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## The Debate on Roman Heavy Metal

by: Phyllis Young Forsyth

The last few months have seen the re-opening of an old debate amongst both historians and archaeologists: did lead poisoning in any significant way bring about or facilitate the "fall" of the Roman Empire? Most definitely yes, says Dr. Jerome Nriagu, a research scientist for Environment Canada, in an article published by the highly respected New England Journal of Medicine (March 17, 1983 issue). Dr. Nriagu points to the fact that lead was a basic and common metal during the period of the Empire: it was used, for example, in plumbing (indeed, the lead pipes of the Romans are still to be seen on many sites today), in making containers and cookware, in glazes for dishes, and also in cooking, where lead acetate was used as a sweetener in place of the much more expensive honey. Dr. Nriagu, in this last regard, singles out sapa, a syrup made by boiling down grape juice in kettles that were lined with lead; sapa, often used as a preservative for wine, would have contained, according to Dr. Nriagu, between 200 and 1500 milligrams of lead per litre, and just a single tablespoon each day could have given rise to chronic lead poisoning.

In fact, Dr. Nriagu argues that an average Roman of the upper class (known for its love of eating and drinking) would have carried about 600 milligrams of lead per litre in his/her blood -- that is, twice as much as is considered to be serious lead poisoning by modern standards. Ironically, a Roman ill because of lead poisoning stood a good chance of making that condition even worse by seeking medical help: it seems that lead was a prominent component of ancient medical treatments, and Dr. Nriagu points to lead-based drugs given with wine (which itself may have contained 20 milligrams of lead per litre) and sweetened with sapa! There was also a "lead bullet" used to treat stomach ailments: according to Dr. Nriagu, a piece of lead was administered to the patient in the hope that it would break up any blockage in the digestive tract. Likewise, a lead bullet was prescribed as an aphrodisiac, a prescription which could have resulted in permanent infertility.

Dr. Nriagu believes that some famous Romans were the victims of such lead poisoning, including the emperors Nero and Claudius. Problems encountered by these sufferers would have included digestive ailments, insomnia, arthritis, mental sluggishness, and, in advanced stages, delirium or convulsions. To cap his theory, Dr. Nriagu points to skeletal remains found at Roman sites in Britain which, he claims, show a high incidence of lead-related problems, such as gout.

Dr. Nriagu's belief that lead poisoning played a major role in the decline of Rome, however, has been strongly criticized by Charles R. Phillips III, a classical scholar at Lehigh University in Pennsylvania. Prof. Phillips thinks that Dr. Nriagu is pressing his case too far, even to the point of misusing the evidence. Take the skeletal remains from Britain, for example: Prof. Phillips argues that skeletons showing signs of gout cannot be assumed to prove the existence of lead poisoning since such poisoning is but one of several causes of gout; moreover, the small amount of skeletal remains examined is, according to Prof. Phillips, "statistically insignificant". (In this regard, one can only hope that the recent discovery of excellent

skeletal remains at Herculaneum will soon help to clarify the picture.)

Prof. Phillips also objects to Dr. Nriagu's suggestion that Claudius' well known infirmities were lead-induced rather than, as he believes, genetic in origin. Indeed, he objects in general to Dr. Nriagu's "evidence" from ancient accounts of the emperors: many of these accounts, he asserts, are quite suspect, and their words should not be accepted unless we have additional evidence; moreover, he asks, how are we to account for all those emperors (such as Augustus or Vespasian) who showed no symptoms of any lead-induced infirmities despite belonging to an upper class known for its great consumption of supposedly tainted wine? What Prof. Phillips really objects to here is Dr. Nriagu's belief that the upper class of the Roman Empire always consumed tainted food and wine. In his own words, "lead poisoning may have debilitated some members of the Roman elite, [but] even if lead poisoning did ruin the odd emperor that ruin could not, by itself, ruin the Empire... . The theory of lead poisoning [offers] a dangerously simplistic model. It may have been a factor, but Nriagu's emphasis must be tempered, his factual errors corrected and his conceptualizations rethought".

A bystander watching this vociferous debate might well come to the tentative conclusion that lead poisoning had <u>some</u> role to play in the Roman Empire; but, was lead poisoning a truly major problem, or a relatively minor one, perhaps just one problem amongst many others? In any event, the debate itself is a fascinating one, and indeed promises to be lively in the next few months, especially since Dr. Nriagu is supposed to be publishing an entire book on the subject very soon. One awaits this with some eagerness, to get a fuller picture of Dr. Nriagu's controversial theory, and to see if Prof. Phillips' objections are met.

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