRF analysis of samples from these sites are reported.

Dillian, C.
Lithic Materials as More than Just Toolstone: Implications of the Glass Mountain Archaeological Project.

Ongoing research at Glass Mountain examines the role of this large obsidian source in Northern California prehistory. Exchange and production both at the quarry and throughout the region are addressed through analysis of debitage at the quarry and X-ray Fluorescence of obsidian artifacts found as far away as the California coast. Unique patterns of Glass Mountain obsidian utilization suggest that this source was reserved for ceremonial and wealth objects. Such conclusions have implications for how we, as archaeologists, view lithic raw material sources; perhaps we should re-examine our traditionally utilitarian interpretations of prehistoric lithic exploitation.

Ford, A.
Obsidian Procurement, Production, and Distribution in the Maya Lowlands: A View from the Belize River Area.

The Belize River Area is situated along one of the river drainage's, an access way penetrating the interior of the Maya lowlands. Detailed NAA analyses of sample materials from an unique shop site distribution city in this area provide an understanding of procurement, production and distribution in the Maya area. While all sources are approximately 300 air-km away, El Chayal in the Guatemala highlands dominates the collections. Ixtepeque is widely represented and appears to be associated with Late-to-Terminal Classic contexts. Interestingly, consumption of obsidian is universal, but quality and quantity vary with wealth.

Glascock, M. Y. Kuzmin, H. Sato, A. Vasilevsky and V. Gorbunov.
Sources of Archaeological Obsidian Found on Sakhalin Island (NW Pacific) and Exchange Routes With Hokkaido Island.

Instrumental neutron activation analysis was performed for the first time on obsidian tools from 45 sites on Sakhalin Island ranging from Upper Paleolithic (ca. 20,000 BP) to Early Iron Age (ca. 1500 BP). Due to the absence of good quality volcanic glass on Sakhalin, obsidian sources on Hokkaido Island were also analyzed. A strong correlation between the chemical composition of artifacts from Sakhalin Island and Hokkaido Island was revealed. An intensive exchange of raw materials for tool manufacturing took place throughout all of prehistory, continuing even after the appearance of the Soya (La Parouse) Strait between Hokkaido and Sakhalin at ca. 10,000 BP.

Henderson, J. and R. Joyce
What Does it Mean to Interact? An Agent-centered Perspective on the Mesoamerican Formative.

Our research at Puerto Escondido, Honduras, has documented a sequence of pottery complexes radiocarbon dated between 1600 and 700 BC. Source analyses of associated lithics document distinct patterns of use of local and exotic obsidian for blades and flakes. Puerto Escondido's used technologies (such as differential firing) and designs that are among the suite of characteristics usually taken as evidence of participation in Formative Period pan-Mesoamerican "interaction". We propose a model of specific human actions that could have produced these material patterns, advocating moving from disembodied processes to agent-centered models rooted in practice theory.

Kovacevich, B. and M. Callaghan
A Preliminary Study of Lithic Production, Specialization, and Exchange at Cancuen.

Interpretation of preliminary evidence indicates specialization and exchange of stone raw materials and finished products that flowed from the highlands through this strategically located portage center. Excavations and laboratory analyses in the 1999 ad 2000 seasons revealed evidence of restricted access to highland raw material for production of artifacts of jade, obsidian and pyrite. Specialized production of these materials seems to have taken place only in the residences that are directly adjacent to the palace. Probable elite control of raw materials and specialized production may suggest a higher degree of economic integration at Cancuen, than at other Classic lowland Maya centers.

Lara Galicia, A.
Chert and Obsidian Types and their Distribution Through Time in Mixteca Alta Sites.

This paper presents results from analysis of lithic materials found on surface survey in the central Mixteca Alta of Oaxaca, Mexico (the CMASPP). I summarize changes over time in the chert and obsidian industries based on Archaic and Formative through Classic and Post classic period collections. Attributes of form, reduction technology, and style as well as distribution and abundance are used to reconstruct procurement and trade networks. This study of regional patterns initiates future analyses of the little known lithic industries of the Mixteca Alta.

Millward, S. C. Cook, C. Fadem and A. Taylor
Paleoarchaic Quarries: Is There an Ideal Quarry Curve?

Great Basin Paleoarchaic (11-8 ka) lithic assemblages contain a distinctive suite of tool forms typical of contemporaneous assemblages across North America. Many of these tools are produced by relatively standardized biface reduction techniques. Does it follow from these characteristics that assemblages created at quarries will also be uniform, conforming to what Thomas (1983) has termed an "ideal quarry profile"? Or, do mobility and characteristics of the lithic terrain also influence the makeup of such assemblages? In this presentation two single component Paleoarchaic dacite quarry assemblages are contrasted to evaluate those factors responsible for assemblage composition.

Parry, W.
Obsidian Artifacts from the Moon Pyramid, Teotihuacan: Offerings and Domestic Debris.

Obsidian artifacts were present as offerings in two sacrificial burial complexes, probably of different ages, in the Moon Pyramid. Samples of contemporary utilitarian tools and debitage were included in domestic debris incorporated into construction fill. Both offerings and domestic debris contained prismatic blades and projectile points. Offerings also included knives, eccentrics, miniatures, and other distinctive forms. Raw Material preferences, as measured by the proportion of green obsidian from the Pachuca source, varied between offerings and domestic debris, as well as between the two offerings. Inferences are drawn regarding the import and export of obsidian in early Teotihuacan.

Robb, J. and B. Bass
Symbolic Slicing: Neolithic Obsidian in the Central Mediterranean.

Obsidian from four island sources was shipped all over the Central Mediterranean in the most extensive long-distance trade network of its time. In spite of the wealth of data on Neolithic obsidian, however, archaeologists really do not understand the nature of the obsidian "trade". Why did Neolithic people bother procuring and using tiny bits of black volcanic glass? This paper first argues that the two traditional models of obsidian (as technologically superior and as a "prestige good") do not fit the archaeological facts. It then discusses contextual evidence for a range of social and symbolic roles for this material.

Ross, N.
Obsidian and Political Economy: Late Classic Evidence from the Naco Valley, Honduras.

The study presented here was conceived to address the role of acquisition, production, and distribution of obsidian artifacts in political centralization during the Late Classic period (600-950 AD) in the Naco Valley, northwest Honduras. Based on the analysis of obsidian collections (totaling about 13,000 pieces) from large scale excavations at residential contexts within the center of La Sierra and other sites of varying size and complexity, this poster reconstructs the organization of obsidian blade manufacture and distribution and considers the implications for late Classic political economy.

Shackley, M.S., and J. Bayman
Obsidian Source Provenance, Projectile Point Morphology and Sacaton Period Hohokam Cultural Identity.

The understanding of ethnic relationships, and group interaction among the pre-Classic Hohokam has remained relatively elusive with little empirical justification and much conjecture. Our recent analysis of Sacaton period projectile point morphology, breakage patterns, and style in concert with obsidian source provenance indicates that the Sedentary period core area was ethnically diverse, and relatively complex. Snaketown, Gatlin, Las Colinas, and Palo Verde Sacaton contexts all indicate very different procurement territories for obsidian that covaries with diverse projectile point styles, a likely reflection of east-west and north-south ethnic and/or linguistic territoriality and affiliation.

Silliman, S.
Lithics, Identity, and Daily Practice at the Rancho Petaluma, California.

The colonial mission and rancho systems of California had significant impacts on Native American societies. Yet, many native individuals continued to practice lithic technology, even within colonial communities. I discuss the 19th century Rancho Petaluma, located north of San Francisco, as an example of how to study this continuity in a social and political context. Excavations of native living areas at the historic rancho reveal that individuals made and used stone tools, maintained the exchange relations and mobility necessary to access lithic raw material (especially obsidian), and employed lithics in the negotiation of identity and daily practice.

Tabarev, A. A. Kryp'anko
Core and Tool Refits from Several Final Paleolithic Sites in the Zerkanl'naya River Valley, Russian Far East.

The Final Paleolithic from the Russian Far East demonstrates a very effective and elaborate technology based on percussion blade cores. Over the past decade, carefully studied refit cores and tools from several Final Paleolithic sites in the Zerkanl'naya River Valley (Ustinovka Industry) have allowed for the reconstruction of several types of preforms for tools, breakage patterns, and seasonal preferences in hunting and fishing activities.

Tykot, R. , B. Bass and P. Della Casa
Obsidian as an Indicator of prehistoric Trade and Interaction in the Adriatic Basin.

Increasing numbers of obsidian artifacts have been recovered during recent archaeological work in the Adriatic Basin, including the islands of Palagruza, Susac, and Korcula, which likely serves as a series of stepping stones across the sea. The geological origins of the obsidian artifacts reflect beginning points in a long chain of events which ended with their deposition into the archaeological record. The reconstruction of this sequence is important to our understanding of long-distance cultural interaction, maritime capabilities, and local socioeconomic systems throughout the prehistoric period. Our research illustrates both the potential and limitations of obsidian provenance studies for archaeological interpretations.

Vargo, B and R. Tykot
The Characterization of Obsidian from Pantelleria (Italy): The Archaeological Significance of Multiple Island Sources.

The study of prehistoric obsidian sources is fundamental to understanding socioeconomic interactions among the Neolithic communities in the central Mediterranean. Geoarchaeological surveys of Pantelleria have located obsidian *in situ* in the interior of the island, in exposed layers on cliff-faces, and along the southern shoreline. Geochemical source characterization and the analysis of archaeological artifacts allow us to identify which flows were exploited. This research establishes the value of detailed obsidian characterization studies for the interpretation of prehistoric socioeconomic patterns. Our results clarify the nature of Neolithic interactions in the south-central Mediterranean and serve as a model for similar studies elsewhere.

ABOUT THE IAOS

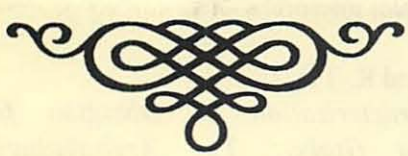
The IAOS was established to:

1. Develop standards for analytic procedures and ensure inter-laboratory comparability;
2. Develop standards for recording and reporting obsidian hydration and characterization results;
3. Provide technical support in the form of training and workshops for those wanting to develop their expertise in the field, and;
4. Provide a central source of information regarding the advances in obsidian studies and the analytic capabilities of various laboratories and institutions.

Membership

The IAOS needs membership to ensure success of the organization. To be included as a member and receive all of the benefits thereof, you may apply for membership in one of the following categories:

Regular member $20.00/year
Institutional member $50.00
Student member $10.00/year or freewith submission of paper to newsletter and copy of current student identification
Life-Time Member $200.00



Regular members are individuals or institutions who are interested in obsidian studies, and wish to support the goals of the IAOS. Regular members will receive any general mailings; announcements of meetings, conferences, and symposia; bulletins; and papers distributed by the IAOS during the year. Regular members are entitled to attend and vote in Annual Meetings.

Institutional members are those individuals, facilities, and institutions who are active in obsidian studies and wish to participate in inter-laboratory comparisons and standardization. If an institution joins, all members of that institution are listed as IAOS members, although they will receive only one mailing per institution. Institutional members will receive assistance from, or be able to collaborate with, other institutional members. Institutional members are automatically on the Executive Board, and as such have greater influence on the goals and activities of the IAOS.

*Membership fee may be reduced and/or waived in cases of financial hardship or difficulty in paying in foreign currency. Please complete the form and return to the Secretary-Treasurer with a short explanation regarding lack of payment.

**Because membership fees are very low, the IAOS asks that all payments be made in US dollars in international money orders or checks payable on a bank with a US branch. If you do not do so, much of your dues are spent in currency exchange. If you wish to join us, mail a check or money order to the IAOS:

Michael Gottesman,
Secretary-Treasurer
13809 Weddington St
Sherman Oaks, CA 91401-5827

CALL FOR ARTICLES AND INFORMATION

Submissions of articles, short reports, abstracts, or announcements for inclusion in the newsletter are always welcome. We accept electronic media on IBM-compatible diskettes in a variety of word-processing formats, but Word Perfect (up to 9.0) or Word is preferred. A hard copy of the text and any figures should accompany diskettes.

Deadline for Issue 29 is April 30, 2002

Send Submissions to -
William J. McFarlane
SUNY - Buffalo
Department of Anthropology
380 MFAC, Ellicott Complex
Buffalo, NY 14261

To send announcements, short contributions, discuss article ideas, or make suggestions, please get in touch by e-mail:
wjm1@acsu.buffalo.edu

A Message from the Secretary- Treasurer

After sending and receiving emails from several of the IAOS activists, my general observation that we are stuck in neutral is pretty much confirmed. Membership totals 107 (about constant) but fully 46 are in arrears on dues (29 since at least 1999 and 17 since 2000).

Cash on hand is a little over $6000. Our only 'mandatory' expenses are the newsletter and the annual meeting with a total run rate of less than $500/year so there is no near term financial crisis – UNLESS we continue to award monies for research, etc.

I am in favor of awarding monies – BUT we need to do something about Dues and Membership. The way to do this is through the Newsletter. That is our primary communication link and, for most, the only 'benefit' of membership. If the Newsletter is better, I think that at least some of the in-arrears members will pay up – and/or it will 'feel' more ok to send reminder letters, etc.

To determine what the members want, here is a list of key questions regarding the Newsletter:

Questionnaire

- Should there be emphasis on NEWS or on RESEARCH?

- Is the target audience mostly SCIENCE or ARCHAEOLOGIST-USERS?

- Should we expand the subject matter to include other GLASSES?

- Should we expand the subject matter to include other MINERALS?

- Should we hire an EDITOR?

- How can we make it easier for the editor to get articles?

- What is an ideal frequency of issuance?

My own views are:

No, hiring an editor does not solve the where-are-the-articles issue and range of content. Frequency? – two issues a year minimum should be our goal.

The distinction between news and research is overblown. We should not become a vetted publication with long research articles, gigantic biblios and nasty letters back/forth. But just news becomes boring. Short research articles would be fine. Also, reviews of articles, etc.

We do not have enough coverage or articles from/for users of obsidian data. Maybe we could have a "User's Corner" that could include how data was used, what data would be useful (can anyone provide xyz??). Surely there are enough members from various universities that could strong-arm colleagues to write five paragraphs twice a year.

As for range of subject matter – sure, absolutely, expand it to include other lithics and other glasses. This could be reprinted (with permission of course) from other 'gray literature' or by invitation (but I am not sure who could/should do this).

We all know there are only a handful of really active labs or people. Surely we could get two labs or researchers to write a "Focus on Lab X" article once a year.

I also think we should change Student membership. The initial membership for a Student should change from $10 to $20, but cover two years and then automatically change to Regular. The membership application, futhermore, must be accompanied with at least a short article ("I am New Member, associated with X organization, and my interest in obsidian or lithics or other glasses is as follows...").

Michael Gottesman
IAOS Secretary-Treasurer

President

Carolyn Dillian, University of California, Berkeley

The IAOS is positioned to fill a much-needed role in archaeology, as the worldwide organization for obsidian research and lithic studies. However, we currently lack membership, international recognition, and a coherent plan for the future. I am running for office in order to help remedy these issues. As Chair of the newly formed Membership Committee, I am already working to formulate procedures aimed at expanding our membership and recognition. In addition, I foresee new goals for the future of IAOS, including an active role in coordinating, disseminating, and publishing obsidian research. One way to accomplish these goals is through increasing membership and newsletter contributions by graduate students and Cultural Resource Managers, who are actively involved in obsidian and lithic analyses, yet rarely publish in widely read journals. In order to grow, the IAOS must offer continued incentives to maintain old members and attract new ones, and I suggest that the way to do this is through an intense focus on support for and publication of cutting-edge obsidian and lithic research. I want to help the IAOS achieve its potential as the international organization for obsidian research and lithic studies.

I am a PhD candidate at the University of California, Berkeley, and am conducting my dissertation research on the Glass Mountain obsidian quarry in Siskiyou County, California. My experience covers the entire spectrum of CRM, academic, and government archaeology. In addition, I have worked as a Graduate Student Researcher in the X-Ray Fluorescence laboratory at UC Berkeley, and have conducted obsidian hydration analyses of Northern California archaeological material. I hope that my wide range of experience can serve as a bridge between IAOS members from a variety of backgrounds.

Secretary - Treasurer

Ted Jones, Tom Origer & Associates

I recently completed an MA in CRM from Sonoma State University and plan to continue my research in experimentally developed obsidian hydration rates, in addition to my work with Tom Origer and Associates. It is important to me that the IAOS is a thriving international organization, providing a forum for the exchange of research results and new ideas. To support that objective, we need people willing to provide the time and energy to administer the society. With the demands of school behind me, I am willing to offer my time to that effort.

Janine Loyd, Sonoma State University

I am excited about the "new lease on life" that has been discussed for the IAOS. I am currently a volunteer on the newly formed membership committee, and have been a contributor to the newsletter in years past. I have over ten years experience in bookkeeping for a small business, and I have been the assistant to the Treasurer for the Society for California Archaeology for the past two years, so I have a good understanding of the record keeping of a non-profit organization. I look forward to serving the IAOS as Secretary - Treasurer.

Election Ballot - 2002

Clearly indicate your preferred candidate below.

President	Secretary-Treasurer
Carolyn Dillian	Ted Jones
Write In: _____	Janine Loyd
	Write In: _____

Ballot may be submitted electronically to Michael Gottesman: mgottesm@ucla.edu

or via tradition mail: Michael Gottesman
IAOS Secretary-Treasurer
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