Men and Books

SANITATION UNDER THE ANCIENT MINOAN CIVILIZATION

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Our present system of sanitation, based on an exact knowledge of scientific engineering, is a thing that we accept as a matter of course. If, however, we look up the history of house and town planning in its relation to drainage and the disposal of sewage we come to the conclusion that it is an outgrowth of barely one hundred years.

A real ministry of health of a nationally wide character was not set up in England until 1919, although the fight for cleanliness and efficient sanitary measures dates back to the pioneer work of Edwin Chadwick during the first half of the Nineteenth Century, and of Sir John Simon who kept up, like a knight of old, the good fight until 1871, at which date only was the national conscience sufficiently aroused to prevent avarice and greed from obstructing many needed reforms. Edwin Chadwick was the first to insist on glazed tile for drainage purposes and Sir John Simon spent a life time fighting for proper sanitary inspection untrammeled by politics. When we consider the last typhoid epidemic in our own city of Montreal, only a few years ago, we may well do honour to a man who had the courage to undertake such a task against ignorance and prejudice.

The Mosaic law laid down strict rules for cleanliness and hygiene, but I have failed to find any definite information that their civilization ever evolved a system of proper sanitation. The ancient city of Rome under the Empire had a system of aqueducts that supplied the inhabitants with drinking water and facilities for bathing, as well as drains, but sanitation as we understand it to-day, was unheard of.

More than two thousand years before Caesar’s legions crossed over to Britain, and when our forebears were living in huts made of wattles and mud, there was a civilization in the island of Crete with houses that were fully equipped with toilets and baths, with tiled drains emptying into deep, well made, underground sewers—all built in a manner that was never again equalled until the Nineteenth Century. This civilization had long been established when “Abraham, the Outlander” left Ur of the Chaldees and marched north and west over the Arabian Desert to get his first sight of the land of Canaan. It was over one thousand years old when the great Pharaoh Tutankhamen was laid in his regal tomb and when Moses was leading the Hebrews through the waters of the Red Sea; its splendour had vanished long before Solomon built his temple in Jerusalem, and was but a myth when Homer the blind Greek singer wrote his Odyssey and Iliad.

How many thousands have read with horror and delight the beautiful mythological story of the Minotaur, of Theseus and Ariadne, and the clue of the terrible labyrinth. We all thought what a fable it was until Sir Arthur Evans, the famous English archaeologist, established be-
yond doubt that truth was stranger than fiction. Working steadily since 1900 he has uncovered the ancient city of Cnossos on the north coast of Crete, and has proved that its history antedates the first Egyptian dynasty. In other words, it is the oldest of all the primeval European civilizations, antedated only by that of the Nile valley and the ancient Sumerian civilization of Mesopotamia.

If one cares to read “The Palace of Minos of Knossos” by Sir Arthur Evans he will be astounded to learn that this home of the great priest kings of that period was built almost on a similar plan to our own large palatial hotels. The ground floor of the domestic quarters was 100 by 120 feet, and the great stone staircases were carried up to the fifth storey. Many of the bedrooms had private dressing rooms and private bathrooms, with toilets that were operated as our own with the pan constantly filled with water. The blue print that is published with the text shows five large light wells, many drain shafts, bath rooms, toilets and bedrooms. Indeed, it is hard to believe that we are not studying a blue print of the Twentieth Century. (Fig. 1).

The terra cotta water pipes were beautifully made with collars and stop ridges, and were superior to ours in that the tapering form of each section gave the water a shooting motion well adapted to prevent the accumulation of sediment. The water, which was conducted from the roof and the light areas, was gathered into eisterns and from these conducted down the tiles to the baths and latrines, from which it was again discharged to great stone sewers, many of which were large enough to admit a man. These were connected with huge drain-heads and every provision was made for the excess surface water, just as we to-day have built our storm sewers. Every joint in the tile drains was held together by cement and the floors of the rooms were laid in gypsum.

Sir Arthur, in describing one of the latrines, states:— “On the face of the gypsum slab to the right is a groove for a small wooden post for the support of a seat about 57 c.m. above the floor. Outside the doorway of the latrine is a flag, sloped towards a semi-circular hole forming a sink and from this opens a small duct leading to the main drain. The aperture leading to the main drain deviates from the centre of the seat thus leaving room on the right for some vessel for flushing the basin.

As an anticipation of scientific methods of sanitation the system of which we have here the record, has been attained by few nations even at the present time.”

Captain T. H. M. Clarke, M.B., D.S.O., R.A.M.C., who acted as medical advisor to the High Commissioner in Crete, believes that each latrine had a balance flap to shut off the escape of sewer gas. He also adds that “judging from the shape of the cavity the earthenware basin or receptacle for the excreta would have been vertical in front and sloping at the back, or, in other words, it would resemble in shape the washout closet of the present day in which a certain amount of water is kept in the basin by a ridge over which the excreta is carried by a flush of water.”

Why, then, may we ask was such a system permitted to go out of use for such a long period—in fact, never to be renewed until within the last century? Two explanations have been offered. The city with its civilization may have perished by a great volcanic eruption or by an earthquake. Some, however, believe that the great barbarian Aryan tribes that came down out of the woods from the north, about 1200 B.C., completely defeated and destroyed the inhabitants of all the Aegean cities, including Cnossos. These barbarians, whose descendants afterwards founded the great city states of Greece, were without any knowledge of writing or the use of iron. They had never lived in cities and culture was a thing of which they had no conception. Cnossos was laid waste and in time was buried in oblivion, not only figuratively but literally. When Sir Arthur Evans started his excavations it was buried to a depth of twenty-six feet and far beneath that stratum evidence was found of the remains of a Neolithic age. Is there, therefore, anything new under the sun? Tantalus, as some one has aptly said, may have been just as thirsty as the modern American.

I am indebted to the work written by Sir Arthur Evans “The Palace of Minos of Knossos” for all that relates to this ancient system of sanitation.

Dr. A. I. Willinsky, of Toronto, very kindly photographed these reproductions from Volume I of the above work.

![Fig. 2.—Clay water pipes; near area of stone drain-head.](image)

![Fig. 3.—Painted clay bath from room adjoining magazine or lily vases.](image)