

The paper presented by Dr. Bindeshwar Pathak, Ph.D., D.Litt., Founder, Sulabh Movement at International Symposium on Public Toilets held in Hong Kong on May 25-27, 1995

UNLIKE body functions like dance, drama and songs, defecation is considered very lowly. As a result, very few scholars documented precisely the toilet habits of our predecessors. The Nobel Prize winner for Medicine (1913) Charles Richet attributes this silence to the disgust that arises from noxiousness and lack of knowledge about usefulness of human waste. Others point out that as sex organs are the same or nearer to the organs of defecation, those who dared to write on toilet habits were dubbed either as erotic or as vulgar and, thus, were despised in academic and social circles. It was true for example of Urdu poets in India, English poets in Britain and French poets in France. However, as the need to defecate is irrepressible, so were some writers who despite social as well as academic stigma, wrote on the subject and gave us at least an idea in regard to toilet habits of human beings. Based on this rudimentary information, one can say that development of civilisation and sanitation have been co-terminus. The more society developed the more sanitised it became and vice versa

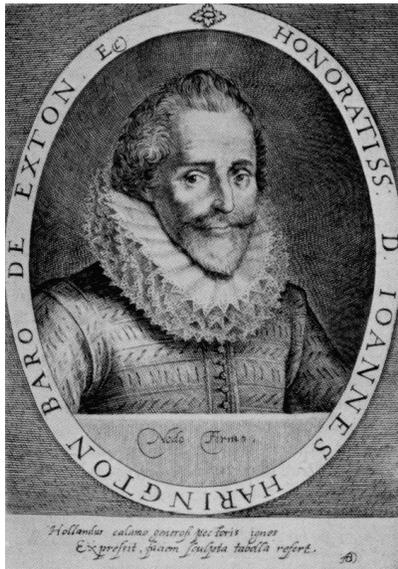


Wet toilet of Harappan Settlements, India, 2500 BC Mohenjo-Daro in Sind Province of Modern Pakistan

Toilet is a part of human hygiene which is a critical chapter in the history of human civilisation and which cannot be isolated or accorded an inferior position. Toilet is a critical link between order and disorder and between good and bad environment.

In my own country i.e. India, how can anyone ignore the subject of toilet when the society is faced with human excretions of the order of 900 million litres of urine and 135 million kilogrammes of fecal matter per day with totally inadequate system of its collection and

disposal. The society, thus, has a constant threat of health hazards and epidemics. As many as 600 out of 900 million people do open defecation. Sewage facilities are available to no more than 30 per cent of population in urban areas and only 3 per cent of rural population has access to pour-flush latrines.



John Harrington of England who invented first modern flush toilet in 1596 AD

Seeing this challenge, I think the subject of toilet is as important, if not more than other social challenges like literacy, poverty, education and employment. Rather the subject of toilet is more important because lack of excremental hygiene is a national health hazard while in other problems the implications are relatively closer to only those who suffer from unemployment, illiteracy and poverty. I thus view, a study of the history of toilet is an important subject.

As long as man did not have an established abode, he did not have a toilet. He excreted wherever he felt like doing so. When he learnt to have a fixed house, he moved toilet to courtyard and then within his home. Once this was done, it became a challenge to deal with smell and the need was felt to have a toilet which could intake human wastes and dispose these of out of the house instantly and, thus, help maintain cleanliness. Man tried various ways to do so i.e. chamber pots, which were cleaned manually by the servants or slaves, toilets protruding out of the top floor of the house or the castle and disposal of wastes in the moat below, or common toilets with holes on the top of flowing river or just enter the river or stream and dispose of the waste of the human body. While the rich used luxurious toilet chairs or close stools, the poor defecated on the roads, in the jungle or straight into the river.

It was only in the 16th century that a technological breakthrough came about which helped the human beings to have clean toilets in houses. This breakthrough did not come about easily and human race had to live in insanitary conditions for thousands of years. For all to know the history of toilets, we have established in New Delhi the Sulabh International

Museum of Toilets with the help of curators like Dr. Fritz Lischka from Austria and 80 to 90 other professionals around the world. The museum traces history of toilet for the last 4,500 years.

Historical Evolution

The perusal of literature brings home the fact that we have only fragmentary information on the subject of toilet as it is a private secluded place to help the body relieve its waste. Sitting type toilets in human history appeared quite early. In the remains of Harappan civilisation in India, at a place called Lothal (62 Kilometers from the city of Ahmedabad in Western India) and in the year 2500 BC, the people had water borne toilets in each house which was linked with drains covered with burnt clay bricks. To facilitate operations and maintenance, it had man-hole covers, chambers etc. It was the finest form of sanitary engineering. But with the decline of Indus Valley civilisation, the science of sanitary engineering disappeared from India. From then on, the toilets in India remained primitive and open defecation became rampant.

The archaeological excavations confirm existence of sitting type toilets in Egypt (2100 BC) also. Though we have been able to mechanise the working of these toilets, the form and basic format of the toilet system remains the same. In Rome, public bath-cum-toilets were also well-developed. There were holes in the floor and beneath was a flowing water. When the Romans travelled, they constructed the toilets for their use. The pans were key-hole type so that the liquid and solid waste were separated at the origin and disposal became easier. Excavations in Sri Lanka and Thailand too have brought out a contraption in which urine was separated and allowed to flow while the other portion was used at the same time for defecation.

Historical evidence exists that Greeks relieved themselves out of the houses. There was no shyness in use of toilet. It was frequent to see at dinner parties in Rome slaves bringing in urine pots made of silver; while members of the royalty used them but continued the play at the same time. Whatever little information is available about history of toilets in India, it was quite primitive. This practice of covering waste with earth continued till the

Mughal era, where in the forts of Delhi and Agra one can see remnants of such methodologies to dispose of human waste.

Some Toilet-related Eccentricities

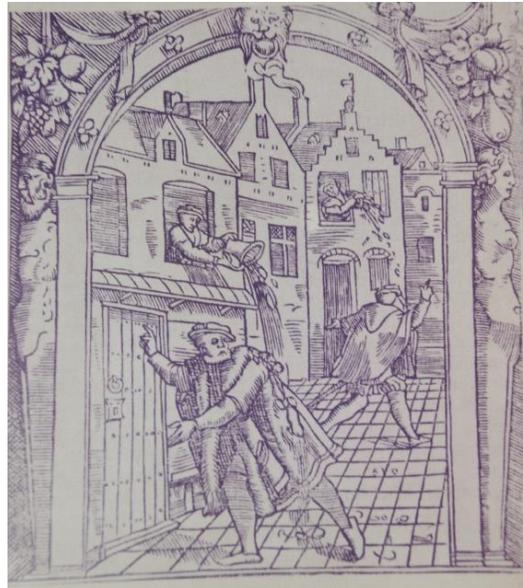
It was also popular in those days to emphasise on the medicinal values of human waste. Urine was supposed to have many therapeutic values. Some quacks even claimed that by study of urine, they could confidently say whether a young girl was virgin or not. Hiroshi Umino (1) reports that a Pharaoh got his eye cured by use of urine of a woman, whom he later married. It was also widely believed that the dung of a donkey mixed with nightsoil removes black pustules or urine of a eunuch can help make women fertile. For oral care it was advised to relieve oneself on one's feet (2) because the 'divine liquid' gives the required cure. (3) In the Indian scriptures there are stories about the strength of wrestlers. If a wrestler defecates too much, he is relatively weak because he cannot digest all what he eats. Similarly, a perfect saint has no need to defecate, for he eats as much as he can digest or he is able to digest all that he eats. (4) So not to defecate was considered saintly while in other societies not to defecate was considered manly. Blown Bettelheim. (5) States that men of Chaga tribe blocked their anus during the ceremony of attaining of manhood and pretended as if they did not defecate at all. This was also one way of establishing superiority over women. The ancient Greeks, it is reported had similar beliefs. Swallowing something and not taking them out was considered as a source of power and authority.

Highlights in the Evolution of Toilet System – 2500 BC to 1990 AD

- BC 2500: In Mohenjo-Daro, there existed highly developed drainage system where waste water from each house flowed into the main drain.
- BC 1000: In the Bahrein Island in the Persian Gulf, flush type toilet was discovered.
- AD 69: Vespasianus, for the first time levied Tax on Toilets/urinals in Rome.
- 1214 AD: Construction for the first time of public toilets manned by scavengers in Europe.
- 1596 AD: John Harrington invents W.C.

- 1668 AD: Edict issued by Police Commissioner Paris, for construction of Toilets in all houses
- 1728 AD: Architect J.F. Brondel argues that attached toilet is ideal
- 1739 AD: First separate toilet for men and women appear at a ball in Paris
- 1824 AD: First Public Toilet in Paris
- 1859 AD: Toilet of Queen Victoria is decorated with gold.
- 1883 AD: First Ceramic Toilet by Thomas Twyford for Queen Victoria.
- 1889 AD: Sewage Treatment for the first time in the world.
- 1959 AD: All surface Toilets abandoned (Paris)
- 1970 AD: Sulabh International is established by Dr. Bindeshwar Pathak, as a non-profit NGO in Bihar, India.
- 1980 AD: Installation of Auto – control Public Toilet.

The period between 500 to 1500 AD was a dark age from the point of view of human hygiene. It was an era of cess pools and human excreta all around. Rich man's houses and forts in India had protrusions in which defecation was done and the excrements fell into the open ground or the moat below. The forts of Jaiselmer in India and big old houses on the banks of rivers bear testimony to this fact. In Europe it was an era of chamber pots, cess pools and close stools. So were the toilets protruding out of the castles and the excrements from which fell into the river or surrounding ditches.



In Middle Ages, people used to throw excreta from their houses on the roads below in Europe

It was also an era of “liberty to pee”. The French poet Claude le Petit described Paris as ‘Ridiculous Paris’ in the following words:

My shoes my stockings, my overcoat My collar, my glove, my hat. Have all been soiled by the same substance

I would mistake myself rubbish

There was lot of jest and humour relating to toilet habits and toilet appurtenances. Ballets were performed with basket of night soil in the form of hood, on the head or a tin plate commode moving around with toilet sounds. The clothes were spotted with accessories from the toilet. The actors were Etronice (night soil) Sultan Prime of Foirince (i.e. diarrhoea) etc. There are stories given by Guerrand 6) which depict the mood of Europe at that time. A lady of noble birth requested a young man to hold has hand. The young man suddenly feels the urge to urinate. Forgetting that he is holding the hand of a lady of noble birth, he relieves himself. At the end he says “excuse me Madam, there was lot of urine in my body and was causing great inconvenience”, Similarly Maid of Honour Anne of Austria owing to excessive laughter, urinated in the bed of the queen. Joseph Pujol (hero extraordinary of French scatology) in his shows demonstrated many types of farts i.e. young girl, mother-in-law, bride. He could even extinguish a candle, 30 centimeters away through his farting.

Poetry on Nightsoil

Irrepressible poets in many countries despite social stigma attached to their professional work were writing poetry on defecation habits, farting and heavenly qualities of night soil. Chirkin in India, Euslog de Beaulieo, Gilles Corrozal and Piron in France, Swift in England were all enjoying themselves at the technological impasse which human beings were faced with in disposing of what they excreted.

Gilles Corrozel for example described the toilet in the following vein i.e.

“Recess of great comfort, whether it is situated in the fields or in the sites, Recess in which no one dare enter, Except for cleaning his stomach, Recess of great dignity”

Or take the erotic French Poet Eustrog de beaulieu and I dare to translate as follows –

“When the cherries become ripe, Many black soils of strange shapes, Will breed for many days and urgent, Then will mature and become products of various colours and breathes”

French Poet Piron called the faeces as 'Royal Nightsoil. Though ostracised by the academic community he wrote as follows:

"What am I seeing oh! God, It is night soil, What a wonderful substance it is It is excreted by the greatest of all Kings, Its odour speaks of majesty"

An English poet called night soil an object of contemplation for the sage. According to him, midwives predicted the future of the child from examining the first excrement. In the province of Punjab in India and before independence grandmothers ate the first excrement of the male child if he was born after a long period of marriage or after number of female births in the family.

The Urdu poet Chirkin in India was not well recognised by his poet fraternity. Out of vengeance and to create embarrassment he wrote on human waste and farting. I venture to share with you the following English version from Urdu, the language in which he wrote.

"The asset which I will earn now, will all be invested in Toilet. This time when I visit your home, I will never 'pee' there."

Public Habits and Attitude

In the absence of proper toilet facilities, people perforce had to defecate and urinate wherever they could. Defecating on the road, open spaces, or just easing themselves in the river was very common.

While the authorities were educating people to have private places for defecating, and getting it cleaned, in actual practice there was total disorder. Squalor and filth abounded in cities. The social reformers advised people where to defecate, how to defecate in privacy and the need to control themselves when in company. Children were taught not to touch human waste. At the same time, there was no hesitation in letting loose pigs to eat human excreta.

Number of enactments, however, could not prevent people to defecate in the open. A delegation led by master weaver protested in front of the French Municipal Building and

said” our fathers have defecated at the place where you prevent us to do. We have defecated here and now our children will defecate there”.

The rich used wool or hemp for ablution while the poor used grass, stone, sand or water depending upon the country and weather conditions or social customs. Use of newspaper was also common. In Russia to the utter dislike of all, the subordinates even stamped the toilet paper with imperial arms for use of the Czar. But in was termed as sacrilege. The final solution to the problem of ablution was found when in 1857, Joseph Cayetty invented the toilet paper in USA. This invention has enabled human beings to have a tissue paper, which is convenient to use, is absorbent, as well as compact and within reach while defecating.

In India, it is very common to use water for ablution. However, the hand one uses varies in various parts of India. While in South India, people use the right hand for eating food, it is considered disgusting to use the same hand for ablution with water. So left hand is used for sanitary purposes. In most parts of the North India, however, no such sharp distinction exists.

Household hygiene habits of ordinary people left much to be desired. The dry latrines using bucket were cleaned by menials. These workers came to be known as ‘Bucket Brigades’.

According to Hiroshi Umino, European culture blossomed forth after contact with Crusaders from the East. Washing hands for example before food also became popular. The social reformers admonished the people by saying “suck your fingers beast, do not wipe them on the wall”. In colonial times in India, the British called big, cities as “vast mass privy” due to defecation by people at all times and at all places. There were also no separate toilets for men and women, till a restaurant in Paris put up separate ‘Men Toilet’ and ‘Women Toilet’ at a dance party in 1739 AD.

It is also around this time that the urinal pot was introduced to enable men to relieve themselves. The facilities for women were meagre and they were taught virtues of control. Despite technological breakthrough, a lot needed to be accomplished to educate people

to use the new technology appropriately, to ensure that the toilet drainage system is not misused by disposal of other household wastes. However, at city level the disposal of human waste still remained a problem.

Public Toilets and People

In each society from time to time the government felt the need to provide public toilet facilities to those who could not afford to have individual toilets. The public toilets have a long history in number of countries and most of which were constructed and managed by municipalities. But there was all around disgust with their poor maintenance, vandalism and lack of basic facilities. The Mughal King Jehangir built a public toilet at Alwar, 120 kms away from Delhi for use of 100 families at a time in 1556 AD. Not much documentary evidence exists on the quality of its maintenance but one can well visualise that with rudimentary technology and with government to manage the O&M functions, it like others must be in very unsatisfactory condition. As hygienic conditions in public toilets were bad, people preferred to do open defecation. This was true in most of the countries. It was in 1872 that the municipalities in France asked the private companies to manage public toilets for a lease period of 20 years. The private companies were also offering even amounts to government as they felt confident to recover the same through user charges. Ground floor owners were also being requested to construct latrines for use of the passersby. Previously known as Palais Royal Hotel in Paris, the owners started charging monthly fee from diners. Incidentally condoms were also sold there as part of the facilities.

In India, when I founded Sulabh International in 1970 in a small village in Patna, people laughed at me when I proposed to introduce the pay-and-use toilets. But my approach has succeeded and today 10.5 million people use Sulabh facilities every day. Most of the public toilets are being given to us to construct and maintain on a 30 years lease period at no charge to the State. At the beginning of the century, most of the public toilets had gone underground in Europe, but in India these are still overground. Much more attention is being given to construct these toilets on pay and use basis in slum areas where men pay one rupee per use, the females and children avail of these facilities free. The facilities available include toilet, bathing or washing of clothes and to change clothes. We are also

setting up primary health care centre at these places. However, a lot of effort is required to get people's participation in efficient operation and maintenance of public toilets. This remains a big challenge to be met by NGOs. Based on my experience of the last over 40 years, I am also convinced that only cooperation between Government and NGOs can make the sanitation programme a success. Neither the NGOs nor the government can create an impact if they work in isolation.

Law and Citizens

In order to improve sanitary conditions, Governments in various countries also resorted to legal measures. Dirt, by definition, was considered as disorder, because it disrupts order of maintaining the environment.

In 1519 the provincial government of Normandy in France made provision of toilets compulsory in each house. The French government also passed a parliamentary decree to make cesspools in each house compulsory. Again a similar attempt was made in 1539. In Bordeaux in France, the government made construction of cesspools compulsory. It was tried again in 1668 when the Lieutenant of Police made construction of toilets compulsory. In England the first sanitation law was passed in 1848. In India the first sanitation bill was introduced in 1878. It tried to make construction of toilets compulsory even in huts of Calcutta – the capital of India at that time. The Bill even proposed construction of public toilets at the cost of neighbouring houses. The government of India enacted another Sanitation Act in 1993. Under this Act construction of dry latrine and its manual cleaning was made an offence. But despite these enactments, open defecation is rampant, proving that unless adequate social awareness is created in a developing country, where instruments of state are weak and family income is low, it is a hard task to make significant progress in this area.

Toilet Technologies

Eighteenth century was a century of toilets. Despite invention of water closet by John Harington in 1596 which was costing only 6 shillings and 8 pence, this was not adopted on a large-scale for almost 179 years. The delays in actual use of invention is common in

human history which Toffler calls as “Cultural Gap”. It was true for railway train, ball point pen and innumerable other inventions. During this period people used earth closet. In these toilets (11) instead of water, loose earth was used. So the problem of cleaning remained. The world also saw development of Pan closets – which like cigarette ash tray through the material at the bottom. This too required manual cleaning. At the same time chamber pots, close stools and open defecation continued. In comparison to this, Harington’s toilet under the name of Angrez was being used in France, though not introduced on a large-scale in England. In 1738 JF Brondel introduced the valve type flush toilet. Alexander Cummings further improved the technology and gave a better device in 1775. In Cumming’s design water was perennially there in the toilet so it suppressed odours. Still the working of the valve and fool-proof inlet of water needed further improvements. In 1777; Joseph Prosser provided the required improvement. Then Joseph Bramah in 1778, substituted the slide valve with crank valve, It seemed then that the technology of pour-flush was now perfected. No the world was yet to witness further technological developments. In 1870, SS Hellyer invented the flush type toilet, called optimis – an improvement over Blumer’s design.

From 1880 onwards, however, the emphasis has been more on aesthetics to make cisterns and bowls decorative. The bowls were so colourful that some suggested to use these as soup bowls. It was in 1880 that the toilet curtains made their appearance. The trend was called the age of “Bellepoque” in France and Edwardian (opulence) in England. During 1890 we had the first cantilever type of toilet. Since then the world has not witnessed any significant technical change except some change in shape of toilets and reduction in quantity of water per use.

It was around 1900 that the institution of bathroom came in vogue in Europe. In India the institution of Gushalkhana (bathroom) was established by the Mughal Kings in 1556. Oppressed by the heat and dust of India, the Kings constructed luxurious bathing and massage facilities. But this was only for the rich. The ordinary citizens, however, lived in insanitary conditions.

In the past latrines were tucked away in attics to keep it away from nose and eye of the family and the society. In contrast the twentieth century has given a pride of place to toilet in the home-rather these are more opulent, more spacious than anytime in the past. While the provision of toilet in the house solved household problem of cleanliness but the challenge remained as to how to dispose of human waste at city level. This was also solved when the sewer system was introduced. Haussmann in 1858, describes beautifully the sewerage system. He said that “the underground galleries which are the organs of the big city will work in the same way as organs of the body, without being revealed”. (12) Around the same time the sewerage system was introduced at Calcutta – capital of colonial India. However, its extension in the country was and remains slow as it is capital-intensive and beyond the resource capacity of the economy even today.

In 1970, realising that sewerage facilities will remain out of the reach of the society at large, Sulabh International introduced a pioneer technology twin-pit pour-flush latrines and human excreta based Biogas plants. We have constructed in the last 40 years over 1.3 million toilet cum bath complexes and 190 human excreta based biogas plants and are maintaining them. I believe this gives an appropriate solution to dispose of and recycle human waste into fertiliser, electricity and working gas.

Summing up

One of the many Sulabh Public Toilets spread all over India

As sewer based toilet remains and will remain out of the reach of the majority of population in India, the challenge is to propagate and ensure installation of toilets which are affordable, upgradable and easy to maintain. The Sulabh experiment is a success story and the technology is well established and has been successfully functioning for the last 40 years and is financially sustainable. At household level, TPPF latrine based on Sulabh Model has also been a success and is in use in 1.3 million households. It is however, now necessary in India to replicate it on a mass scale with public pay and use toilets with Biogas plants at neighbourhood level and Sulabh TPPF latrine at household level.

Though the challenge to provide toilet facilities has been totally overcome in rich countries, it has still to be met in developing countries like India. The journey of toilet has ended in Europe and North America but continues in the developing countries.

- *Hiroshi Umino “Another Room – Hidden History of Toilets”. (Title translated from Japanese)*
- *Another Room ibid*
- *Roger Henri Guerrand, History of Toilets (Title translated in English)*
- *Bettelhum, Scars of sex.’ Quoted by Hiroshi Umino in op. Cit.*
- *Roger Henri Guerrand, ibid*
- *Roger Henri Guerrand, ibid*
- *Translated in English from the original French*
- *Roger Henri Guerrand, Ibid*
- *Translated in English from the original French*
- *Diwan-e-Chirkin, 1970, India*
- *Mary Douglas, Dirt and Taboo.*
- *John Seamore, Forgotten Domestic Techniques – Portrait of our Ancient life, 1987.*