progress is actually being made at the Iraq Museum. After my visit to Baghdad in October 2003 with three other museum professionals under the aegis of the State Department, we prepared a report outlining measures that should be taken to enable the museum to function again. Our report was in part responsible for major improvements to the museum. These include a new security system for the entire building, involving the construction of a new security perimeter wall as well as the installation of monitors and other security equipment. Major improvements have also been made to the building. In addition to repairing and resealing the roof and general repairs to the interior of the building, a complete overhaul of the HVAC systems was undertaken. This included the installation of air conditioning in a large storeroom, which is good news for anyone who has to work there during the hot summer months. A complete overhaul of the plumbing and sewer systems, which were nearly nonfunctional, also occurred. Finally, a new telephone system and computer network with Internet access were installed. Offices and work areas have been equipped with dozens of computers, office furniture, and machines and audio-visual and photographic equipment. The museum is still closed and will probably remain so for some time to come.

One of the priorities in my report, as well as in the report of two British Museum conservators who visited the museum in June 2003, was training for conservators. None of conservation staff are trained as conservators: one is a chemist, another is a physicist, and two others are artists. Early in 2004, three Iraqi conservators from the museum spent two months in London training with conservators at the British Museum. At the same time, Italian conservators were hired to restore three important artifacts. They are working on them in the newly constructed conservation laboratories funded by the Italian government. While working on the artifacts, they are training Iraqi colleagues.

While these improvements are underway at the museum, the situation at archaeological sites throughout the country has become critical. Prior to the first Gulf War in 1991, virtually no Iraqi antiquities were traded in the art market. However, at the end of that conflict, 9 of the 13 regional museums were looted. As the looted antiquities found their way onto the art market, they created a demand for Iraqi artifacts that has become insatiable over the past decade. Throughout the 1990s, illegal digging and smuggling became widespread throughout Iraq and the recent war has served to encourage further looting. Looting is now rampant and extremely well organized. Looters are well armed and backed by local tribes and dealers. Sumerian sites in the south, for example, have been destroyed, ravaged by incessant looting. It has been estimated that more than 100 Sumerian sites alone have been destroyed since March 1993. Sites such as Umma have been almost completely obliterated. Looting is out of control in Iraq, fueled by a strong demand for antiquities in the U.S., Europe, and Japan, and there appears to be no effective way to stop it; a very sad situation.

—Cap Sease, Peabody Museum of Natural History, Yale University, [redacted]

A Challenging Year: Bam Earthquake and Southeast Asia Tsunami

As this newsletter goes to press, our calendar year began and ended with two tragic earthquakes whose effects claimed the loss of thousands of lives. On December 26, 2003, an earthquake in Bam, Iran caused the loss of 26,000 lives, and the destruction of the 2,500-year-old historic citadel of Bam, an internationally recognized heritage site.

Almost a year to the day later, Southeast Asia suffered the effects of a tsunami with losses of human life approaching 150,000 and in danger of rising significantly higher. The recovery is focused on saving lives and healing the injured, rightly so, buildings and artifacts are a lesser priority. The extent to which cultural heritage sites have been damaged or destroyed remains unknown at this time.

The loss of so many lives reminds us all of what is truly irreplaceable. For those involved in the conservation and preservation of historic buildings and sites that may be at the center of these natural disasters, it is a doubly challenging event. Our "artifacts" cannot be picked up and removed off-site to speed their recovery, and they are likely to be interwoven with the tragic loss of life.

How prepared are any of us as architectural conservators to step into this environment across the world or here in the U.S.? We should at least know the basics, and a good resource to be aware of is the FEMA Response and Recovery website, www.fema.gov/ehp/response.shtm. The very first five words set the priorities: "People come first. Provide assistance." While it may seem that the needs of historic buildings and sites are far down on the list during such tragedies, it is not as remote as you may think. In fact, our profession is called out by name; "Contact *architectural conservators*, historic preservation agencies, FEMA, and/or structural engineers before cleanup, especially for buildings on the National Register of Historic Places."

Certainly, when these types of events occur we all wish we could do more. Here in the U.S. one thing you can do is to register as part of the FEMA Heritage Emergency Roster at www.fema.gov/ehp/hproster.shtm. What recent events during the 2004 hurricane season in the southeastern U.S. and internationally in Southeast Asia have demonstrated is that perhaps we as conservators of architectural heritage and the agencies with whom we work are not always in a position to do all we would like to do, but what we are currently able to do, and asked to do, is not nearly enough.

Two places to get information on tsunami relief efforts and long-term rebuilding programs in the hardest hit areas are the AIA site are www.aia.org/about_tsunami_aid and the UNESCO World Heritage site, http://whc.unesco.org/pg.cfm?cid=1.

AIC

Guy Munsch, [redacted]

Health and Safety News

Some Chemical Things Considered . . . Manganese

Manganese is a naturally occurring silver metal. It is an essential trace element and is added to some dietary supplements. According to the *Toxicological Profile for Manganese* published by the Agency for Toxic Substances and Disease Registry,

"The human body typically contains small quantities of manganese, and under normal circumstances, the body controls these amounts so that neither too little nor too much is present."

Manganese and compounds containing manganese are used as metal alloys to impart added strength to steel, in the manufacture of certain types of fertilizers, batteries, and pesticides. Importantly to the conservation world it can also be found in various ceramics, varnishes, and glazes. Manganese is also found in specific types of welding rods.

Manganese is normally found at background concentrations in water, air, soil, and food. Again according to the *Toxicological Profile for Manganese,* "For nearly all people, food is the main source of manganese, and usual daily intakes range from about 1 to 10 mg/day." Environmental exposures may be higher near coal or oil-burning operations or in certain parts of the country where gasoline has manganese additives. Miners, steelworkers, welders, and pesticide applicators are considered to be higher risk job categories for exposure to manganese.

Exposure to excessive levels of manganese has been known to mainly cause two primary effects. Exposure to extremely high levels of manganese causes manganese pnuemonitis, an inflammatory reaction within the respiratory system. The other primary effect of excessive exposure to manganese is called chronic manganese poisoning and is also known as "manganism," which is characterized by mental and emotional disturbances, irritability, and slow and clumsy body movements. The 2001 Threshold Limit Value (TLV), as published by the American Conference of Governmental Industrial Hygienists (ACGIH), suggests that limiting employee exposure to levels above 0.2 milligrams of manganese per cubic meter of air should prevent either of the two primary effects.

Some recent studies have suggested that there may be a connection with impairment of male fertility at levels above the 2001 TLV. Additionally, recent studies and litigation have suggested that welders have a potential to develop subtle neurological conditions that have been described as a Parkinsonism-like syndrome. Both the studies and litigation related to the Parkinsonism-like syndrome seem to primarily be associated with exposure to welders and may suggest these effects at levels near or below the 2001 TLV.

There are a number of ways to evaluate exposure to manganese in the workplace. Traditional air sampling can be performed and compared to the TLV. Biological samples (urine, blood, hair samples, and serum levels) or other diagnostic biomonitoring (such as Magnetic Resonance Imaging [MRI]), can be utilized to assess manganese exposure, and in some instances, the degree of biological effects.

Evaluation of the potential for overexposures to manganese in a workplace should be conducted as part of comprehensive health and safety program. Based on the specific workplace operations, decisions about monitoring can be made regarding the possibility that there is a reasonable chance that conditions or concentrations will exceed occupational exposure levels, such as the TLV. A workplace evaluation should begin with a close look at the operations, especially the materials or products used in the immediate workplace, adjacent areas, and the ambient environment. This evaluation may include a review of processes, equipment used, and chemicals or products used (which often calls for a review of material safety data sheets or MSDSs). This evaluation should allow sound decisions to be made concerning standard operating procedures (SOPs), appropriate monitoring, and personal protective equipment suited to the observed hazards. AIC

—Dennis C. Ertel Jr., CIH, REM, Member of AIC Health & Safety Committee; [redacted]

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