



ST. MARY THE VIRGIN

Sovereign Military Order of the Temple of Jerusalem

Crusader Hygiene

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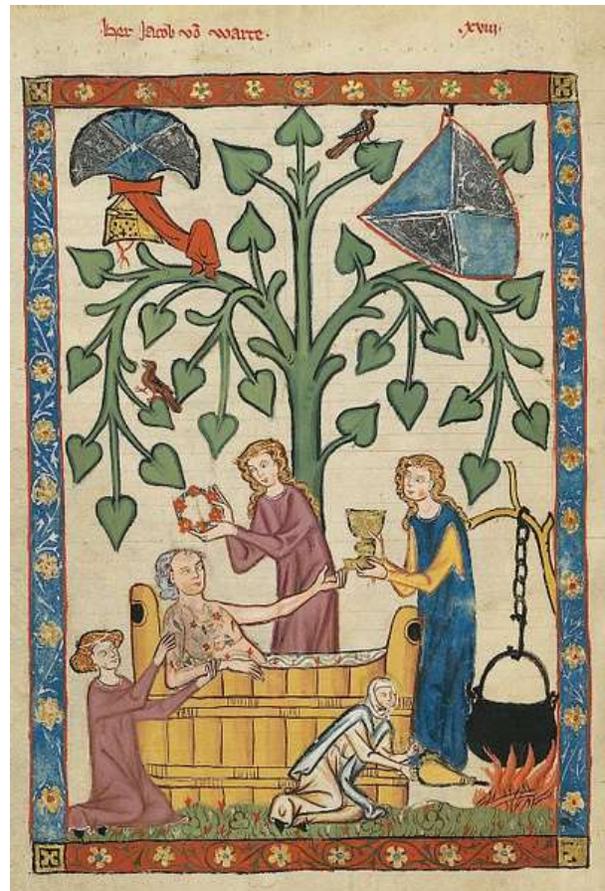
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INTRODUCTION



Crusader Hygiene

People in the Middle Ages have acquired something of a bad reputation when it comes to cleanliness, especially the peasantry. However, despite the general lack of running water and other modern amenities, there were common expectations of personal hygiene such as regularly washing from a basin, especially the hands before and after eating which was regarded as good etiquette in a period when cutlery was still a rarity for most people. The better off had the possibility of more frequent baths and castles, manors, monasteries, and cities offered their residents better toilets with better drainage, and sometimes even had running water using the ancient combination of cisterns and gravity. Naturally, standards of hygiene varied over time and place, and even, of course, between individuals, just as today; what follows examines the general habits and expectations regarding hygiene in medieval Europe and the Crusader States.

Biblical References to Bathing

The Bible itself offers scant insight into when and how ancient Israelites might have bathed in the course of ordinary life, although archaeology helps fill out the picture somewhat. Generally, water would be poured from a jug over the bather's body, and this is probably how Bathsheba was washing herself when David saw her, perhaps using rainwater collected on her roof. Israelites do not generally seem to have had bathtubs, although a bathtub was found at a ninth-century religious site at Tel Dan, and a clay figurine (above) of a woman in a small, shallow tub was discovered in an eighth or seventh century Phoenician tomb. The overwhelming majority of references to bathing in the Bible, however, have to do with ritual bathing. The Priestly laws of Leviticus (so called because they were probably written by priests) require bathing to purify oneself from various things that were considered contaminating, such as skin disease (Lev 14:8-9), sexual intercourse (Lev 15:18), and certain bodily discharges (for example, Lev 15:5-6). In Priestly law, the ultimate purpose of ritual purification is to protect God's sanctuary, the tabernacle, from contamination (Lev 15:31). Thus, for example, the high priest had to bathe before entering the tabernacle shrine (Lev 16:4). Washing was a physical act to prevent contamination by physical things, but it served a sacred function: through ritual bathing, Israelites marked off God's space as holy and showed reverence for the divine presence.

Water

Water was available in villages from nearby springs, rivers, lakes, wells and cisterns. Indeed, most settlements had developed where they had precisely because of the proximity of a reliable water source. Castles might be situated for the same reason and were provided with additional water from masonry-lined wells sunk into their interior courtyards, sometimes accessible from within the castle keep for extra security when under attack. Of over 420 castles surveyed in the United Kingdom, 80% were provided with a well in their interiors and one quarter had two or more. The shaft of the well could be extremely deep: the one at Beeston Castle in England measures over 400 feet. Some castles, such as the one at Rochester in England, even had the possibility to draw up water from the well at every level of the keep using a system of buckets and ropes that ran inside the walls. Cisterns collected rainwater or natural ground seepage and sometimes a castle might have a system of lead, wooden or ceramic pipes that carried water from a cistern to other, lower parts of the castle like the keep or kitchens, as at Chester Castle in England. Another system of supplementary water collection was to have pipes on the roofing to drain rainwater into a cistern. Finally, settling tanks were sometimes employed to improve the quality of the water by allowing sediment to settle before the cleaner water was drained off. Many monasteries would also have had some or all of these features.

As towns grew in number and size across Europe from the 11th century onwards so hygiene became more and more of a daily challenge. Fortunately, many of the larger towns tended to be situated near rivers or coastlines in order to facilitate trade, so the supply of water and the disposal of waste was less problematic in these places. Canals, water conduits, wells and fountains provided (relatively) fresh water to the urban populace. These were maintained by town councils who also imposed sanitary measures on local businesses and the population in general. For example, there was often an obligation to clean the portion of the street directly in front of one's house or shop. Towns and cities might have public baths; Nuremberg, which seems to have been one of the cleanest towns in Europe thanks to its enlightened council, had 14 of them. Local authorities also undertook such emergency measures as removing the dead during times of plague.

bath (n) Old English bæð "an immersing of the body in water, mud, etc.," also "a quantity of water, etc., for bathing," from Proto-Germanic *badan. The city in Somerset, England (Old English Baðun) was so called from its hot springs. Bath salts attested from 1875 (Dr. Julius Braun, "On the Curative Effects of Baths and Waters"). Bath-house is from 1705; bath-towel is from 1958.

Personal Hygiene

As running water was very rare, and considering it took such a physical effort to get one bucketful from a well or nearby water source, it is perhaps not surprising that taking a full bath every day was not a feasible option for most people. Indeed, with baths seen as a luxury given the cost of fuel to heat the water, monks, for example, were typically prohibited from taking more than two or three baths in a year. For those who had a bath, it most often took the form of a wooden half-barrel or tub. Even then it would not have been filled very much but most of the 'bathing' was done using a jug of heated water poured over the body rather than a full immersion.

A lord might have a padded bath for extra comfort and he usually travelled with one, such was the uncertainty of finding the convenience on one's travels. The vast majority of people, though, would have made do with a quick swill using a basin of cold water. As 80% of the population did physically demanding jobs working the land it is likely that washing of some kind was done on a daily basis.

Medieval peasants have long been the butt of jokes regarding hygiene, which goes back to medieval clerical tracts which often described them as little more than brutish animals; however, it was common practice for just about everyone to wash the hands and face in the morning. An early wash was also desirable because fleas and lice were a common problem. Rarely-changed straw bedding was a particular paradise for vermin even if some preventative measures were taken such as mixing herbs and flowers like basil, chamomile, lavender and mint into the straw.

As most people ate meals without knives, forks or spoons, it was also a common convention to wash hands before and after eating. Soap was sometimes used and hair was washed using an alkaline solution such as the one obtained from mixing lime and salt. Teeth were cleaned using twigs (especially hazel) and small pieces of wool cloth. Shaving was either not done at all or once a week unless one was a monk, in which case one was shaved daily by a brother. As medieval mirrors were still not very large or clear, it was easier for most people to visit the local barber when required.

The ordinary peasant was probably more concerned with getting rid of the day's grime when they washed but for an aristocrat there were a few more details to be attended to in order to gain favour in polite society. Social occasions like meals, when one might get up close and personal to one's peers, warranted particular attention to hygiene and there were even rules of etiquette produced as helpful guides for the unimaginative diner, as here from the *Les Countenance de Table*:

*...and let your fingers be clean, and your fingernails well-groomed.
Once a morsel has been touched, let it not be returned to the plate.
Do not touch your ears or nose with your bare hands.
Do not clean your teeth with a sharp iron while eating.
It is ordered by regulation that you should not put a dish to your mouth.
He who wishes to drink must first finish what is in his mouth.
And let his lips be wiped first.
Once the table is cleared, wash your hands, and have a drink.*

(Singman, 154)

Monks had their own special areas for washing, including at Cluny Abbey in France which had a *lavabo* or large basin where hands were washed before meals. We know from records that they had towels, which were changed twice a week while the water was changed only once a week. The Great Hall of a castle or manor typically had a similar large basin for visitors to wash their hands.

Toilet Paper

Before the introduction of mass-produced, commercially available toilet paper in the mid-1800s and the continued improvements made into the early 20 century, people relied on less luxurious ways to wipe their bums. In very ancient times, wiping with stones and other natural materials and rinsing with water or snow was common. Some cultures opted for seashells and animal furs. In the first century, communal sponges, known as tersorium, may have been used once or cleaned in a bucket of vinegar or salt water and reused, or they may have been used more like toilet brushes than toilet paper. Beyond the communal sponge, Greco-Romans also used moss or leaves and pieces of ceramic known as pessoi to perform cleansing. Small fragments of cloth found in a sewer in Herculaneum, Italy, one of the towns buried by the eruption of Mount Vesuvius in 79 A.D., could have been used as another form of toilet paper. In 1992, archaeologists discovered 2,000-year-old hygiene sticks, known as salaka, cechou and chugi, in latrines at Xuanquanzhi, a former Han Dynasty military base in China that existed along the Silk Road. The instruments, cut from bamboo and other wood, resembled spatulas. Although paper originated in China in the second century B.C., the first recorded use of paper for cleansing is from the 6th century in medieval China. Paper became widely available in the 15th century, but in the Western world, modern commercially available toilet paper didn't originate until 1857, when Joseph Gayetty of New York marketed a "Medicated Paper, for the Water-Closet," sold in packages of 500 sheets for 50 cents.

In summary, then, it is safe to say that the common presentation in modern films and books of filthy medieval peasants who regarded washing as some form of torture is perhaps not quite accurate and people of all classes did keep themselves as clean as their circumstances permitted. Nevertheless, it is also true that when medieval Europeans, even those of the higher classes, made contact with other cultures such as the Byzantines or the Muslims during the Crusades, the Europeans often came off second best in the hygiene stakes.

Toilets

In villages or on manor estates the peasantry used a cesspit for their own waste, which might then be taken and spread on the fields as a fertilizer. In some cases a small hut provided some privacy and a wooden bench with a hole in it some comfort (as well as reducing the chances of falling into the cesspit). Chamber pots were used at night and then emptied into the cesspit. Without toilet paper, or really paper of any kind, people had to make do with a handful of hay, grass, straw or moss.

The toilets in a castle, also known as privies or latrines, were much the same as everywhere else although the waste was channelled down a hole into a cesspit at the foot of the castle walls or into the moat itself (an added defensive feature not much talked about in military history). Sometimes there were two toilets next to each other and these might empty into a channel which was regularly flushed with water from a diverted stream. The same arrangement was common to monasteries where toilets were clustered together. There were 45 such cubicles at Cluny Abbey which also boasted a bathhouse with twelve tubs. Castles might also have triangular-shaped urinals, especially in the tower of the circuit walls.

Garderobe is a historic term for a room in a medieval castle. The *Oxford English Dictionary* gives as its first meaning a store-room for valuables, but also acknowledges "by extension, a private room, a bed-chamber; also a privy". Its most common use now is as a term for a castle toilet.

In towns, the well-off had their own privy in a back-yard or even in the house itself with a channel or chute to drain off waste into the yard. Where the poorer classes lived in greater concentrations households often shared a single outside toilet or a number of toilets with their waste leading to a communal cesspit. Lined with stone, the cesspits also received any other household rubbish and were regularly emptied by a professional laborer dedicated to that specific and unenviable job. There were regulations prohibiting the tipping of waste into the street but these were often ignored and a spell of heavy rain or, even worse, floods, could cause havoc with the town's sanitation system and contaminate the water supply. With towns also packed with horses and donkeys, and farm animals being transported elsewhere or to the butchers, the streets were usually filthy and this combined with the ever-present rats, mice and other vermin meant that urban centers became the ideal breeding grounds for disease.



Cures for the Plague

Since no one knew what caused the disease, no cure was possible, but this did not stop people from trying what they could based on the medical knowledge of the time which came primarily from the [Greek](#) doctor [Hippocrates](#) (l. c. 460 - c. 370 BCE), philosopher [Aristotle](#) of Stagira (l. 384-322 BCE), and the [Roman](#) physician [Galen](#) (l. 130-210 CE) as well as religious belief, folklore, herbalism, and superstition. These cures – most of which were ineffective and some of which were fatal – fall roughly into five categories: Animal cures; Potions, Fumigations, Bloodletting, Pastes; Flight from Infected Areas and Persecution of Marginalized Communities; Religious Cures; and, Quarantine and Social Distancing

Of these five, only the last – quarantine and what is now known as “social distancing” – had any effect on stopping the spread of plague. Unfortunately, people in 14th-century CE Europe were as reluctant to stay isolated in their homes. The wealthy bought their way out of quarantine and fled to country estates, spreading the disease further, while others helped with the spread by ignoring quarantine efforts and continuing to participate in religious services and by going about their daily business. By the time the plague ended in Europe, millions were dead and the world the survivors had known would be radically changed.

Plague & Disease

The Black Death, which peaked from 1347 to 1352, was just one (albeit the deadliest) of many waves of plagues and diseases which hit medieval Europe.

The Black Death was the beginning of the second plague pandemic. The plague created religious, social, and economic upheavals, with profound effects on the course of European history.



The Black Death most likely originated in Central Asia or East Asia, from where it travelled along the Silk Road, reaching Crimea by 1347. From there, it was most likely carried by fleas living on the black rats that travelled on Genoese merchant ships, spreading throughout the Mediterranean Basin and reaching Africa, Western Asia, and the rest of Europe via Constantinople, Sicily, and the Italian Peninsula. Current evidence indicates that once it came onshore, the Black Death was in large part spread by human fleas – which cause pneumonic plague – and the person-to-person contact via aerosols which pneumonic plague enables, thus explaining the very fast inland spread of the epidemic, which was faster than would be expected if the primary vector was rat fleas causing bubonic plague.

The Black Death was the second disaster affecting Europe during the Late Middle Ages (the first one being the Great Famine of 1315–1317) and is estimated to have killed 30% to 60% of Europe's population. In total, the plague may have reduced the world population from an estimated 475 million to 350–375 million in the 14th century.

The low standards of medieval hygiene certainly helped it along although there were other factors such as a complete lack of understanding of what caused it and the absence of effective quarantines. It is also important to note that many medieval locations such as Milan and Bohemia survived relatively unscathed, so it is not quite so simple to attribute the spread of plague solely to a lack of hygiene and proper sanitation.

Besides terrible plagues and epidemics that seemed to spring out of nowhere with alarming regularity, there were often equally deadly dangers lurking in everyday places. Poor food preparation and storage was a particular area of health risk. Epidemics of diarrhea (ergotism), known in medieval times as Saint Anthony's Fire, were caused by eating rye that had been poisoned by fungi. Skin diseases were particularly prevalent, too, although they may have been caused just as much by poor diet as by uncleanness.

Hygiene in the Crusader States

All the Crusader States established in the course and subsequent to the First and Third Crusades were in locations that had been under Greek influence since Alexander the Great at the latest. They had also been part of the Ancient and Eastern Roman (Byzantine) Empires before coming under Arab and Turkish influence during the 8th and 9th centuries AD. This means that for the native population the predominant traditions with respect to personal hygiene came not from the Germanic tribes, Vikings or Celts, but from Greece, Rome, Egypt and Arabia.

Whereas bathing in Western Europe is usually depicted in small, wooden tubs with curtains over them, the baths of any Roman town were generally gracious, spacious and elegant, often open to the skies in a series of atriums surrounded by colonnades. They were public spaces in which men conducted business and politics. The baths of Turkey and Arabia, while darker and more inward-looking, nevertheless were gracious with domed roofs and elegantly furnished with marble floors, benches and fountains. They were less important for business and politics but all the more important culturally because of the emphasis Islam places on personal cleanliness. Both the Greco-Roman and Arab/Turkish traditions shared the principle of having both hot rooms for steaming/sweating (like a sauna) and cold rooms for washing off. Both also integrated massages with fragrantly scented oils into the bathing experience.

When the crusaders arrived in Outremer, they found a large number of functioning bathhouses, particularly of the later (Turkish/Arab) type, already in place. Far from scorning, abandoning, dismantling or altering their function, the Frankish settlers adopted them readily. Indeed, they started building their own, and archaeologists have identified a number of Frankish baths. These include baths in the Hospitaller and Templar headquarters in Jerusalem, at or near the monastery on Mt. Zion, at Atlit, a bathhouse on the Street of Jehoshephat near the convent of St. Anne, and another in the Patriarch's quarter.

The Frankish settlers in Outremer adopted some of the bathing customs as well. Thus, while men and women bathed jointly in Western Europe, they probably bathed separately (either in separate spaces or at different times) in Outremer, although this is not 100% certain.

It wasn't only the bath houses that the Frankish settlers of Outremer inherited from their predecessors. They also inherited Roman aqueducts and sewage systems. The Greeks and Romans (both Ancient and Byzantine) were famous for building very sophisticated and extensive networks for bringing fresh water to the public fountains of their cities, often from many miles away. The Franks followed this example and built a number of their own. Thus while cities dating from the Roman period or earlier had Roman aqueducts that the crusaders merely needed to maintain, the construction of new castles, new towns or water-intensive industry such as sugar plantations, brought forth new aqueducts that clearly date from the crusader period.

Likewise, the ancient cities were served by extensive (and again very solid and sophisticated) sewage systems. These consisted both of stone-faced drains and stone or pottery pipes. The Byzantines, for example, used pottery pipes to bring sewage down the outside of their residences from upper stories to underground sewage systems. Frankish castles had extensive latrines with sewers that emptied well below the level at which people lived. While roof top cisterns and tanks provided the means to flush out these latrines with water, the archaeological evidence is insufficient to verify the practice in the Holy Land. Archaeological evidence of highly sophisticated drainage systems to divert underground streams, however, have been uncovered, and the level of engineering skills available to the Frankish settlers of Outremer cannot be under-estimated.

There may be a direct link between the hygienic conditions in Outremer and the hot-and-cold running water of Edward III and the Black Prince. The bulk of the crusaders, including Richard the Lionheart and Edward I of England, returned home, and by the time they went home they had probably become fond of the higher standards of hygiene enjoyed by the Frankish settlers -- the very standards that had induced the crusaders to ridicule the native "poullains" initially. The large number of crusaders returning particularly to France, Germany and England may explain the fact that Western Europe saw a flourishing of "bath house culture" in the 12th - 14th centuries.

THE WORM THAT TURNED EAST

The contents of crusader latrines are helping researchers probe the history of parasite infections in humans.

When the crusaders of the Order of St John first built a 35-latrine toilet complex in the medieval city of Acre in the Kingdom of Jerusalem, they could scarcely have considered that researchers would be sifting through its contents 900 years later. Yet the 13th-century latrine soil is providing another chapter in understanding the long history of our relationship with intestinal parasites.

Biological anthropologist Dr Piers Mitchell has been extracting sediment derived from decomposed fecal material and analyzing it under the microscope. Long after the many different types of parasites have perished, their tenancy in the intestine of their human host can be deduced by the presence of their eggs, now hundreds or even thousands of years old.

There is a growing body of research worldwide that attests to the fact that parasitic worms have been uninvited guests of the human intestine for millennia. It's a relationship that is still as strong as ever: today, 740 million people in the tropics have human hookworm according to estimates by the World Health Organization.

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One aspect that has captured the attention of researchers is the ability to trace ancient human migrations through the parasites the migrants took with them. As one example, the sequential waves of peopling of the Americas has been timed through the hookworms that infected them. Such research also provides an opportunity to look back to when and how parasites came to cause disease in humans. “We can then understand what impact these infections have had, and will continue to have, upon our evolution,” explained Mitchell.

The crusades were arguably the greatest migration event that took place in medieval Europe. In the 12th and 13th centuries, hundreds of thousands of Europeans travelled to the eastern Mediterranean on military campaigns, pilgrimage and to trade.

“The crusades are often blamed for the spread of disease during the medieval period,” explained Mitchell, whose work was funded by the British Academy. “But only limited research has investigated which diseases might have been spread, in which direction, eastwards or westwards, and what impact this may have had upon the endemic patterns of disease.”

When Mitchell analyzed the crusader latrines, he was able to identify the eggs of roundworm, whipworm, beef/pork tapeworm, dysentery and fish tapeworm. He explained why the latter was of particular interest: “Fish tapeworm is found in northern Europe where it infects humans when they eat salted, smoked or dried fish. It’s not found in the Middle East, probably because the environment doesn’t seem to support the lifecycle of the worm.”

“We were able to confirm that the parasite was not there before the crusades. We believe the crusaders brought the parasite with them when they travelled to the eastern Mediterranean with fish tapeworms in their intestines. This is a great example of how migrations in the past can move diseases around the planet. Sometimes they take hold there and become endemic, and sometimes they don’t.”

Mitchell now plans to extend his research even further back in time, focusing on the wider Fertile Crescent – a region that stretches from Jordan to Iran. Here some of the earliest civilizations developed during the past 10,000 years.

“There are theoretical arguments that when our ancestors were hunter-gatherers perhaps they had fewer parasites because they kept moving on. Once they settled and lived in the same places did that make them more predisposed to re-infecting themselves with their parasitic diseases?”

His new research will trace the history of parasitic infections in the Middle East from 9,000 BC till Roman times, and will ask such fundamental questions as: when did intestinal parasites first become common in humans? Did the introduction of farming practices such as irrigation expose people to new species of parasite? And even, what impact did the invention of the humble toilet seat have on public health?

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