



ASM International



The Manitoba Chapter

BULLETIN

Thursday, October 16, 2008

Canada Council M. Brian Ives Lecture

Masterpieces of Ancient Metallurgy

Michael L. Wayman, Ph.D.

Department of Chemical and Materials Engineering
University of Alberta, Edmonton

Objects from historical and archaeological contexts can be studied using the same techniques and equipment that are used to characterize modern materials. The results are not only useful in understanding the technologies used to produce the objects, but they can also provide information about various aspects of peoples' lives in the past. Many different types of materials were produced in the ancient world and transformed into all manner of ornaments, implements, weapons and ceremonial objects. This talk will be concerned primarily with gold, a material associated with high value and high status since earliest times. Included will be examples of objects from many cultures worldwide, and will illustrate the many techniques used to produce objects that are still worthy of admiration hundreds and thousands of years after they were produced.

Mr. Mike Wayman was born in Ontario but grew up mainly in British Columbia, where he completed a Bachelor's degree in Metallurgical Engineering at UBC in 1964. This was followed by an MSc in Metallurgy at McMaster University and a PhD in Metallurgy at Cambridge University. He came to the University of Alberta in 1969 and has remained there, with the exception of time away on sabbatical leaves, ever since. He took early retirement in 2004 in a so-far vain attempt to complete a host of unfinished projects.

Mr. Mike Wayman full biography can be found on page 4.

Location: Assiniboine Gordon Inn on the Park, 1975 Portage Avenue, Winnipeg

Times: Registration/Reception 6:15 p.m., Dinner 6:45 p.m., Presentation 8:00 p.m.

Cost: Members \$15, Non-members \$20, Students \$10

Dinner Reservations Required. Please phone Victor Butts at 632-3985 or send him an e-mail to vbutts@rrc.mb.ca by noon Tuesday, October 14, with your name and the number of people who will be attending. Friends and colleagues are welcome. Map of the location can be found on page 4.

After-dinner attendance welcomed (no charge).



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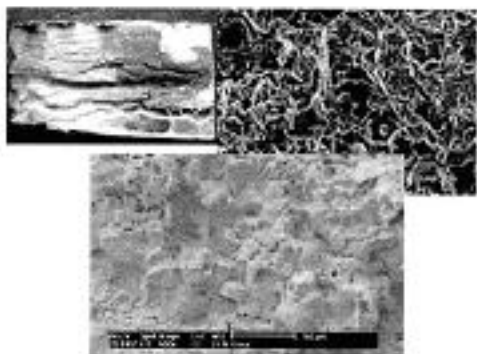
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Michael L. Wayman, Ph.D.

Mr. Wayman's research area has been Physical Metallurgy and the Characterization of Materials using light optical and electron optical techniques. In his early work he studied various aspects of the deformation and fracture of materials including metal fatigue and embrittlement phenomena. However beginning about 25 years ago his interests turned increasingly to Archaeometry, i.e. studies of the past, where materials characterization techniques are applied to ancient and historic materials in order to better understand the early technologies and thereby to learn more about the lives and cultures of early people. These interests also became reflected in his teaching, as beginning in the late 1980s he has offered courses on Archaeometry to Anthropology and Archaeology students. He is now a Professor Emeritus in the Department of Chemical and Materials Engineering, an Adjunct Professor of Anthropology at the University of Alberta and an Adjunct Professor of Archaeology at University of Calgary.

Archeometry is of necessity a collaborative discipline, and his archaeometric work has involved collaborations with archaeologists and museum people from a score of universities and museums worldwide. He has spent a cumulative total of more than three years working in the research laboratories of the British Museum in London on a range of projects including studies of early (i.e. pre-European contact) North American metallurgy and of post-medieval steelmaking technologies (the latter based on analyses of ferrous material from the Museum's extensive clock and watch collections). He has recently completed a study of early Chinese iron and steel technologies, making use of the Museum's Chinese collections (including cast iron coinage and Buddhist statuary). Projects currently underway include aspects of early iron smelting in Sri Lanka and in West Africa, and pre-contact metallurgy in Central America and on the Northwest Coast of North America.

He has published more than sixty refereed articles and has written or edited three monographs. He has been honored as a Fellow of CIM and as the recipient of the 2005 Canadian Materials Physics Award, as well as with several Faculty and University teaching awards.

Location of Canada Council Lecture Event:

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Materials Information Spotlight Selecting Titanium Alloys

Titanium finds application in many industries, owing to its unique density, corrosion resistance, and relative strength advantages over competing materials such as aluminum, steels, and superalloys. The most widely used titanium alloy by far is Ti-6Al-4V, but a wide variety of other alloys have been developed that have advantages for specific types of applications.

This chapter from the ASM book *Titanium: A Technical Guide*, 2nd Edition reviews important considerations related to selecting titanium alloys for engineering applications, including service environment, alloy availability, and alloy suitability for different processing and fabrication methods. The chapter also describes various factors that may drive demand for titanium alloys during the next few decades.

To download full article in PDF format copy this link into your browser:

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