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Dysgenic Lead Poisoning as the Principal Destroyer of Ancient Genius and Culture

By S. C. Gilfillan, Ph.D.

The greatest disaster yet perceived in history, from eating and drinking the wrong food, was the intellectual decay and ruin of ancient Greece and Rome. We are all familiar with how their literature and other arts, their science, progressiveness and apparent genius decayed, losing all "the glory that was Greece, and the grandeur that was Rome," gradually sinking into the night of the Dark Ages and Byzantine stagnation. The slow catastrophe was due to long repeated extermination of those who had the capacity to earn, grab, keep or marry money, which capacities are highly correlated with the capacities to create culture, science, progressiveness and leadership and to acquire the requisite education both by native gifts and by money for higher education. This class was left almost childless for at least 18 successive generations in Rome, by various dysgenic (opposite to eugenic) factors, above all by lead poisoning because the upper-class diet was then full of lead, which as we know can be highly destructive to health, mentality, life, and especially to reproduction in women, as we shall show.

We are not concerned with the Fall of Rome, her military defeat, the break-up of the Empire, nor with economic matters such as the declines of population, wealth, soil fertility, or the coming of malaria, although these economic and political troubles were doubtless real factors in the Fall, and interacted both ways, as cause and effect, with the decays of culture and innate ability due chiefly to the saturnine poison, which we shall now be telling of.

We must speak chiefly of Rome, to which I have had to restrict my research, from about 150 B.C. to the end of the Empire, although there is every indication that the same leaden blow had laid low the genius of Greece, still more catastrophically, after Aristotle, and greatly reduced population in the Greek homeland. It was evidently the importation of Greek cookery and abundant wine, after the conquest of Greece by Rome about 150 B.C., and the relaxation of an old Roman rule against wives drinking wine, that imported the same dysgenic ruin into Rome. If I can prove the thesis for the Roman Empire, others, better Greek scholars, perhaps one of our readers, will marshal the proof for other lands.

Many theories have been offered to explain the decay of genius and culture, and especially for those military and economic disasters. But none have been proved, they sometimes contradict each other and all have been dismissed as mere speculations. We present here a new theory which can be proved, by such reliable sciences as Chemistry, Toxicology and Archeology. To be sure, some of the prior speculators were on the right track, in observing that the Roman aristocracy came to have very few children, continually replaced by children of poor men, slaves and foreigners; but they had only guesswork as to the cause of this aristothanasia, death of the best. Many of the theories blame stupid mistakes of government, such as civil wars, or bureaucratic rigidity; but why did the rulers become stupid?

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that the Institut Khimicheskoi Fiziki in Moscow has already checked the mutagenic effects of hundreds of industrial substances, and found that the mutational rate from some of them exceeds that from the radioactivity which provoked considerable publicity during the A-bomb tests. whether lead was among those checked substances cannot yet be said. BERSIN has referred to the high frequency of malformations in the lead mining districts of Europe, and asked if the teratogenic

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Anyone with the slightest idea of Eugenics can see what would happen if of the genius, culture and progress, if nearly all who could earn, grab, keep or marry and f money were repeatedly removed from a mixed race. Countless sociological studies d suc, an have shown that just about every good quality in humans is associated, positively excrete it correlated, with relative wealth status. It is always true on average, within a emaciatio community, that the higher the wealth by birth, the higher the average achieve death. Ro ment and excellence. Of course this truth is one of average, and binds no in a much s individual—a poor man may always happen a genius, but his chance is much less importan than if he were born of wealth. sterility.

Nigh two centuries ago the first great historian of technology, Beckmann, death, c noticed that the wines of the ancients must have been often poisoned with lead, who can from the instructions given by Cato, Pliny, Palladius and others, to boil the wine for the fresh juice in leaden vessels, in various cases. In 1880 an Austrian chemist, the Medici K. B. Hofmann, followed by Kobert, a German toxicologist, and lately the Europ were the Canadian-American physician Lloyd G. Stevenson, worked up the ancient evidence very thoroughly, proving beyond a doubt that "the ancients", really mean on un ing their aristocracy, must have been highly lead poisoned, accounting for their condi what birth easil the acu their aristocracy, must have been highly lead poisoned, accounting for their infertility, as History records. Few of the Emperors, e.g. had a son to succeed on un ing their aristocracy, must have been highly lead poisoned, accounting for their infertility, as History records. Few of the Emperors, e.g. had a son to succeed what birth easil the acu For historians are never interested in diet, chemistry, medicine nor eugenics. And everyone overlooked the class angle, which I rise to supply, which alone gives to ancient plumbism its vital significance, both for History and for present-day population policy. If "the Romans", in quotes, were lead poisoned, what of it? It seemed a mere curiosity of history. But if we now perceive that it was not the Romans in general, but their upper class who were thus poisoned, mentally damaged and left nearly childless, this explains their continuous dying out, and the disappearance of science, art, progress and genius. Also the eugenist sees here a frightening parallel to the quite similar situation in the world today. For today our intellectual and well-to-do classes, and the races and nations that contribute 99% of the world's progress, are barely maintaining their numbers, while the lower classes, and the backward nations and races, are about doubling in each generation.

But before talking of the genetic consequences, we should better explain what happened medically; and first of all we may need a little more acquaintance with lead poisoning, the ancient uses of lead, and the diets of the Roman rich and poor.

Chronic lead poisoning comes by taking in a very little lead repeatedly. One mg. has been called the largest safe daily dose, 1/28,000th of an ounce; but it seems likely that every bit of it is a little bit harmful, since no one has ever found any benefit from lead. Prof. Clair Patterson, who has been studying lead in our atmosphere and in the snows of yesteryear on Greenland and Antarctica, finds a great increase there in the last two centuries. He also finds we have in our bodies about 100 times as much lead as might be considered normal, on the basis of the percentage of lead in the earth's surface. The threshold of safety, for lead in the blood, is considered in Europe to be but 0.5 ppm.; our typical American lead is

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if of that. We receive lead daily from gasoline and other burnt sources in the shes, and from vegetable and sea foods, soldered cans, lead glaze scraped off crete it builds up in our bones, still seeming harmless. But too much leads to enaciation, constipation, local paralysis, insanity, many other disorders, and eath. Roman tombstones, for those who could afford that modest luxury, indicate much shortened life-span, especially among women of child-bearing age. More important for our thesis, lead reduces fertility in men, and in women brings erility, abortion, stillbirth, and premature births, which in turn foster early eath, or permanent mental impairment. Lead is especially deadly to children, who can also acquire it from floor dust, etc. This pathologic situation, so disastrous for the healthy survival of offspring, is to be verified not so much from modern Medicine, which watches for, detects and cures lead poisoning early, as from European medical records of 50 or 100 years ago, when protections for workers were few, and even if these knew they were being lead poisoned they would work on until they dropped in convulsions, because they had to have that job. Such conditions were similar to those of the Roman aristocracy, who had no idea of what their food and drink were doing to them. So the recorded extremely low birthrate and high infantile and adult deathrates of the Roman aristocracy are easily explained. Yet because of lead's insidious, slow onset and varied symptoms the ancients scarcely recognized it, except as a disease of lead workers, or an acute poisoning from a known heavy dose.

Now about this saturnine metal. It is the easiest of all to produce, and the only cheap metal the ancients could cast and weld, since they could not cast nor weld iron, nor weld copper. Moreover it was provided in superabundance as a by-product of silver mining. The silver mines at Laurion, fountain of Athens' prosperity, produced 250 times as much lead as silver. So they used the lead wholesale, for pots, cups, colanders, toys, tickets, pencils, boxes, roofs, cisterns, water-pipes, repairing wine jars, Pompeian red paint, glazed pottery latterly, and in lead bronze and pewter. Lead pipes were a great source of poison (save with hard water), yet not so significant, since rich and poor drank the same water. Still lead pipes were more used in city than country, and brains always flock to the city. The lead most significant dysgenically was ceruse face powder (since lead breathed in is ten times worse than lead eaten), red wall paint, olive oil, and above all the leaden or lead plated bronze pots for cooking, heating and sometimes storing the wines and fruit and honey foods of the rich.

The poor cooked and stored in unglazed pottery; the rich could afford bronze, so much better for looks, and for conducting heat than the weak and porous ancient pottery, like our terra cotta. But with bronze, the rich knew that they must avoid copper poisoning, which reveals itself at once. So they substituted a leaden utensil, or a bronze pot with an internal plating of lead or tin or an alloy of the two, and the poisoning went practically unrecognized. And the thin plating is hardly recognized by modern archeology, since it will disappear electrolytically during 15 centuries in moist ground. If they used pure tin they were alright; but lead was 12 times cheaper, and easy to confuse with tin. So they put lead into

the better grades of wine in a dozen ways, including warming it before serving whatever quality in cool weather. Most important were the common practices of boiling the must especially from education the fresh juice, to sterilize it, or boiling it down to a grape sirup, which they used in their environment were it to add flavor, bouquet and keeping power to wines, and to sweeten luxury food means whereby a better life. Four ancient writers tell us this sirup must be made in lead, scraping the pot and the highly able so it boiled down. It's a good recipe for making slow poison, if you have an enemy; but he had no. For sweetening foods they had no sugar, but only this sirup, or other fruits of the aristocracy.

The poor had no such luxury foods, nor face powder nor red wall paint. They ate mostly porridge cooked in pottery, along with some of bread, vegetables and our other usual foods. They did drink a good deal of wine, but it was apparently rarely processed by those baneful leading sophistications; it was fresh from the fermenting vat, and would not keep long.

In any case we know that in the imperial period the numbers of the poor did not decrease much, perhaps to one-half, though population fell much farther in Greece. The poor survived, and continually replaced their perishing masters, wherefore they must have had a high birthrate, and not too high a deathrate.

Among the well-to-do we must consider other checks beside lead. Venereal disease was not then important, but there was considerable homosexuality; and there were political proscriptions sometimes of the rich and leaders of defeated factions. But these were commonly older men, whose leaded wives would have had no more children anyway. Divorce, very prevalent, would not have checked births much. Birth control was often attempted, but apparently was not the major factor, except in preventing illegitimate children, of whom we never hear. There was some infanticide, especially of the sickly, the poor and the slave-born. There was an extraordinary amount of celibacy, which would have been partly caused by lead. For the main motive for marriage was to raise children, heirs; otherwise men would prefer their freedom. So if an heir could rarely be produced, why marry? Long hot bathing by men of leisure might have been a factor after 100 B.C.

We face, then, considerable uncertainty as to the relative strength of the numerous factors making for aristothanasia, though lead seems the worst. But from the eugenic point of view the relative weights of the causes do not need determining. It suffices to know that their total, joint dysgenic effect was so crushing that something like 3/4 of the well-to-do died out of each generation. A geneticist or any stockbreeder or layman of common sense knows what must happen to any mixed population, if for 18 successive generations you remove 3/4 of the phenotypes who show certain traits, in our case all the traits which enable people to earn, grab wholesale, keep or marry money.

"Blessed are the meek," said the Beatitude, "for they shall inherit the earth." They did, and the result was ruin. At first, of course, the ablest of the poor could replace the perishing wealthy fairly well. But after 18 generations of this fishing-out process there would be little ability left in the poor either.

Our thesis must even be accepted by those of egalitarian sympathies, who refuse to accredit Eugenics for humans, though all do for animals and plants.

Many questions during the Middle Ages, while the eugenic process we today are a who could gra intellectual and the Egyptian sank back to

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whatever qualities we do not get by heredity, we must get from environment, especially from education. Under ancient Roman conditions higher education and environment were inseparably tied to birth—there were no scholarships nor other means whereby a boy or girl born poor could obtain higher education and culture. highly able son of a slave or poor peasant might succeed to a vacant chief-; but he had no way to acquire the culture, family traditions nor prestige of aristocracy.

Many questions remain, which beg for answers I cannot give. When and how during the Middle Ages did the rich learn to shun lead and have large and plural families, while the children of their poor serfs mostly died? Then Nature's normal dysgenic process, the survival of the fittest, must have resumed operation, so that we today are all descended largely from the nobility of the Middle Ages, those who could grab and keep land, who were neither weak, nor the gentle, moral, intellectual and artistic types who became religious celibates. Again, what about the Egyptians, great users of beer, wine and lead, whose civilization three times sank back to near Barbarism?

In making a book of it, and for best proofs want pay dirt, from the bottom of excavated amphoras that once contained wine, grape sirup or olive oil, to analyze for lead. And best of all for this old dog, old bones, of rich and poor Romans respectively, preferably ribs. In Europe I managed to gather 40 bone specimens. Their assay for lead was consistent with theory, but they were not well chosen, only such as I could get, nor sufficient. If I had the backing of some scientific foundation I could visit European museums and get such specimens as needed.

In any case let us learn from Rome's catastrophic dysgenic proof, that a race can change rapidly by internal selection, and that to allow the intelligent to die out, or to be swamped under as today, can utterly ruin brains, science, culture and progress, as well as civilization itself.

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