TURNING THE POT, TILLING THE LAND

DIGNITY OF LABOUR IN OUR TIMES

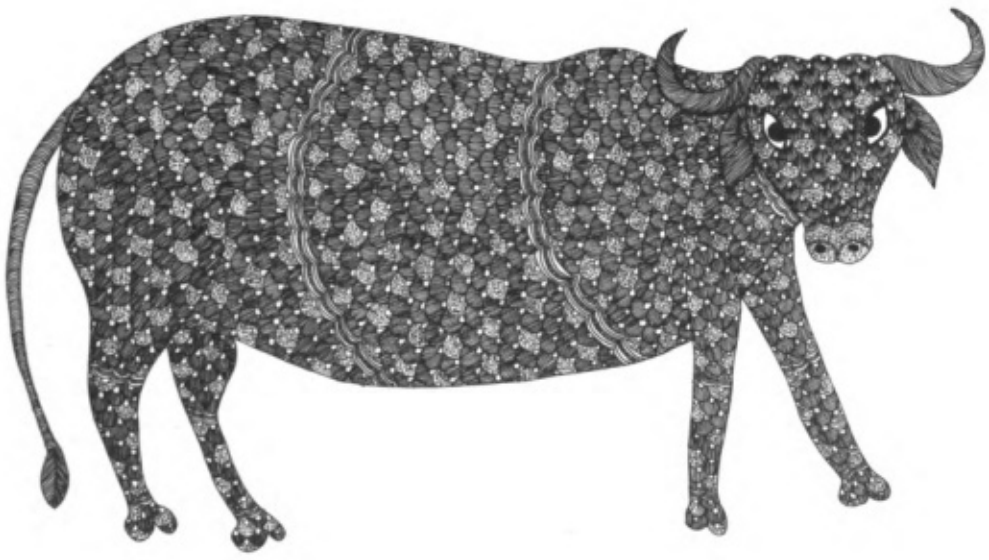
KANCHA ILAIA

TRANSLATIONS: DURGABAI

Kancha Ilaiah is the author of *God as Political Philosopher: Buddha's Challenge to Brahminism*, among other books. He is professor of political science at Osmania University, Hyderabad.

Durgabai Vyam is an artist who lives in Bhopal. She says, "I have no training, just a madness to paint."

To all those children in India and the world
who labour to produce food and other commodities
without access to reading and writing



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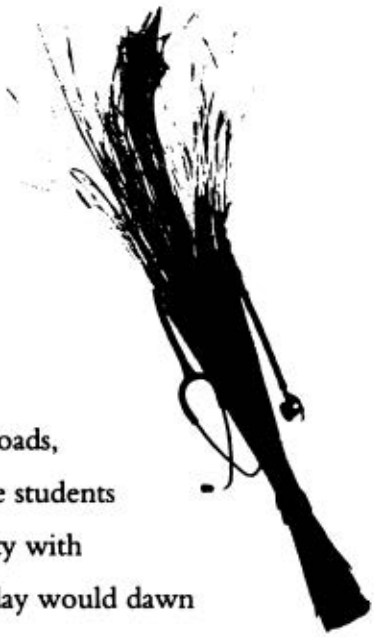
Teaching Dignity of Labour in Our Times

In March 2006, when the Union government announced 27 percent reservation in central educational institutions for communities designated as Other Backward Classes, the privileged castes and the media reacted as if the OBCs were essentially a stupid people who were trying to become doctors, engineers and managers along with 'their own youth'. A particular aspect of the anti-reservation stir shocked me most. It ought to have shocked the entire nation.

Students belonging to privileged castes who were studying medicine in central institutions, engineering in Indian Institutes of Technology and management courses in Indian Institutes of Management staged rallies and sat on dharnas. This in itself was not a problem. What was strange and disturbing was that they began sweeping roads, polishing shoes and selling vegetables as a form of protest. They did this in these globalised times. Of course, they did not *make* shoes, they did not *make* pots on the roads, or put together brooms. They are incapable of making shoes, pots or brooms. Neither did they remove the carcasses of the cattle that might have died in Delhi during that period. Since Delhi has many cows, buffaloes, goats and pigs, certainly some of them must have died during the time of the anti-reservation agitation. The protesting students could have removed these carcasses as well. But they did not do so. The symbolic protests also did not



take the shape of tilling the land on the outskirts of Delhi—in Haryana or Uttar Pradesh. Had they indeed attempted such an act, the agitating students would have failed. Not one of them could have handled a plough. They have never interacted with such a mode of science.

By resorting to the tokenist work of appearing to sweep roads, appearing to polish shoes and appearing to sell vegetables, the students were demonstrating the fact that they did not associate dignity with labour. They seemed to be driven merely by the fear that a day would dawn when they would be required to sweep roads, hone shoes, turn pots and graze cattle. They would be forced to perform labours that they deeply resented.

A mode of protest, where the basic productive occupations are despised and humiliated, would not be witnessed in a truly democratic society. This happens in India because our children have never been taught to regard labour with dignity. There are no textbooks in the curriculum, or books outside it, that deal with the issue of dignity of labour.

Our society suffers from lack of dignity of labour because in the framework of the caste system any process that involves labour is projected as undignified. This is reflected in the Indian education system as well. As Dr B.R. Ambedkar had said, the caste system is not just a division of labour, but a division of labourers. The caste hierarchy draws a clear line between physical and mental labour. Unfortunately, this thinking continues to shape the curriculum of modern school education as well.

The more Indian children move into higher education, the more they develop an antipathy towards basic, productive labour processes. Every school-going child's attitude at home towards everyday domestic work (sweeping and swabbing the house, cleaning the dishes, disposing garbage and washing clothes) is negative. Such tasks are either seen as a mother's job; or, if the family can afford it, as the job of a domestic help who invariably is a woman of a subordinated caste. Any woman who does domestic labour is also assigned the status of a 'lower caste' labourer (of a potter, barber, leatherworker or farmer) in our society . Such work bestows neither dignity nor a respectable wage. Thus, indignity of labour is both caste based and gender based. These ideas get indoctrinated at home, at school and through our cultural and social value systems inherited over centuries.

If we have to rectify the situation, the question of dignity of labour needs to be addressed in the school curriculum and within the home. A first step is to develop the basic textual material that can be used by young students (classes 7 to 10), teachers and parents. This book is such an attempt. It discusses the relationship between dignity of labour and the historical development of basic science by the productive communities of India. These communities were slotted into castes and their labours were treated as lowly and undignified.

Of the eleven lessons in this book, eight deal with the science, art and skills of adivasis, cattle-rearers, leatherworkers, potters, farmers, weavers, dhobis and barbers. The development of each science is traced historically and placed in a universal context. Three lessons outline a general theory of dignity of labour in relation to life, gender and religion. I hope this book contributes towards inculcating dignity of labour and in building a rational, scientific, democratic India.

Kancha Ilaiah
Hyderabad

1 ADIVASIS

our first teachers, who identified the roots,
fruits and meats we eat today

How did India evolve its food culture? Over thousands of years, the habit of eating different roots, tubers, leaves, fruits and meats has sustained human life. Who introduced these food items that we continue to eat today? Who decided what was edible and what was poisonous? It was the adivasis who first discovered, selected and standardised most of the food items we eat today. The adivasis are the earliest people to have inhabited this land. Spread across the Indian subcontinent, they have traditionally lived far from the plains, mostly inhabiting hills, forests and dry plateau regions. They were wrongly labeled as 'tribals' by the British, and as 'vanavasis' and 'girijans' by some people living in the plains.

There are many fruits eaten by adivasi communities we will probably never eat in our lifetime. For instance, in Andhra Pradesh, adivasi communities such as the gonds and the koyas use the *tuniki* fruit and *elleru* root as a perennial food resource about which many people living in the plains do not know.

The adivasis introduced most of the basic food items to the plainspeople. Not curd-rice or pizza, but pineapple, jackfruit, mango, melons, custard apple (*sitaphal*), various types of bananas and scores of fruits were first discovered by the adivasis. They also discovered the sourness of wild lemons and used them as an additive to food. They were the first to gather wild honey that has medicinal properties. Most vegetables, fruits and flowers we cultivate today have their origins among the adivasis. They are, therefore, our first teachers. Given their close proximity to the forests – which many adivasi communities worship as sacred groves – they learnt how to dig edible roots and tubers. They ate some raw, they roasted some, and they boiled some. All roots do not have the same taste. They also do not have the

same nutritional value. In some cases, the fruit may be nutritional but not the leaves. For instance, while tomatoes are edible, the leaves of the plant are toxic. Similarly, there are flowers that are edible and have curative properties. The adivasis adopted useful food items and rejected the harmful ones through trial and error, over thousands of years, . They were thus responsible for deciding the taste factor in our food culture.

The meat we eat

Most Indians are meatarians; only some sections are vegetarians. According to an all-India survey conducted in August 2006 by the Centre for the Study of Developing Societies, New Delhi, 60 percent of Indians eat meat. Meat is the most preferred food all over the world. For the primitive human being, hunting animals for food was necessary. The ancestors of today's adivasis had to decide which animal's flesh was suitable for human consumption and which was not. By narrowing the choice to birds and animals whose meat is palatable, they developed our meat food culture. The meat of pig, fowl (from which comes chicken), fish and cattle that human beings eat all over the world today, were first discovered by the adivasis. The adivasis continue to add to our meat menu.

The digging of roots and the collection of fruits at the right time, and the hunting of meat-yielding animals are the natural processes of food gathering. The human race has survived primarily because we have eaten the right kind of food items over millennia. The roots we eat today need to be dug from the soil; the fruits we eat need to be plucked from the trees; the meats we eat are from animals and birds. If the adivasis had not performed these laborious tasks, the human race would not have survived.

There are people who condemn the adivasis as crude, uncivilised, tribal people. This is an inhuman way of treating fellow human beings who gave us our basic food culture. While some adivasis have acquired modern education and adapted to modern life, most adivasis continue to live in the forest and hills.

Having risked their limbs and lives in order to develop our basic food culture, the adivasis shared such knowledge with others. They also orally passed this knowledge from generation to generation, through songs and stories. Several medicinal plants used in ayurveda and siddha were originally identified by adivasis. The adivasis were also the first to discover the gums, resins and dyes that are commercially produced today. We not only have to respect adivasis, but we also have much to learn from them. Society owes a historical debt to them, and they must be given preference in education and modern employment.

Officially, India has 624 adivasi communities. They constitute 8 percent of India's population. Some notable adivasi communities are the bhil, koya, gond, oraon, munda, ho, santhal, korku, toda, jarawa and irula. The illustrations for this book you are reading have been done by a gond artist. Adivasi heroes like Birsa Munda, Khazya Naik, Komuram Bhim and Tantya Bhil are remembered in adivasi songs and legends, but forgotten in school textbooks.

Did You Know?

The adivasis use around 10,000 plant species—approximately 8000 species are used for medicinal purpose; 325 are used as pesticides; 425 as gums, resins and dyes; 550 as fibres; 3,500 are edible.

"He [an adivasi from Gujarat] **was making me a list of the fruit he used to pick in the forest. He counted 48 kinds. He told me that he didn't think he or his children would ever be able to afford to eat any fruit again."**

ARUNDHATI ROY, in her essay 'The Greater Common Good' (1999) on an adivasi displaced by the Sardar Sarovar Project in the Narmada valley.

fruit that turned our tongues blood-red

C.K. Janu

when young all of us children would go to the ridges of the fields to pick *chappa*. or to the little stream to catch fish. or else to lure out crabs hiding in the slush of the fields. or to graze the *jenmi*'s cattle. or to roam aimlessly in the woods. or to pluck wild fruits like *karappayam*, *mothangappayam* or *kanjippayam*. *kanjippayam* was plentiful. when eaten it turned our tongues blood-red. or we would look for honey in the tall trees. or gather reeds to make bundles of them. in the bamboo groves we would look for the footprints of elephants. would drink deep from the waterholes. or relax just slipping our feet into the cool water. would dig into rocky fissures looking for water. or bring home pieces of cane. in the forest one never knew what hunger was. we would dig up wild tubers and eat them. once we started digging for the roots we kept digging till we got to them. sometimes for a whole day.

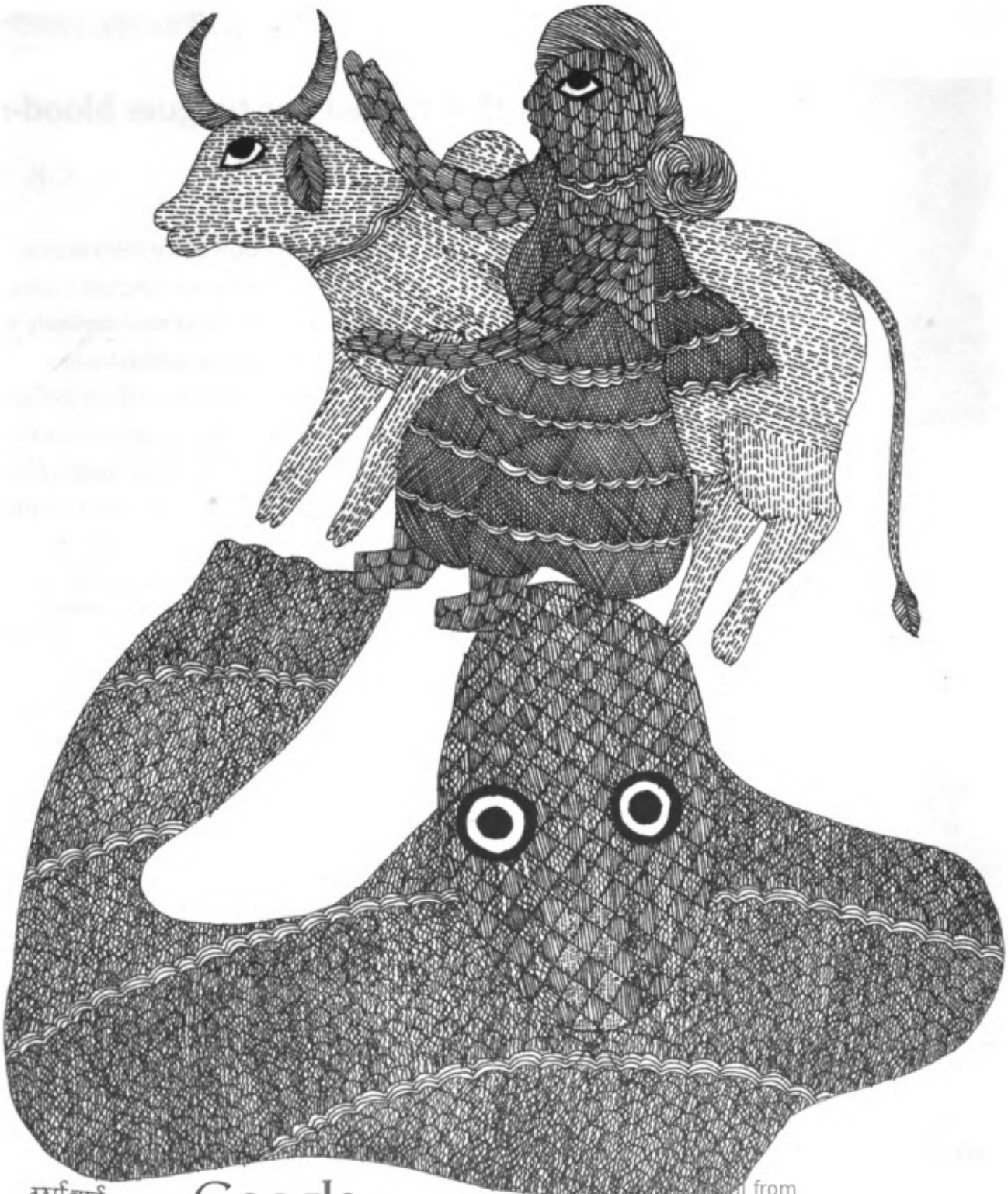
Born in the adiyar community, Janu is an adivasi leader from Wayanad, Kerala

Who was Birsa Munda? Born in 1872 in Bamba village in today's Jharkhand state, he led armed struggles against the British to establish Munda Raj. Birsa and his followers staged the *ulgulan* (uprising) on 24 December 1899. He died in 1900, perhaps poisoned by British prison authorities. Find about more about Birsa Munda and write a one-page essay.

Try These!

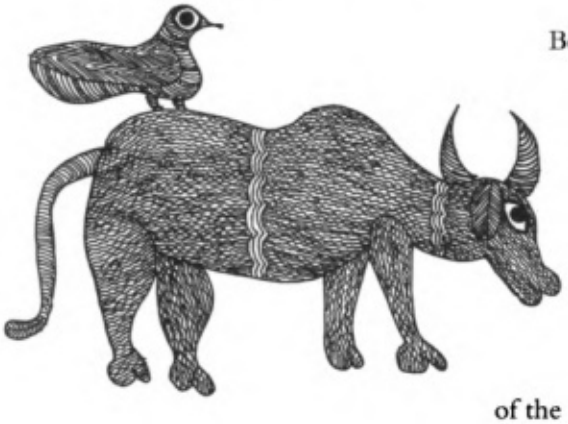
What do you know about C.K. Janu, the adivasi leader from Kerala? Do some research about Janu, her movement, and the ongoing adivasi struggle in Kerala.

Enquire about the chicken you buy in the neighbourhood store, the country chicken found in villages and the jungle fowl found in forests. Find out how and why they are different.



2 CATTLE-REARERS

who nurture cattle to provide us milk, curd, butter and ghee;
who drive the meat and dairy economy



Before the development of agriculture, our economy depended on domesticated cattle: cows, bulls, buffaloes, sheep, pigs and goats. These animals were our main food resource. The people who looked after sheep, goats and cattle are generally known as herders. While bulls are essential for agricultural activities, buffaloes and cows are basically milch animals that are also used for agricultural work. Several communities in India eat the flesh of these cattle, called beef. (In Kerala, 72 percent of the population consumes beef.) The skin of cattle is the main source of leather. The bones of cattle are used for making combs and other items. The dung is used as manure and as a source of fuel.

Sheep and goats are our main source of meat. Sheep also yields wool. The sheep-rearer shears the wool carefully with special scissors without hurting the skin of the sheep. Blankets and other accessories are made out of wool. Woollen clothes protect people from cold. The communities that took care of sheep, goats and cattle helped our economy by developing dairy products, meat and wool.

Shepherd as role model

The shepherd's profession is noble. In Christianity, Jesus Christ is called a shepherd. You may notice that most cities in India are likely to have a convent school called 'Good Shepherd'. In Islam, Prophet Muhammed, though born in a trading family, worked as a shepherd. In many societies the shepherd emerged as a role model. He was even seen as god. That is because the shepherd is seen as a caregiver to his flock, someone who guides the flock in the right path. Shepherds, cowherds and goatherds take care of animals like a parent attends to a child's needs. Every day, the herders graze cattle. They ensure that the pregnant ones are better fed. At the time of delivery, a herder does the work of a midwife and cleans the newborn calf.

Herders help their flock forage for the right kind of grass, leaves and fodder. They also build sheds for the protection of cows, buffaloes, sheep and goats.The herders are the progenitors of the science of animal husbandry.

Animal husbandry is the practice of breeding and raising livestock. The herding communities of India also knew how to treat the diseases that afflicted their flock. Much before the advent of the modern veterinary science, the cattle-grazers prepared herbal medicines and native cures. While grazing cattle, snakebite is a common problem. The grazers know the herbal remedy for the poison. They also know how to set right fractures in animals. They use a hot iron at the right points to cure nervous disorders among cattle. The herders know which swamps to avoid and which routes are dangerous while grazing.

A human society's culture is informed by the relationship of human beings with the animals around them. Human culture is shaped not only through social interaction with other human beings; animals contribute to our cultural growth. Many human instincts

Did You Know?

World milk production is estimated at 650 million tonnes for 2006. India ranks first in the world in terms of milk production with a total of 96.1 million tonnes for 2005–06. India is home to 53 percent of the world's buffalo population.

have evolved from animal instincts as a result of sustained interaction between humans and animals. The herding community forms an important link in these interactions.

The love and affection that herders have for the animals under their care is unique. The husbanding of animals is not like a hobby that some city-based 'animal rights' groups and activists have. The urban advocates of 'animal rights' do not touch and cure diseased animals. The herders, who have an organic relationship with animals, tend to the intimate problems of their animals on a day-to-day basis. It is not the same as having a pet dog or a cat. For the herders, caring for animals is a lifetime job involving all kinds of hardship.

Social position

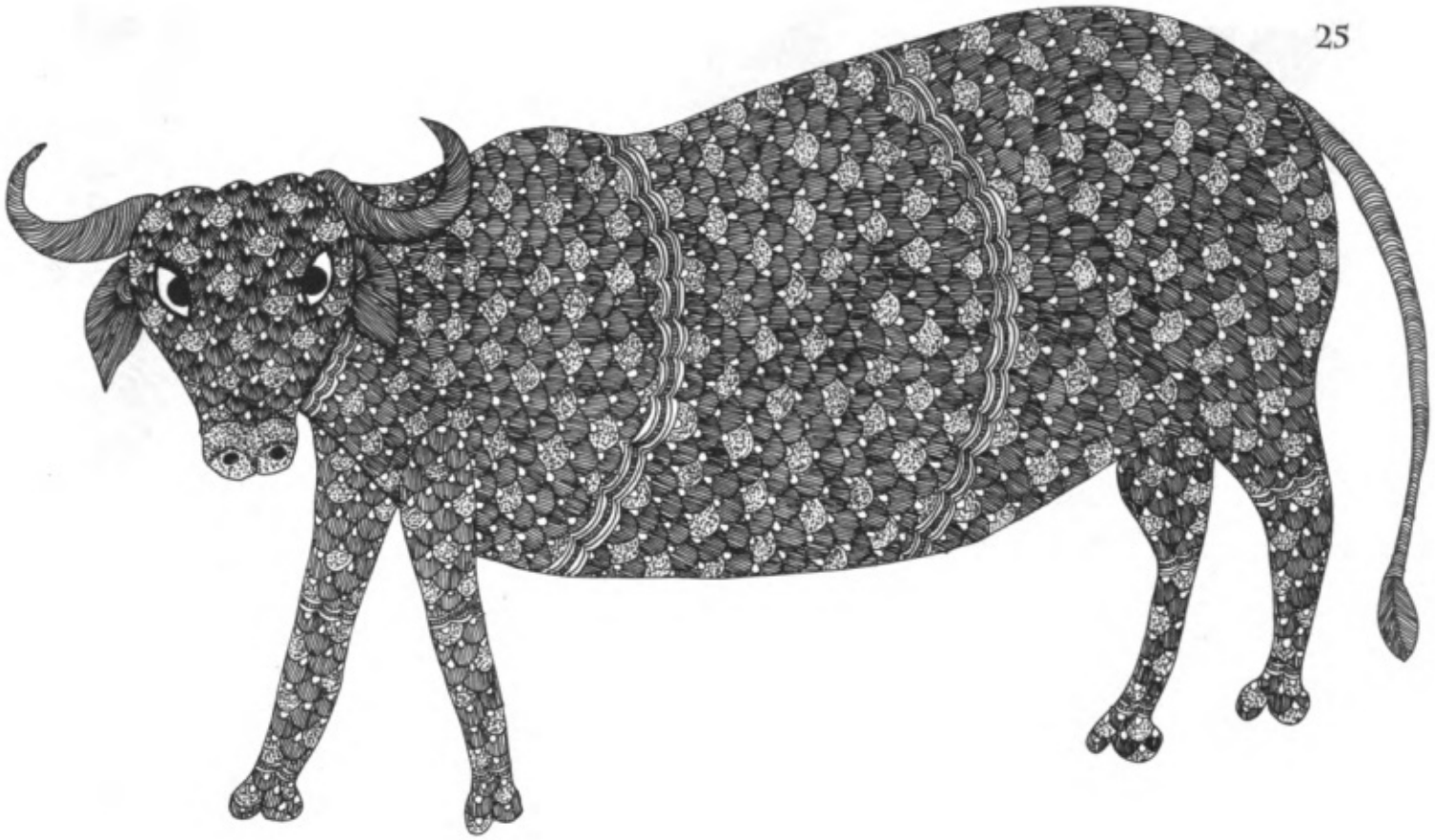
The herders are responsible for our well developed meat and milk economy. However, herding came to be regarded as a lowly, unclean profession following the establishment of the caste system. The herders are known by different caste names in different parts of India: golla and golla-kuruma in Telugu, konar in Tamil, kuruba in Kannada, and yadav in large parts of north India. Those belonging to the herder community were not considered respectable. Such attitudes have persisted despite there having been several dynasties in India's medieval history belonging to the shepherd community, such as the Hoysala and Vijayanagara kings.

In mythology, Krishna appears as a yadava prince. In stories and legends he figures as a god who grazed cattle as he played the flute. Yet, the knowledge and skills of the communities that nurtured cattle and contributed to the economy were not respected. They were ridiculed for their association with animals. Even today, a politician like Lalu Prasad Yadav, who hails from a herding community, is caricatured for his association with buffaloes. However, several politicians who participate in *yagnas* (fire sacrifices) or fall at the feet of swamis (god-men) are not subjected to ridicule.

Women in several communities do not work outside the household. However, shepherd women take active part in the dairy economy. It was the women who perfected the art of milking, boiling milk, and converting milk into curd, *panneer* and *khova*. They realised that butter could be made out of curd, and out of butter, ghee. Shepherd women thus started the early dairy industry. They also played a role in developing various woollen products and in nursing the cattle. Certain communities enjoyed the benefits of milk, curd, butter and ghee but treated the makers of these products as unworthy people. This persistent negative mindset has affected the advancement of the meat and milk economy in India and also the emergence of the gollas, yadavs, kurubas and konars in the modern world.

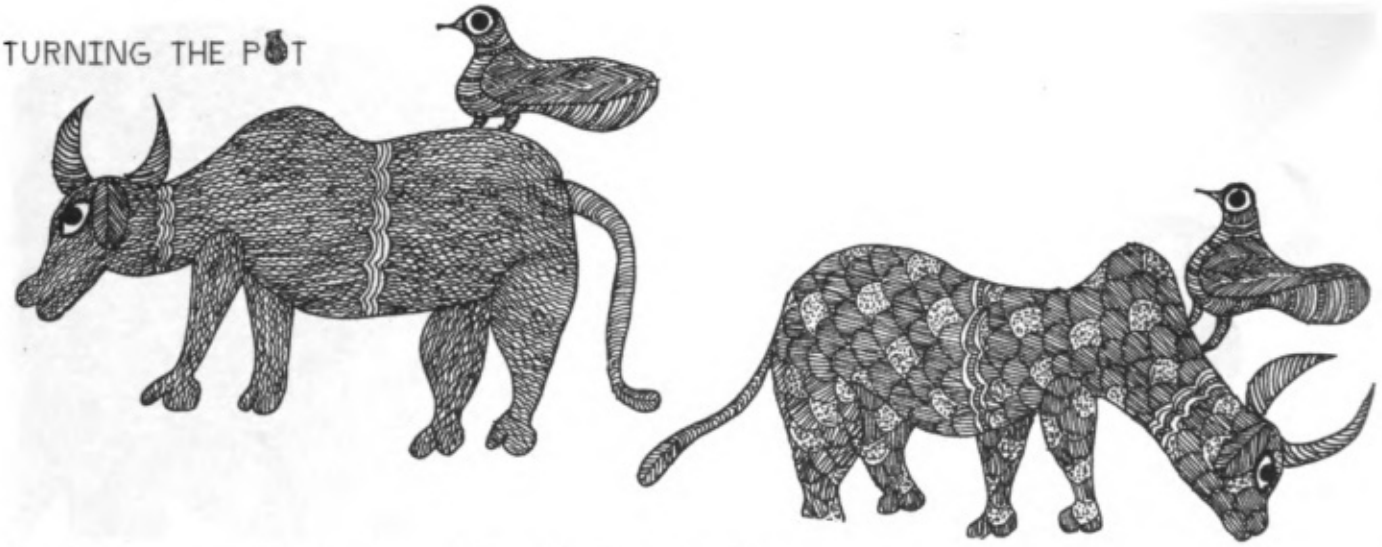
The buffalo in India

The herders in the Indian subcontinent domesticated water-buffaloes as early as 6000 BCE (Before Common Era). In fact, buffaloes appear on the seals of the Indus Valley civilisation (3000 to 1700 BCE). Today, the buffalo has become the main source of milk, curd, butter, cheese and ghee. Some people even worship the cow, but they condemn the buffalo. There is no scientific reason behind this attitude. They condemn the buffalo because it is black and in mythology it has been termed a vehicle of death. Such superstitious attitudes must be abandoned. No colour is sacred and no colour is devilish. After all, the black buffalo and a brown or white cow both give milk of the same colour. Colours are determined by nature and all colours have their uses. The herders care for and love the black sheep and the white sheep, as much as they care for and love the black goat and the black buffalo. They nurse them, graze them and take milk from them for human use. If you observe the buffalo's skin closely, you will notice that it is smooth and shiny. Why do people consider black hair beautiful, but not the black buffalo?



Animals have different colours and different shapes. We must not disrespect animals based on their colour. Similarly, people must be respected because of their work and their contribution to the overall good of society.

India remains a scientifically backward country because most Indians believe in superstitions. Our society has constructed many myths and superstitions around human beings, colours, animals and so on. The herding communities never entertained such superstitious values in their relationship with animals. We have a lot to learn from the herders.



Buffalo vs Cow

India's dairy economy is better sustained by buffaloes. 57% of the milk production comes from buffaloes and 43% from cows. There is little difference in the nutritive value and digestibility of milk and milk products obtained from cow and buffalo. The cholesterol content of buffalo milk is 0.65 mg/g compared to 3.14 mg/g for cow milk. The **Protein Efficiency Ratio** (PER) value of buffalo milk proteins is 2.74 and that of cow milk as 2.49. Buffalo milk has 11.42 percent higher protein than cow milk. Buffalo milk is also superior in terms of important minerals. **Calcium, iron** and **phosphorus** are higher in buffalo milk by 92 percent, 37.7 percent and 118 percent respectively than in cow milk.

Buffalo milk is **commercially more viable than cow milk** for the manufacture of fat-based and SNF-based milk products, such as butter, ghee and milk powders because of its lower water content and higher fat content. In fact, the **lower cholesterol value** should make it more popular in the health-conscious market. By virtue of greater opacity of casein miscelles, coupled with higher levels of colloidal proteins, calcium and phosphorus, buffalo milk is **more densely white** and has superior whitening properties compared to cow milk.

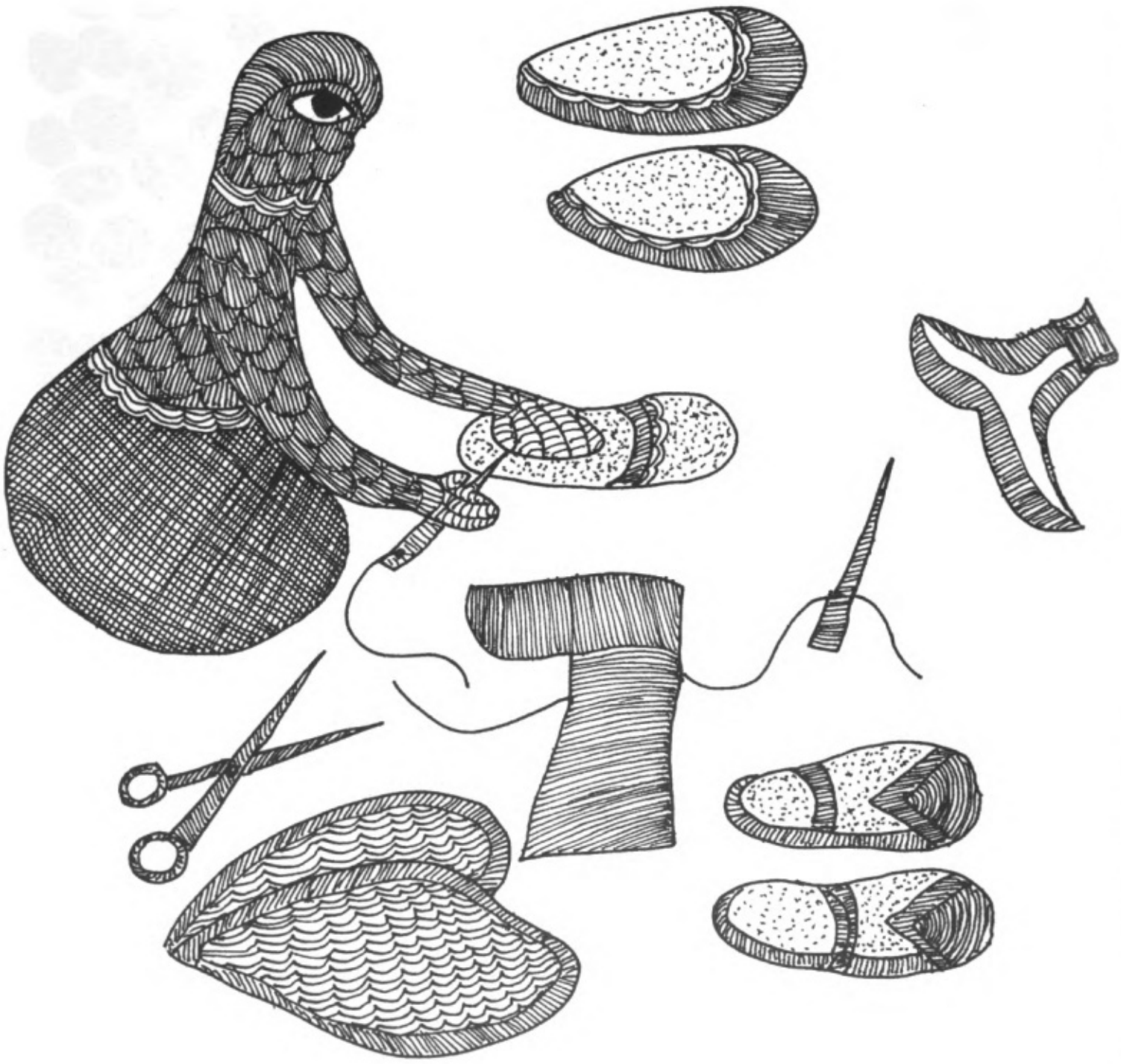
source: www.indiandairy.com

What is **SNF** in milk? **S**olids **N**on-**F**at. These are the proteins, minerals and other ingredients in milk when water and fat are removed.

Manure from Waste

Try This!

Composting is the process of converting animal dung into manure. This can be done by treating dung in a pit. Free of pesticides, this manure is best for improving the productivity of soil. Farm workers and herders do not hesitate to lift dung and place it in a pit. Flat, dried cakes of dung are a common source of fuel in rural India. The simple eco-friendly science of generating energy from animal waste has not been given due recognition. Instead people involved with these tasks are looked down upon. Today, in cities and towns, you can produce manure in every home and apartment. You could do this by ensuring that biodegradable garbage is segregated and composted in a pit. Not only will this help recycle waste, the organic manure can be used in gardens and potted plants. It could even be sold.



3 LEATHERWORKERS

who evolved the science of tanning
and developed the leather industry

When human beings began to lead a settled life, cattle and birds became part of their lives. Just as human beings take birth, grow and die, animals too take birth, grow and die. While the thin human skin does not have any use after a person dies, the thick animal skin has found various uses. Humans, over millennia, have learnt to convert animal hides and skins into several useful leather products. Leather, simply, is preserved animal skin. The process of preserving animal skin is known as tanning. Tanning is the oldest craft known to human beings.

In the first lesson, we saw how the ancestors of adivasis hunted animals and decided which meat could be consumed by humans. To make food production economical, it is important to use all the possible by-products. Eventually, humans discovered ways of using the skin of the animals they hunted. Tanned hides came to be used to protect one's feet, to hone agricultural implements, to make slingshots, and to keep people warm in winter and cool in summer. Other crafts such as pottery, smithy, spinning and weaving evolved much later.

The earliest industry to be established in the Indian subcontinent was the leather industry. An industry is that which transforms what seems like a valueless item into a commodity that can be used by all.

The science of leatherwork

How is leather made? First, the skin of dead cattle – cow, buffalo, pig, goat, sheep, camel – needs to be peeled. After that, the bodies of cattle – carcasses – need to be buried in order to protect villages, towns and cities from deadly diseases like cholera, diarrhoea and other epidemics.

Skinning the animal without causing any holes in the hide requires expertise. The precise handling of the knife demands good hand-and-eye coordination. In the process, the leatherworkers also gained a sound knowledge of the anatomy of the animals. This technique was perfected and passed on over generations. The teaching was both theoretical and practical. The communities involved in leatherwork have different names in various parts of the country—madigas in Andhra Pradesh, arundhatiyars in Tamil Nadu, chamars or chambars in Uttar Pradesh, Punjab and several central north Indian states.

The role of salt in keeping the wet skin from rotting was discovered by the madigas/chamars several centuries ago. This process, called 'curing', continues to be used in the madiga/chamar settlements in villages. Before the skins and hides reach

The *tangedu* bark used by the madigas of Andhra Pradesh is called *tarwar* in Marathi and Hindi, *avaram* in Tamil, *avarikke* in Kannada. Its popular trade name is tanner's cassia and botanical name is *Cassia auriculata*.

the modern tanning industries, they are cured using salt. While present-day industrial tanneries use several chemicals that cause heavy pollution, the natural tanning processes in the madiga-*wadas* are largely eco-friendly.

The salted skin is dipped into the powdered mixture of the bark of the *tangedu* plant (*Cassia auriculata*). The leatherworkers of India discovered that 'tannin' (or tannic acid) of the tangedu bark could be used to convert raw skins into leather. This process lasts about fifteen days. The tanners taste the sourness of the water every day. With each passing day, the skin absorbs some of the chemical content of the tangedu water and begins to stretch and stiffen into leather. This treated skin is then put into a tub of lime. After a week, it transforms into leather. The entire process is known as *lande* in Telugu. The leather is then washed clean in a stream or a pond. These four stages – curing, treating in tangedu water, soaking in lime and washing – constitute the natural process of converting skins and hides into leather. To give a finishing touch to the product, the madiga leatherworkers use the dried and powdered fibre of a fruit called *karukkaya*. This fibre is boiled in castor oil. On cooling, this solution is systematically applied to the leather to give it a polished, smooth look.

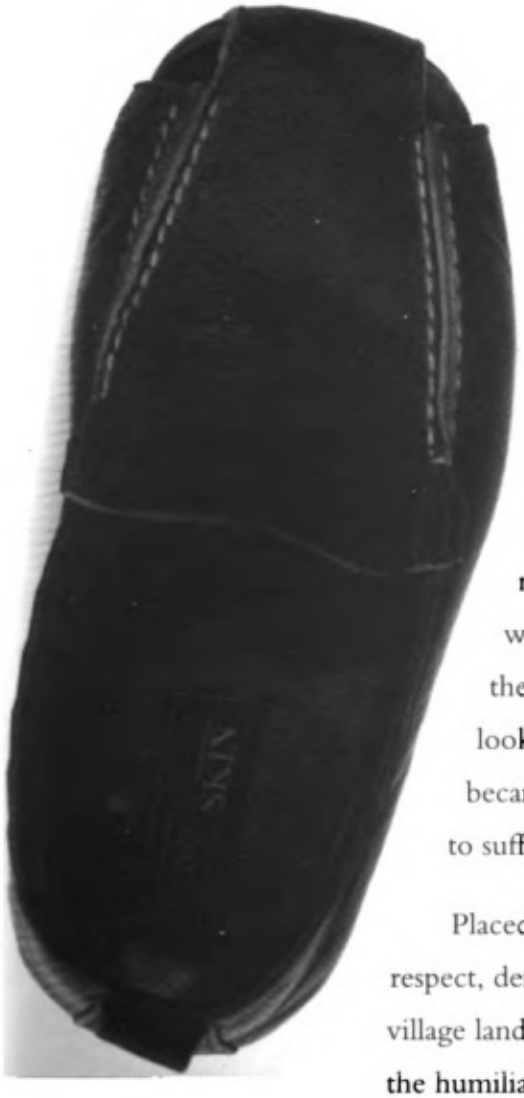
Leatherworkers then transform this leather into shoes, sandals, ropes, bags and belts, and even musical instruments such as *dappu*, *tabla* or *mridangam* with great skill. Leather footwear not only protected the feet, but also empowered humans to cultivate the land. It helped humans in their struggle with nature. Using shoes and

sandals, forests were cleared. With the support of leather ropes, our farmers converted lands from barren to productive. The leather industry is therefore the parent industry that spawned various other industries.

Social position

If we understand science as knowledge or trained skill attained by verifiable means – that is, through observation, identification, description, experimental investigation, and theoretical explanation of natural phenomena – what the madigas/chamars achieved was indeed science. Their achievement had a larger social value. The mantras, hymns and sacred chants found in religious texts dealt with supernatural phenomenon. They were not scientific. They were in fact unproductive. However, these religious texts had the power to decide that the leatherworkers were untouchable. In other societies, leatherworkers formed guilds and thrived. They were never treated as untouchable.

Across the world people working with the tanning and leather industry were respected as the progenitors of science. Peter Paul Rubens (1577–1640), the Flemish Renaissance painter, was an expert craftsman of shoes and was received with great respect at various courts. Today, Manolo Blahnik, Jimmy Choo and Christian Louboutin are famous cobblers known for their designer footwear priced at over $750 a pair.



In India, because of the caste system that divides people on the basis of birth and work, people who did this work were labelled 'untouchables' and forced to live away from the main village. Similarly, people who worked to create a clean environment were, ironically, branded unclean. The skilled people – who now use the self-respecting term *dalits* to describe themselves – were considered ignorant and unworthy of a place in religion They have been forced to perform these tasks as their social duty. However, they neither received due respect nor the right wage for these tasks. Even when they wanted to give up this work, they were not allowed to do so. Following the advice of a leader like Dr B.R. Ambedkar, the leatherworkers started looking for equality. They also began shifting to other professions. Many became agricultural labourers, giving up traditional jobs. But they continue to suffer indignity.

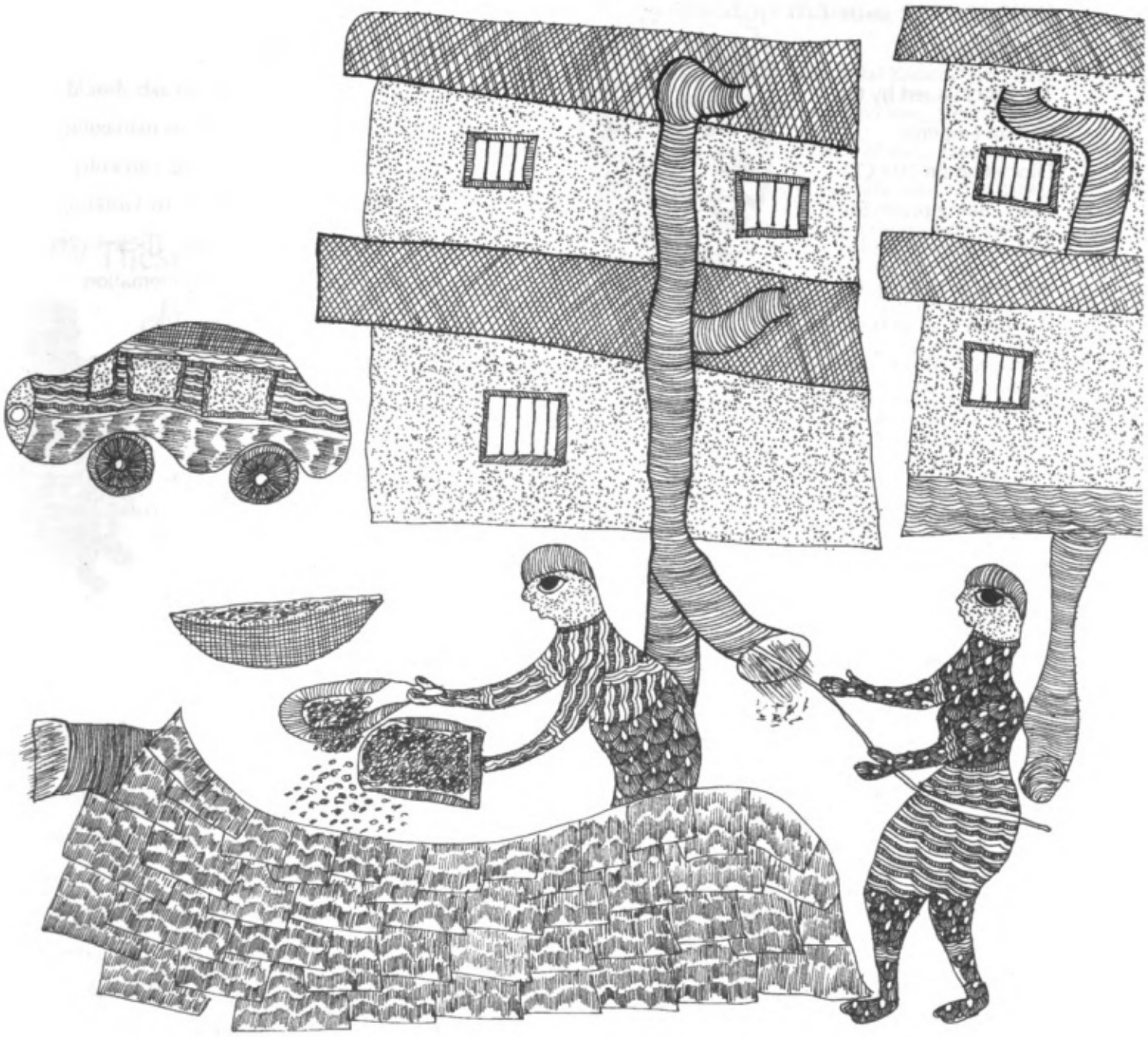
Placed at the lowest end of the social hierarchy, leatherworkers were denied respect, denied access to resources like education, denied the use of common village land and water. They were not allowed to prosper economically. Owing to the humiliation of such work, scientific temper and industrial development in this subcontinent suffered. India owes its backwardness to the neglect of such knowledgeable communities.

Health workers

Human beings need to live in a clean, hygienic environment. Otherwise we will be afflicted with diseases. Apart from leatherwork, sections of dalits were also forced to perform village- and town-cleaning activities at great cost to their own

physical and mental health. The dalits swept our roads and cleaned our villages for centuries. Instead of respecting such work and paying them better wages, society condemned them as unskilled. Such a negative approach towards cleanliness and hygienic living conditions has resulted in physical cleanliness continuing to remain an issue in India. We carelessly throw filth and garbage, assuming others would clean up. Indians are often considered a dirty people because of this attitude towards cleanliness.

Instead of disrespecting the act of sweeping the streets, boys and girls must learn to sweep their house and keep their environment clean. At the same time, we must work towards the abolition of manual scavenging and improve the working conditions of leatherworkers. The dalits are the initiators of science and industry in India, and they have had an organic association with basic technology for centuries. They are therefore capable of aspiring for the best in our present society. They can become teachers, officers, scientists, doctors, priests, managers, politicians and engineers.



In Rome...

The edict issued by the Roman emperor Diocletian (in 303 CE) fixed ceiling prices for a variety of goods and services, including for skins and leather prepared from goats, sheep, lambs, hyenas, deer, wild sheep, wolves, martens, beaver, bears, jackals, seals, leopards and lions. Under the edict, cowhide was even classified according to groups and qualities.

Meanwhile, in India...

"Those traditionally regarded as outcasts should make their living by activities such as managing horses and chariots, medical healing, carpentry, killing fish, by slaughtering animals, by working on leather, by playing the drum, etc. These castes should live near mounds, trees and cremation grounds, in mountains and groves. The untouchables must live outside the village, use discarded bowls, and must eat food in broken dishes. Dogs and donkeys must be their wealth."

Verses 46–50, Chapter X, *Manusmriti*
a Sanskrit text written in 1st century CE

Did You Know?

Nimmalakunta, a small hamlet in Andhra Pradesh, is home to the hereditary craft of making leather puppets. Once puppetry used to be the chief form of entertainment in villages and small towns. Today television and the cinema have taken over. So the leather puppet-makers are producing utility items with leather, such as beautiful lampshades and toys.

Stop manual scavenging

As of 2005, India employs 13 lakh Safai Karamcharis who work at 96 lakh dry latrines. Every day, they are forced to dispose shit with their hands. This shame of India owes to our indifference and silence. Constitutionally banned in 1993, manual scavenging persists with active state support. Andhra Pradesh alone is home to over two lakh dry latrines. Several army cantonments in India continue to have dry latrines. In every railway station in India this practice continues. So never use the toilet when a train stops at a station. Every school-going child must write a letter to the respective chief minister, president, prime minister, social welfare minister and railway minister asking them to effectively ban this practice. Come up with ideas of other modes of registering your protest against the dehumanising practice of manual scavenging.

Try These!

Do a flow chart of the natural four-stage process of converting animal skin into leather.

Ride the garbage truck

What happens to the garbage you throw every day in your dustbin? How many people segregate biodegradable and non-degradable garbage? Where does garbage travel? Who takes it on its journey out of our homes, schools and offices? Gather some friends and collect the garbage from all the homes in your apartment block or street and take it to the garbage dump where the municipality truck collects it. Try to accompany the garbage workers and see where all the garbage finally goes. Do you think garbage disposal is scientific and hygienic in our towns and cities? Write a brief essay on your experience and findings.

4 FARMERS

who invented the earliest expression of culture – agriculture –
and nurture us with cereals, pulses, fruits and vegetables

After the hunter-gatherer stage and the domestication of wild animals, when human beings began to lead a settled life they tried to generate food from land. This was a major advancement in human civilisation. But land, which human beings worked on, did not come in a ready tillable or arable form. It consisted of trees, rocks, mountains, valleys and ravines. Humans, through various forms of labour, made land a source of food through the process known as cultivation. Trees needed to be cut, rocks had to be removed, and the land needed to be levelled. Suitable plants found in the wild had to be selected – through observation, trial and error – and nurtured for cultivation.

These tasks required enormous human labour combined with knowledge. Necessary technology also needed to be developed. The science of making land the source of plant foods is known as agriculture. Agriculture predates writing in all civilisations. There was nothing 'natural' about the development of agriculture; this was certainly an 'invention'. Between 8000 BCE and 3500 BCE, increasing numbers of humans shifted to dependence on cultivated crops and domesticated animals for subsistence. The earliest agricultural implements were shaped out of stone. Then wood and leather came to be used. Later, iron and other metal implements took over.

Social position

India has a long history of cultivating land. As we have seen in an earlier lesson, the domestication of animals by the herding communities gave us meat, leather, wool, milk and other dairy products. At the same time, domesticated animals like

buffaloes and bulls were trained to till the land, pull carts and so on. In Europe, if horses were used to till the land, Indian tillers trained buffaloes and bulls for this laborious job. If horse-driven carts emerged in Europe, India saw bullock carts. In India, horses, which were imported, were used mostly for wars.

Unfortunately in India today, the soldiers and charioteers who rode these alien horses are celebrated. The tillers, who yoked the indigenous bulls and buffaloes, have not been regarded as worthy of respect. Castes and communities involved with the tilling of the land were labelled as *sudras* and given a lowly place in society. The so-called *pandits* considered tilling to be bad work done by unintelligent people. Such thinking showed no respect for the producers of food. Any philosophy or religion that regards the labour and skills involved in the production of food from the land as demeaning destroys the scientific temper of people.

Early agricultural work was done manually. In India, it was during Gautama Buddha's time that animals came to be harnessed for agriculture. In Buddha's childhood, the tribal republics knew only shifting cultivation, known as *podu*. Even today several adivasi communities, especially in the northeastern states and in Orissa, practice this method. In podu, land once used for agriculture is abandoned, and the next crop is shifted to a new plot of land. The harnessing of bulls for tilling and the introduction of the plough during the Buddhist period were revolutionary. However, between the seventh and sixth centuries BCE,

thousands of cattle were being killed in *vedic* yagnas (fire rituals where animals were sacrificed). The agricultural classes, with the support of Buddhism, opposed such animal sacrifices. Buddhism encouraged the harnessing of cattle for agriculture and as a source of food.

The science of tilling

Agriculture is a science and is studied as a science in universities today. One has to know how to till the land and when to do it. Driving a plough on a difficult terrain with the help of a buffalo or a bull requires enormous training. Farmers have taught their children how to do it over generations. However, for centuries, the children of farmers were not allowed to go to schools. Reading and writing were denied to them. They were schooled only in agrarian tasks by their parents. Since the tillers themselves were not allowed to read and write, their knowledge of tilling was not considered knowledge at all.

Tilling each furrow needs planning and wisdom. Tillers know that a furrow should be deep if a seed like groundnut is being sown; it should be light if the seed

Did You Know?

There are currently 2,00,000 varieties of rice in India, according to R.H. Richharia, reputed rice scientist who was the director of the Central Rice Research Institute, Cuttack. Every variety has a specific purpose and utility. Richaria had collected and identified 20,000 types of rice in the Chattisgarh area of Madhya Pradesh alone.

According to a 2002 estimate, 42% of the world's population is employed in agriculture. Of India's labour force of 496.4 million, 60% is employed in agriculture.

is green gram. The right crop has to be cultivated in the right season. The tiller also has knowledge about the nature of the soil that he/she is tilling and the psychology of animals that he/she employs to drive the plough. Tilling involves a combination of physical and intellectual labour. In principle, all physical work involves mental work. But all mental work does not necessarily involve physical work.

In other societies, there was no rule that linked occupation to birth. People involved in one occupation in one generation could shift to another occupation in the next generation. Children of farmers learnt reading and writing along with the cultivation of land. In India, this was not the case, owing to the caste system.

If the tillers of land had not produced and improvised various crops, people would have starved. Farmers and agricultural labourers have ensured that society does not remain hungry. The sudra castes – today known as Other Backward Classes – besides dalits and adivasis, constitute the bulk of the agricultural workers. To eat the fruit of their labour but not to respect them is a social sin.

Many religions in the world believe that god loves those who work on the land more than those who hate such work. In fact, in most societies tillers can become whatever they choose to. In a society that respects labour, a farmer can become a priest and a priest can do farming. If the children of tillers in our country are educated in good schools, they could also become teachers, journalists, entrepreneurs, engineers, filmmakers and administrators.

The food you eat

Many of you who read this book may not have worked on land. You may have nursed potted plants or worked in your home garden. However, most of the food you eat comes from the labour of those who cultivate plants and crops. The cereals and pulses, and the vegetables and fruits that form our staple diet are products of agricultural labour. It may not be possible for you to learn how to cultivate crops. What you could do is visit a field in a neighbouring village and find out about the agriculture practices. When are the seeds sown? In which season are they sown? When is a crop harvested? What is the difference between cultivating crops such as sugarcane, rice, maize and cotton? What are cash crops? Why do farmers rotate crops? What happens to the farmers' produce? How does it reach us? How many farmers and labourers own land? How much does a farmer earn on a crop? How much does an agriculture labourer earn in a day? Do men and women earn the same? Do those who produce our food have enough to eat?

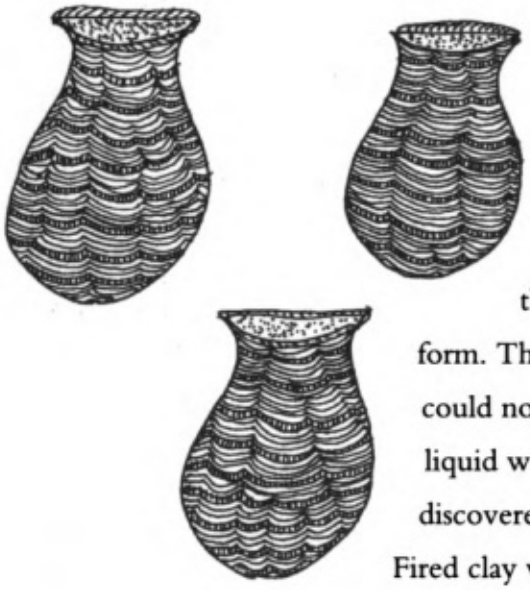
Try These!

Farmers' suicides

Have you read about farmers committing suicide? In which states and in which districts have these suicides been happening? Why are they committing suicide? What are their problems? What are the crops they grow? Look up newspaper and magazine reports, consult books, browse the internet, discuss with your parents/teachers, and write a two-page essay on farmers' suicides.

5 POTTERS

in which we learn how they brought clay to life,
inaugurating a new chapter in history



Pottery is considered the oldest and most widespread art. The earliest pieces of pottery were shaped by hand from crude clay, and dried in the wind and sun to harden. Such pottery was made by the coiling method, where the clay is rolled into ropes or coils that are then slapped together to attain the desired form. The coils are then smoothed. The vessels made thus could not be used to store water, as they collapsed when the liquid was absorbed into the porous clay. Soon, humans discovered that the burning of clay made a vessel last longer. Fired clay was more permanent. With this discovery the art of ceramics was born. Then baskets were lined with clay and bitumen and fired, and used for storage.

Soon – like squirrels, ants and rodents – humans too learnt to store and preserve food. The vessels shaped by potters were the first step in this direction. The fire-baked vessels were used for cooking and storage. The horizontal potter's wheel seems to have first evolved in ancient Mesopotamia and other parts of West Asia about 5500 BCE. This horizontal spoked wheel has been in operation even before humans began using vertical wheels for transportation. The potter's wheel came to be used in India around 4000 BCE in the pre-Indus period. During the early Indus Valley civilisation pottery was highly evolved. In fact, Indus culture is distinguished into 'early' and 'late' periods by the different kinds of pottery.

Pottery has also been an important source for writing history. Archaeology helps us determine the period to which a work of pottery belongs using carbon-dating. This is because unlike metal, wood or cloth, pottery is resistant to corrosion or

disintegration. Fired clay is the only material on earth that does not change with time. Urns unearthed from ancient burial sites therefore are sometimes found intact.

The potter as creator

The skilled community of potters – known in most parts of northern India as kumbhars, in Telugu as kummari and in Tamil as kuzhavar – came to be regarded as a 'lowly' caste in the post-vedic period. Since the basic pot resembles a womb, early human civilisations treated the pot as sacred and as a symbol of fertility. Practitioners of such a wonderful art form were looked down upon as a caste lacking in knowledge. For centuries, the potters in India were denied access to formal education. In fact, if we think about it, most castes that were working with mud, soil and clay – with various aspects of earth – came to occupy a low place in the caste system because they were supposed to be dealing with 'impurities'. Castes associated with any kind of productive skills have been considered lowly. Women too, since nature has bestowed on them the ability to procreate, were considered 'impure'. However, castes involved with priestcraft, magic,

administration and writing came to be regarded as knowledgeable. Pot-making definitely involves a good deal of science, skill and art, as we shall see.

The making of the pot

The selection of the right kind of soil is crucial for pot-making. Clay, one of the three principal types of soil, is used for pottery. The other types of soil – sand and loam – are not useful for pottery. Clay is used in pottery because it binds other kinds of particles together. But clods form very easily in clayey soils; a potter therefore improves the clay with the addition of husk, ash, sand and chalk. In India, potters add smooth ash and sometimes charcoal to improve the plasticity of clay. To make mud stoves, charcoal is mixed along with husk to the clay. Organic matter and lime are used for colouring the pottery.

This improved clay is 'thrown' on the pivot of the potter's wheel. The flat disc revolves horizontally on a pivot. The wheel acts as a worktable and the potter pushes it around by hand. Early wheels were made of stone and wood. Today concrete wheels are also used. The potter sets the wheel is motion using a stick that fits a notch in the wheel. This mechanism is used to this day in several Indian villages. Others use treadles, like the foot pumps seen on old sewing machines. Potters close to urban locations use wheels powered by electricity.

The potter first places a lump of kneaded clay on the wheel head. Using the rhythm of the spinning wheel, the potter uses both hands to manipulate the clay and 'centers' it. The potter inserts a thumb into the top of the cylinder of clay and presses down. He or she then continues to expand the shape by pulling up the sides of the piece, with one hand on the inside and another hand on the outside. The process is called pinching and pressing the clay into the desired shape—a bowl, jar

Did You Know?

Pottery is closely linked with the **evolution of writing**. The first ever human writing – the use of early script – happens in the form of inscriptions on pottery. Early writing such as the Indus script found in Mohenjo Daro and Harappa (2500 BCE), the **Tamil-Brahmi script** found in Adichanallur (5th century BCE), Tamil Nadu, and the oldest script in Mesopotamian pottery (3000 BCE) are examples. Potters, therefore, could have been the first literate community.

or pot. At this early stage, the walls are kept thick so they can then be shaped into the desired form. While the wheel is still rotating, the potter forms the mouth and lips of the pot using one hand on either side. Like in the human being, the portion below the mouth of the pot is called neck, the bottom half is the stomach and its base is called the feet.

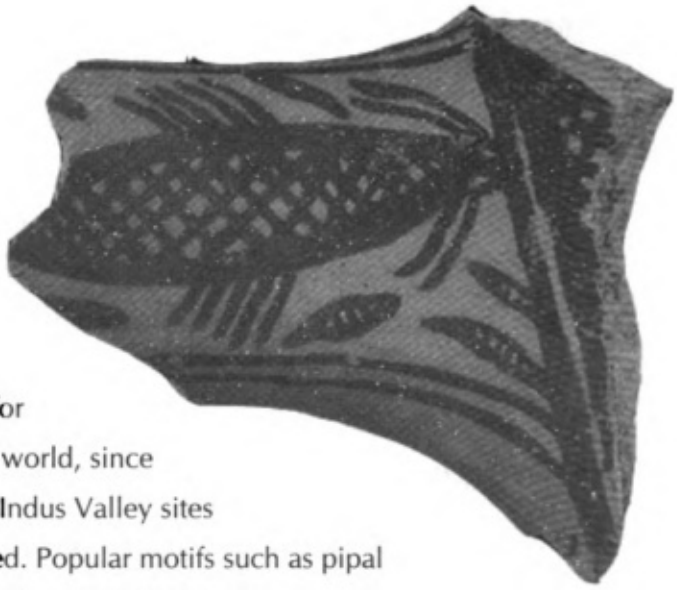
The potter has to focus on what he or she is creating and use his/her fingers deftly and skillfully to craft the mouth and lips of the pot. Just as the physical beauty of a human being finds expression in the face (mouth, lips, nose and eyes), the beauty of a pot lies in its mouth, lips and the carvings made around it. The potter merely uses his/her nails to make carvings and patterns on the pot. The pot is then taken off the wheel. At this stage, using bare hands, with the help of a wet cloth and a wooden plank, the final shape of the pot is worked out. The pot is then placed in the sun for a suitable period for drying.

Clay is the common name for a number of fine-grained, earthy materials that become plastic when wet. Chemically, **clays are hydrous aluminum silicates**, ordinarily containing impurities such as **potassium, sodium, calcium, magnesium** or **iron**, in small amounts. Besides its plasticity, clay shrinks when fired and air-dried. After firing, it assumes colour, hardness, cohesion, and the surface gains the **capacity to take decoration**.

Finally, the potter arranges all the sun-dried pots in a huge heap in a kiln (called *kummari vamu* in Telugu). While heaping the pots, care is taken to ensure that no pot is broken or cracked. The heap of pots is then covered with dung and mud paste. Then the pots are fired in such a manner that all the pots burn evenly in the correct heat (500° Celsius and above depending on the hardness required).

World over, potters have been respected as one the most skilled and artistic communities. They have modernised their art and have also moved towards other professions. The birth of fired-clay pottery was revolutionary. This led to fired-clay adobe houses and eventually to the evolution of fired tiles and bricks that helped humans develop more permanent housing. The science developed by potters also enabled the construction of tanks for storage of water, thus expanding the scope of agriculture. Should we not provide an opportunity to such a community to attend modern schools and colleges and become modern engineers, designers and architects? Should we not provide ourselves the opportunity to interact with and learn from such an artistic community? India will have a lot to lose by neglecting the potters.

From Mohenjo Daro to Adichanallur



The wheel-made pottery excavated from the Indus cities of Mohenjo Daro and Harappa (2500–2000 BCE) is distinctive because it is heavy. It is baked to a red colour and has thick walls. Some pots are also painted black. The Indus potters produced jars with lids and rims for storage, utensils, dishes, bowls and containers. Across the world, since the aboriginal period, urns have been used in burial sites. Indus Valley sites abound in urns in which the remains of the dead are placed. Popular motifs such as pipal leaf, intersecting circles and the peacock were painted on some of the pots.
In Adichanallur, on the banks of the Tamiraparani river, near Tirunelveli in southern Tamil Nadu, more than 165 megalithic urns have been excavated. About 15 of them had full-scale skeletons inside.

Breathing, living deities

Potters do not just make pots. The myriad images of gods, goddesses, humans, plants and animals that adorn the huge *gopurams* (towers) of south Indian Hindu temples are made by potters. More significantly, the potters also make the terracotta images of village deities. According to the velar, the community in Tamil Nadu that makes terracotta images of gods and goddesses, only brahminical gods are made with permanent materials such as metallic alloys. Village deities demand the use of a fragile material like clay, because the vessel in which gods are cast must have a living, breathing, perishable body like that of humans.

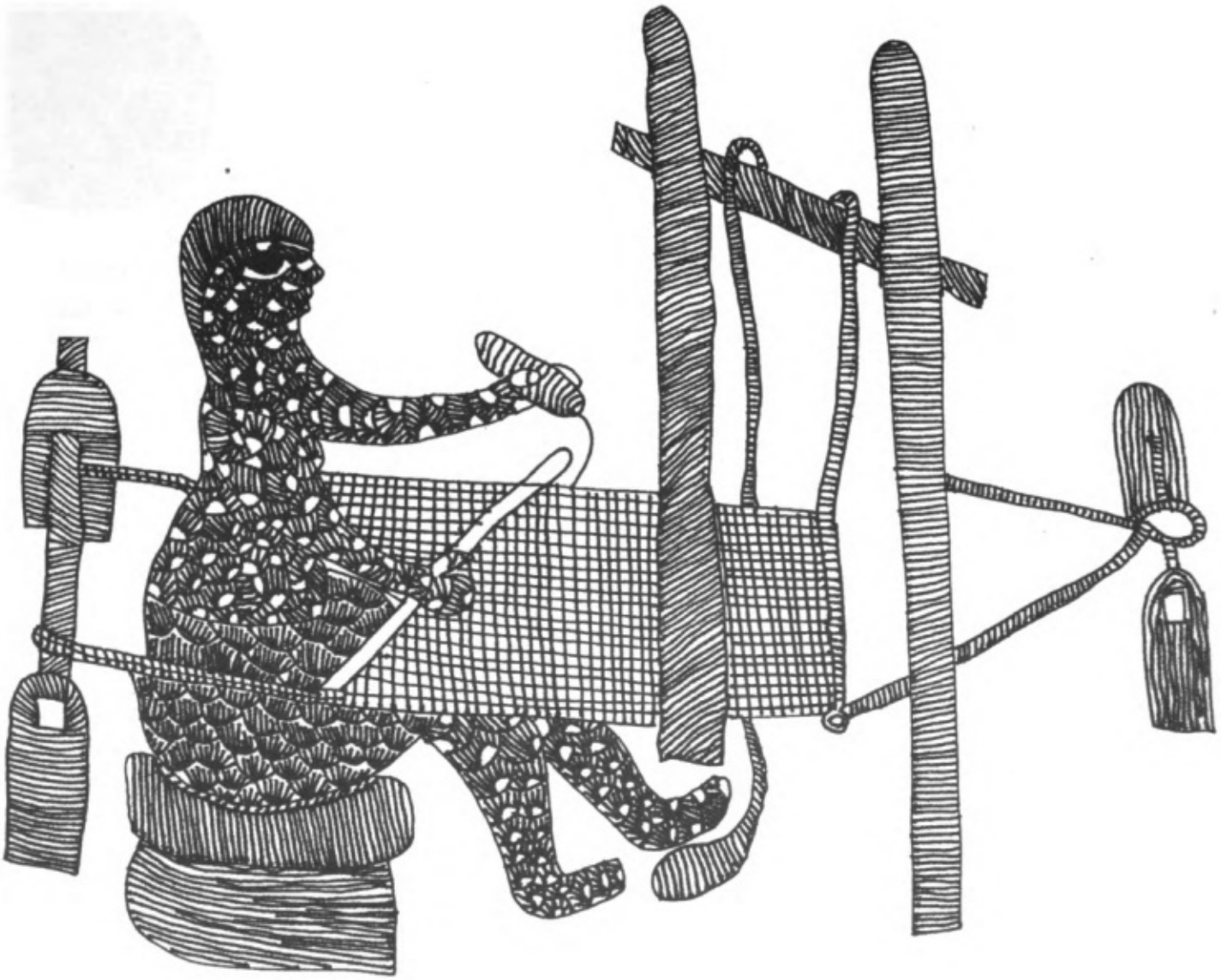
Earthenware, stoneware and porcelain

The nature and type of pottery are determined by the composition of the clay, the way it is prepared, the temperature it is fired at, and the type of glaze used. There are three distinctive types of pottery: earthenware, stoneware and porcelain. Pottery fired at relatively 'lower temperatures' (500°C) is known as earthenware. This was the first form of pottery. Earthenware clay contains more impurities, remains slightly porous, and liquids may eventually soak through the clay body. Using glazing techniques, earthenware can be made to hold liquids. When the clay pot is subjected to an even higher temperature, it becomes non-porous, hard and durable. Clay vitrifies at about 1600°C. This type of pottery is known as stoneware. The third type, porcelain, evolved in China. This was made from kaolin (a white clay of the purest from) and petuntse (a feldspathic rock). The petuntse was ground to powder and mixed with the clay and fired to 1450°C. The petuntse would vitrify while the clay held the shape. (You may find that the porcelain chinaware we buy from shops is marked 'vitreous'.) Porcelain is smoother and finer clay, and is usually white or translucent when fired.

Try These!

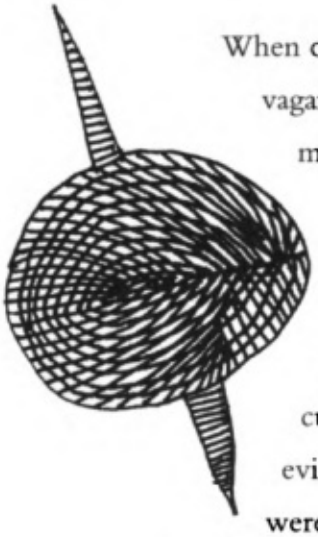
Glass is primarily super-heated silica sand. The evolution of glass and pottery are therefore linked. Do some research and write a brief essay on the relationship between pottery and glass-making.

Try using clay and making some toys and objects by the coiling and slapping method. Dry these objects, and if possible, try subjecting them to heat on a stove.



6 WEAVERS

who invented the spinning wheel and the loom,
and used the cloth like a canvas to weave intricate designs



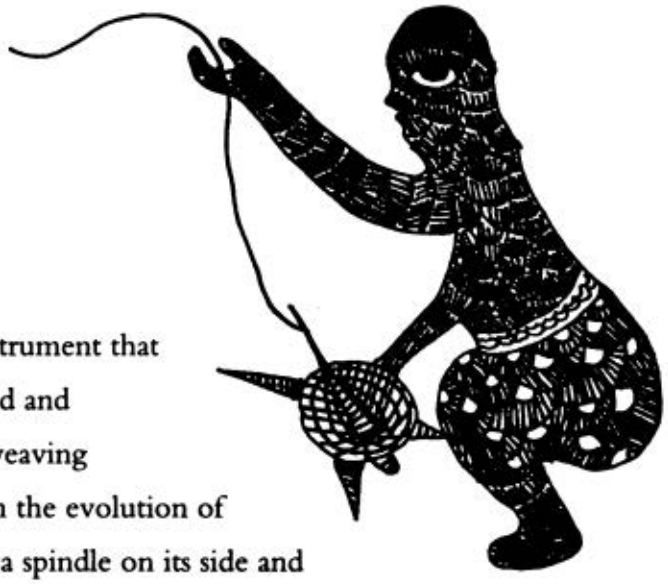
When our prehistoric ancestors sought to protect their bodies from the vagaries of weather, they used animal skins, fur and leaves. Woven cloth might have been used earlier (7000 BCE), but the first findings date back to the Mesolithic Age (about 4600–3200 BCE) from Egypt and South America whose dry climate ensured a better conservation of the cloths. While the Egyptians used linen derived from the native flax plant, it was in the Indian subcontinent that cotton was first cultivated. A pre-Indus site like Mehrgarh (in northeast Baluchistan) has evidence of cotton cultivation by 4000 BCE. Woven fabrics from cotton were used by 2500 BCE in Mohenjo Daro, though not on a mass scale. Some of the cotton fabrics found in Mohenjo Daro are dyed in red. The dye was derived from the roots of madder, a creeper. Gradually, natural fibres like jute, which can be spun into coarse strong threads, were also used for clothing.

Weaving involves the warp and the weft. Warp threads are those that run lengthwise, horizontally. Warp threads are crossed by and interlaced with the weft. This results in cloth. Weaving assumes a metaphysical meaning in several cultures, since god is believed to have woven the entire universe into existence.

Weaving was initially done laboriously and skillfully using hands and fingers. Shepherd communities in India still retain this primary method of knitting woollen blankets. The early making of cloth drew on basketry techniques. Since 4000 BCE spinning has been done on a spindle, which is basically a stick with a stone or weight attached. The spinning wheel was invented, probably in India or China, around 500 CE. This was a basic hand-driven wheel. Spinning wheels reached Europe only in the 12th century. Today, we have automated spinning machines and power looms, but the basic principle of turning fibre into yarn/threads has

remained unchanged. Cloth is produced by interweaving the threads on a loom.

Weavers, thus, evolved textile technology over centuries. The weavers in north India are mostly called julaha; they are padmashalis in Telugu, devanga in Kannada, pattarya in Malayalam and sengunthar in Tamil. This artisan community is also listed as sudra in the caste system and today falls under the Other Backward Classes list. India is one of the few countries where traditional handloom textiles have continued to survive despite the advent of machine-spun synthetic fabrics. Kanchipuram in Tamil Nadu, Pochampally and Mangalagiri in Andhra Pradesh, Benares in Uttar Pradesh, Sambalpur in Orissa and towns across India are well known for the weavers who produce hand-woven silk and cotton fabrics. Handloom, in fact, is considered an art form.



How cloth is spun

First, the weavers had to devise an instrument that could make threads out of the thrashed and smoothened cotton. Women of the weaving community played a significant role in the evolution of weaving. Someone must have turned a spindle on its side and shaped the weight or whorl into a pulley, which was connected to a drive wheel by a cord. This hand-driven wheel, still in use, is called ***kaduru*** in Telugu. This is the simplest form of the spinning wheel and is based on a basic pulley system. This machine is designed to twist fibre (cotton, jute, wool) into thread. The same spindle mechanism devised to make cloth, based on the rotating

wheel principle, forms the basis of the technology that drives turbines used in dams to nuclear reactors.

The spinning wheel is a wooden structure connected to a stem (spindle) with an iron needle at the bottom. The women thread-makers would roll the wheel mounted on their thigh and spin thread out of cotton or wool. Subsequently, they added a handle to the wheel. This spinning wheel was popularised as the *charkha* by Gandhi, who used it as symbol of resistance to European mill-made cloth during the nationalist movement.

In the second stage in cloth-making, the threads spun on the wheel are readied to be eventually mounted on the loom. The threads are stretched with the help of wooden bars. The threads are then starched and dried in the sun so that they turn stiff. In the third stage, the starched threads are put on a wooden loom, called *maggam* in Telugu. The loom holds the warp threads under tension to facilitate the interweaving of the weft threads. The loom is placed in such a way that the weaver can sit and work. This is called a pit loom. In a loom mounted on a horizontal surface, the weaver has to bend in order to work. In a pit loom this strain can be avoided. The weaver sits at the loom, dropping his/her legs into the pit. With the warp strung over the pit, the weaver would be on a level with the loom. The shafts of the loom are controlled by a series of foot-pedals called treadles. This ensures that the weaver's hands are free to handle the shuttle.

The weft threads would be pushed into place by hand or a stick, called the shuttle. In the early looms, every warp thread was raised and lowered one at a time, which was time consuming and laborious. Looms today have at least four shafts. Each shaft contains a set of heddles through which yarn can be threaded. (A heddle is one of the sets of vertical cords or wires in the loom, forming the

principal part of the shaft that guides the warp threads.) By raising the shafts in different combinations, the weaver weaves a variety of geometric and artistic patterns. Like an artist using a canvas, a weaver uses the cloth to give expression to his/her imagination and creativity.

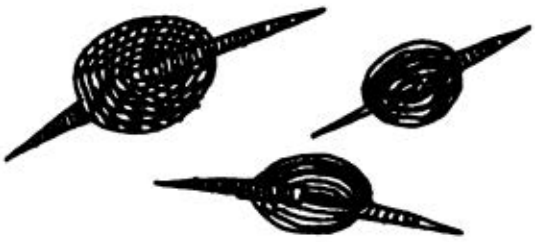
Such a pit loom requires enormous physical energy to operate. This loom came to be replaced by a more mechanised system, where the weaver could still sit at the loom and use a small automatic motor to operate the loom instead of pedalling the treadles. This eventually led to the power loom system in which the weaver merely ensures that the loom runs without any threads snapping. If any cuts in the loom-woven threads are noticed, the weaver attaches them manually.

Export of Indian textiles

Once the East India Company was established in India, the British ruling classes became highly fond of handloom cloth from the Indian subcontinent. In fact, much earlier, Bengal's cotton fabrics were exported to the Roman and the Chinese empires. The muslin, made by the weavers of Dhaka (now in Bangladesh) was

I don't touch ink or paper,
this hand never grasped a pen.
The greatness of our ages
Kabir tells with his mouth alone

Kabir, the 15th century *bhakti* poet, was a weaver by profession. In his songs, Kabir compares god to a weaver, and the body to a cloth.



legendary because a 50-metre muslin fabric could be squeezed into a matchbox. India's fine fabrics find a mention in Greek philosopher Claudius Ptolemy's (127–148 CE) Geography and in the 1st century BCE Greek text *Periplus of the Erythraean Sea*, and also in the accounts of ancient Chinese travellers.

By the late eighteenth century, cotton cloth woven by Indian weavers was being imported into Britain in huge quantities to supply a worldwide demand for cheap, washable, lightweight fabrics. However, after the industrial revolution in England, the East India Company started flooding India with cheap machine cotton that threatened the livelihood of the weavers. The British established cotton industries in

Karl Marx on Indian handloom

The handloom and the spinning wheel, producing their regular myriads of spinners and weavers, were the pivots of the structure of that society. From immemorial times, Europe received the admirable textures of Indian labour, sending in return for them her precious metals... It was the British intruder who broke up the Indian handloom and destroyed the spinning wheel. England began with driving the Indian cottons from the European market; it then introduced twist into Hindostan, and in the end inundated the very mother country of cotton with cottons. From 1818 to 1836 the export of twist from Great Britain to India rose in the proportion of 1 to 5,200. In 1824 the export of British muslins to India hardly amounted to 1,000,000 yards, while in 1837 it surpassed 64,000,000 yards...

New-York Herald Tribune, 10 June 1853

Did You Know?

For weaving birds, temple towers, flowers and other patterns on the borders of clothes such as saris, the weavers use 'cards' (also known as tablets). This method is known as card-weaving. The cards, about six square cm, are made of thin, sturdy cardboard or thin wood. Smooth, round holes are punched in each corner of the cards so that the yarn does not get caught. The warp threads strung through the punched cards create the desired patterns. The same card-weaving principle is used in computer printing. The television screen also mimics the mechanism of the warp and the weft—an image on the screen is a combination of millions of warp and weft 'threads'.

Surat and Bombay and employed India's expert handloom weavers to produce cloth for global export.

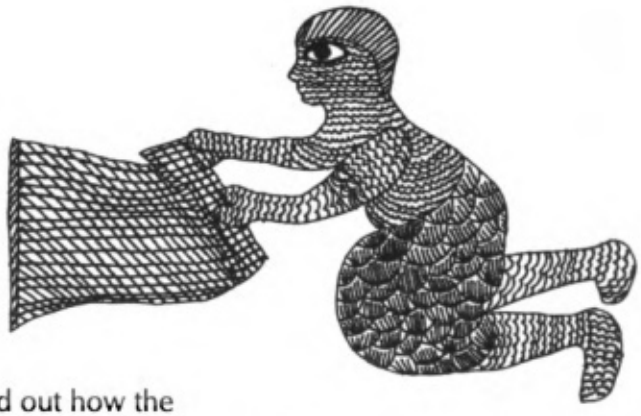
However, in India the weaving community, despite it scientific knowledge base and artisan skills, has been regarded as a 'low' caste. It suffered from lack of dignity in the social and spiritual spheres. They, too, like the farmers, potters and leatherworkers, were never allowed to read and write books, though they were path-breakers in science and technology. This was one of the reasons why thousands of weavers in north India converted to Islam.

Today, weavers continue to remain backward. In several states weavers are committing suicide, unable to repay the loans they are forced to take. Such a community, in order to modernise and survive in this era of globalisation, must have access to the best education and opportunities. Weavers, given their historical association with science and technology, have the potential to excel as engineers, technocrats, doctors, designers, software specialists and nuclear physicists.

Try These!

The hand-driven spinning wheel is called *kaduru* and a wooden loom is called *maggam* in Telugu. What are the equivalent terms in your mother tongue or local language? Find out.

See how metals like gold, silver and copper are used in adding zari to clothes. Write a brief essay on the science involved in this process.

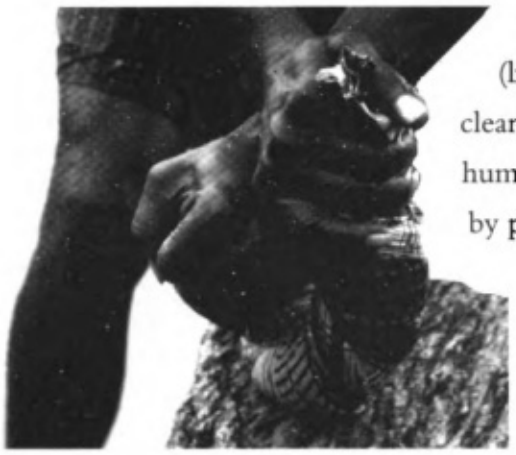


Arrange to visit a famous handloom centre near your town/city. Try to visit a family of weavers as a group with your friends at school. Take a teacher or a parent along. Find out how the weavers work; how men and women share the labour; how cotton and silk are turned into beautiful clothes. What are the problems that the weavers face? How many of them have access to modern school and colleges? Write an essay on what you see.

Do a similar group visit to a modern spinning mill in your vicinity. Find out how the basic weaving techniques of the handloom weavers have been used here. Who owns the mill? Who owns and controls mills in general? Do people from the weaving community go on to own cloth-making factories? Why not? Who works in these mills? Do only people belonging to the weaving communities work there? If traditional weavers do work in the mill, what role do they play?

7 DHOBIS

who discovered the first chemical soap,
cleaned clothes, and saved us from diseases

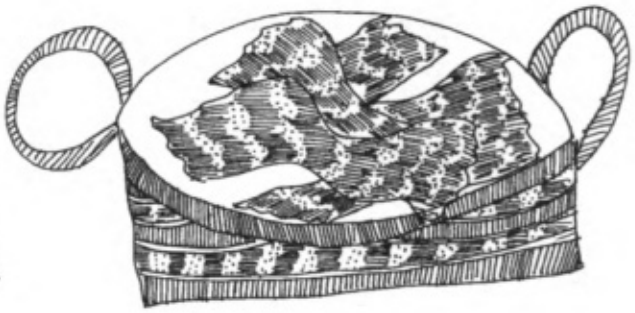


Once weaving was established, and clothes made of fibres (linen, jute, cotton) were worn by people, there was a need to clean them. It was not enough to wash one's body; the clothes humans wore also needed cleaning. Initially, clothes were cleaned by pounding them on rocks or rubbing them with abrasive sands and washing the dirt away in local streams. In the early days of the discovery of cloth-making, there was no method to remove stains from clothes. Till the scientific method of washing clothes was discovered, most people tended to wear clothes till they got torn. This was of course not hygienic and led to sores and irritation of the skin, especially in dry tropical and humid climatic conditions.

In India, at some point in history, those associated with the washing of clothes discovered a certain kind of salty clay that had the property to remove stains and dirt without causing damage to the fabric. This is commonly called as soil soap. It is known as *choudu-matti* in Telugu and as *uvarman* in Tamil. Across the Indian subcontinent, the washer castes are known as dhobis. In Telugu they are called chakalis, in Tamil as vannans. All dhobis and dry cleaners in India are familiar with soil soap. The exact period of discovery and use of this soil soap in the Indian subcontinent has not been established. However, it can be safely assumed that since cloth came to be commonly worn by 2500 BCE in the Indus Valley period, the discovery of soil soap should have happened at least by about 2000 BCE. Thus, the dhobi soil soap was the first detergent soap to be discovered in India.

Chemical properties of soil soap

What is known as soil soap in India (choudu-matti, uvarman) is the same as what European societies call fuller's earth. It is a crude carbonate of soda. According to



the washerpersons of Tamil Nadu, uvarman is a dull-white clayey soil containing a great proportion of carbonate of soda. Depending on the local conditions, this soil may also be brown, green, olive, or blue in colour. In the Telangana region of Andhra Pradesh, the choudu-matti used by the chakalis is reddish brown. It has a strong, brackish flavour. In chemical terms, it is composed mainly of alumina, silica, iron oxides, lime, magnesia and water, in variable proportions. Deposits of this sedimentary clay are naturally found in specific areas throughout the year except in the rainy season.

According to some historians, the washing of woollen clothes with fuller's earth was practised in Cyprus by about 5000 BCE. The remains of a soap-producing facility of about 79 CE were found in the ruins of Pompeii (today's Italy). The English word 'fuller' (*foulon* in French or *fullone* in Italian) derives from the Latin term *fullo*, indicating a person whose job was that of de-greasing and thickening clothes. In Europe, fullers were the same as our washerpersons and dry cleaners. They kneaded powdered fuller's earth into garments to absorb stains and human body oils. When the fuller's earth was shaken out, and the garment was 'fulled' (fluffed), it became clean. This process is termed 'fulling'. In Britain, fuller's earth was not only used for fulling clothes but also in pharmaceutical and cosmetic applications.

In Telugu, this process of treating clothes first with choudu-matti (fuller's earth) and then subjecting them to a steam generated with water boiled in pots containing soil soap, is known as *batti*. In Tamil, the process is known as *vellaavi*. (*Aavi* is

'steam' and *vellai* is 'to whiten'.) The use of soil soap and steaming not only removed stains but also killed the germs.

Though washing machines and modern detergent bars and powders are common in urban India, in most parts of rural India the process of steaming and treating clothes with soil soap continues even today. In the villages, the dhobis wash the soiled clothes of all communities and castes. For centuries, by performing a task that requires patience and humility, the dhobis have saved the rest of the population from disease.

Dhobis usually wash clothes in flowing streams or in water tanks. These are known as *dhobi ghats*. The dhobis collect clothes from every house in the morning and take them to the ghat. At the ghat, they soak the garments in the soil soap and steam them, before washing and drying. (These days, washing soda and detergent are added to the traditional soil soap even in villages.) In the evening, the dhobis deliver the clothes to the respective homes. They are known for their sharp memory.

Social position

Ironically, those who inaugurated the science of cleaning clothes were later branded as an unclean caste. The people who discovered the chemical properties of soil soap in India were termed sudras and placed low in the caste system. Like the other scientific-minded productive castes we have seen, the dhobis were denied access to formal education. They were also denied spiritual equality. Today, the dhobis occupy the status of a Backward Class or Other Backward Class in several

Did You Know?

Hold your breath: old urine was the first detergent that was accidentally discovered, perhaps by someone who observed that the baby's bed which got wet was whiter if washed after a few days, especially in the part wetted by urine. In ancient Rome, pieces of cloth were first soaked in old urine (rich in ammonia) or other alkaline solutions. Then they were heavily tread upon in a large bowl or a basin containing fuller's earth. In fact, fullers in Rome collected urine in large earthenware vessels placed at street corners (passers-by obliged and filled them). The clothes were then rinsed, well, in water.

states. In some states, they are also listed as a Scheduled Caste. The dhobis have also been ridiculed because of their association with the donkey. The beast of burden used by the dhobis is the donkey or a mule. The donkey serves as a vehicle for transporting heavy loads of clothes from the main village to the washing area (ghat).

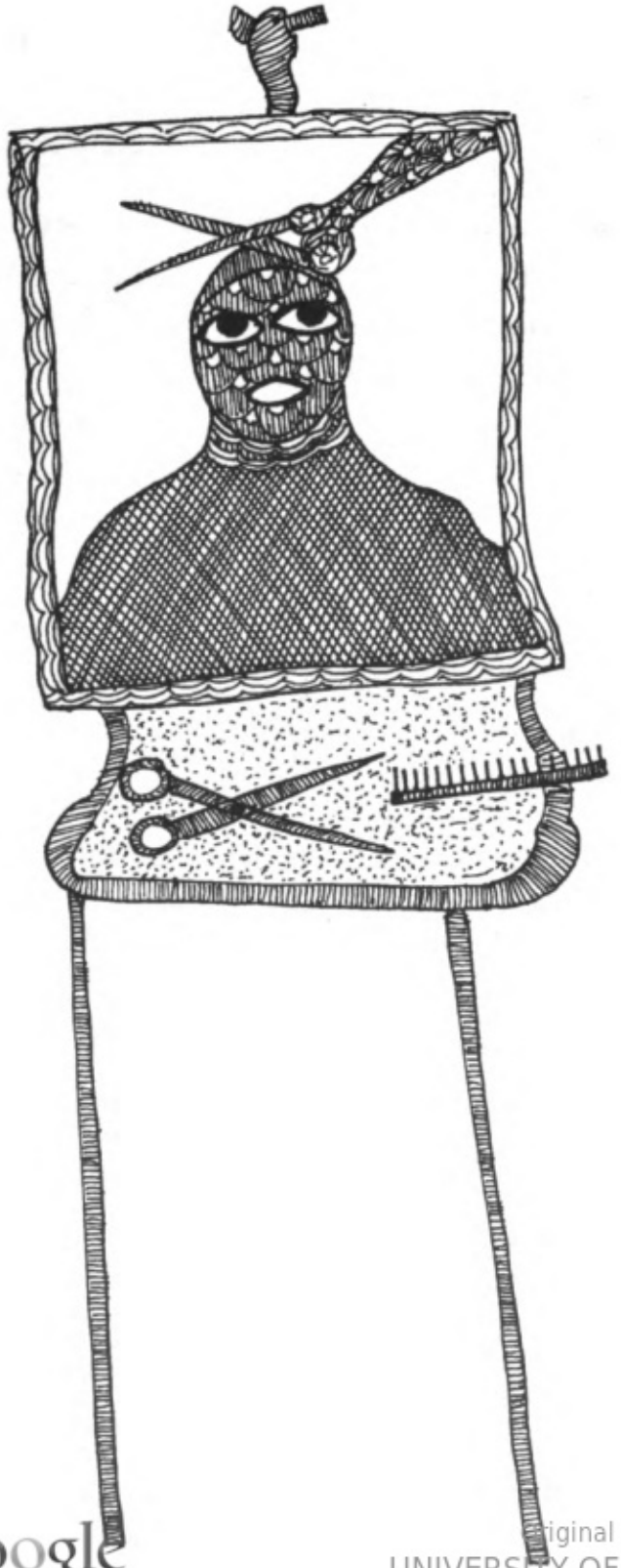
Those who ignorantly condemn the dhobis must try to learn from this community that discovered the science of washing. While in most households only women wash the clothes and are involved with other domestic cleaning activities, among dhobis both men and women do the washing. Even when families have washing machines, generally only women operate these. Even those employed to do domestic labour are mostly women. Men and boys of all castes and communities must follow the example of the dhobi men who wash clothes along with their women. No good society practices division of labour between men and women, between boys and girls.

Try This!

How do your clothes get washed? What method is used? Even if you have a washing machine, who operates it? It is easy to wash your own clothes. Try to make this a habit.

How soap works

Soaps are sodium or potassium fatty acids salts, produced from the hydrolysis of fats in a chemical reaction called **saponification**. When used with water, soap reduces surface tension to attract dirt and oil away from skin or other materials such as clothing. How? Soap acts as a surfactant. It helps water to soak in, rather than remain in tight droplets. **Each soap molecule has a long hydrocarbon chain**, sometimes called its 'tail' (that repels water), with a carboxylate 'head' (which attracts water). In water, the sodium or potassium ions float free, leaving a negatively-charged head. When mixed with water, soap molecules push their tails up through the surface of water to get away. These tails poking up through water cause water to spread out and thoroughly 'wet' a surface. While oil (that attracts dirt) does not naturally mix with water, **soap can suspend oil/dirt** in such a way that it can be removed. Soap works by attaching itself to dirt with its tail, the head is attracted to water and that suspends the molecule until water rinses it off, carrying away both dirt and soap. Thorough rinsing is therefore important.



8 BARBERS

our first doctors, who wielded razors to cut hair
and to perform surgeries in the pre-modern period

The food that we eat and the way we maintain our body are the most fundamental aspects of health. Given that India largely has a tropical climate, bathing every day is necessary to maintain basic hygiene and for a well-groomed appearance. Besides, the human body grows hair and nails that need to be cut in an orderly fashion regularly. This is equally important for our health.

Among the medical sciences, the cutting of hair occupies a significant place in history. Cutting the hair that grows on our heads and other parts of the body needs skill and tools of precision—sharp blades and scissors. The barbers, in several societies, also doubled up as the world's first doctors and surgeons. In the Stone Age, the Neanderthals started pulling out the hair from their own bodies. In coastal areas, seashells were used as tweezers. Pumice stones were used for softening the skin. Flint blades came to be used as far back as 30,000 years before the Common Era. These were indeed crude, primitive methods. It was the barbers who developed the scientific process of shaving hair.

Bronze, copper and iron razors evolved after crude devices such as pumice stones and shells. The foldable, cut-throat razor is used even today by barbers in villages. For hundreds of years razors were designed like a knife. These were sharpened by the barber with the aid of a honing stone or leather strop. (This strop was made by the leatherworkers we met in Chapter 3.) The use of these instruments required considerable skill and concentration. Over centuries the art and science of barbering has evolved manifold.

The Indian subcontinent has a long history of methodical haircutting. Some historians believe that the Egyptians of the 5th century BCE were the first people to shave. However, the custom seems to have developed much earlier in India. The limestone sculpture of a 'Bearded Man' in the Indus Valley period (3000 to

1700 BCE) depicts a man with a well-trimmed bearded. This indicates that the craft of using sharp instruments to cut hair must have existed back then. While the Egyptians were using depilatory creams and rubbed their hair off with a pumice stone, by the seventh century BCE, the Jains in India began to sport clean-shaven heads and faces using instruments of precision. It is believed that some Jains even plucked out each strand of hair.

Subsequently, Gautama Buddha (6th century BCE) and his order of monks (the Sangha) advocated a clean-shaven look. One of the principal disciples of Buddha was Upali, a barber by profession and caste. This indicates that the barbers had a distinct occupational identity by then. Upali, in fact, met Buddha while giving him a shave. Around the same period, holy men and mendicants in India sported long, matted hair, full of lice and knots. These people considered the barbers to be unclean and of a 'lower' caste, and did not wish to be touched by them. Gautama Buddha was critical of such 'holy' men and adopted the clean shaving of the face as a mark of cleanliness and health. Therefore, all the monks in the Buddhist Sangha had clean-shaven faces and sometimes also shaven heads. The Buddha is depicted in traditional sculptures and paintings with a knot of hair known as *ushnisha*, but he always sported a clean-shaven face.

The barbers of India perfected the practice of cutting of hair and shaving facial hair much before the time of Upali. Buddha, in turn, learnt how to shave and perform this task from Upali. The barber became an important member of the Buddhist spiritual

congregation. In fact, Upali was in charge of discipline and orderliness in the sangha. Buddhism thus recognised the importance of barbers.

The first surgeons

Barbers were also the earliest medical practitioners and surgeons in India. Before the modern era, no caste group other than barbers touched people who were suffering from diseases. Barbers performed several minor surgeries till modern medical science emerged. They tended to battlefield injuries because of their expertise in handling the razor. Surgery, in fact, is organically linked to barbering. The presence of hair on the part of the body where surgery is to be performed can cause infection. The clean removal of hair is therefore mandatory before surgery. This practice continues to this day. The barbers can therefore be called the earliest social doctors of India. In Tamil Nadu, even today the barber is known as *maruthuvar*, meaning doctor. In some parts of the country, the barbers also oversee rituals and ceremonies of marriage and death. Despite performing a range of important services, the barbers in India have been looked down upon by others. They have suffered social and spiritual indignity. Such treatment of a very skilled people is the result of a negative mindset.

For a long time, only men could have their hair cut. Women were expected to maintain long tresses. Among castes placed higher in the hierarchy, widows were forced to shave their heads clean as hair was considered a sign of vanity. Men dressed their hair short in order to look good and also for convenience, because maintaining long hair consumes a lot of time and energy. Such a choice was not granted to women. Women were also not allowed to practise as barbers. In the modern world, women have understood the importance of trimming their hair. Many women today are opting for regular haircuts. In fact, several women have

Did You Know?

The word 'barber' comes from the Latin 'barba', meaning beard. As shaving spread through the world, men of unshaven societies became known as 'barbarians', meaning the 'unbarbered'.

also entered the barbering profession in a major way. The salons and parlours in towns and cities bear testimony to this.

The original nurses

Women of the barber community have played the role of midwives in villages. They are known as *dais* in north India, and are the traditional equivalents of trained nurses. They help women in child-birth, performing the task of an obstetrician. Even today, more than 50 percent of deliveries in India are conducted by these highly skilled rural professionals. In several regions, dalit women, such as the chamars in central Uttar Pradesh, also perform birth-work.

The dais also help pregnant and lactating mothers to keep their bodies fit by massaging them. Many doctors today acknowledge the nursing and paramedical skills of women of the barber community, especially in maternity care. Barber women have been able to turn breech babies (presented leg-first during childbirth) in the womb. They help women have a normal delivery. They take away the pain by sharing it, through shared breathing exercises, the singing of songs, humming and chanting. They physically support birth-giving mothers. They also offer suggestions about the posture during delivery and help deliver babies safely.

Why then did the barbers remain a poor, illiterate and backward community? According to some religious scriptures, because barbers cut hair they should be treated as an unworthy people. Since the barbers also performed surgeries, they dealt with diseased human bodies. They were therefore considered 'polluted'. Such ideas resulted in this community suffering social and spiritual stigma. This community, which has had a history of serving every class and group of society, needs to be treated with respect. If we do not allow them to become doctors, surgeons, artists, lawyers or IT professionals in this modern world, the loss will be ours. At the same time, every one should aspire for the career of a hairstylist, as barbers are also known today.

Skilled dais

Dais follow an interesting practice to detect the approach of childbirth. According to dais in Bihar and Tamil Nadu, oil is poured on the navel of the mother and its flow is observed. If the oil flows down without staying in place, it means that childbirth is fast approaching. The delivery position followed by dais is radically different from the 'lithotomy' position (lying down with the feet up in stirrups) preferred in modern hospitals. The preferred posture is the kneeling position, which makes it easy for the mother to strain and bear down. The dais say that lithotomy brings the foetus up into the chest region of the mother and makes it difficult for the mother to bear down when the contractions begin. In fact, the lithotomy posture is designed more for the convenience of the attending doctor than that of the mother. When the mother is exhausted, the lying position with the knees drawn up is used. In this posture when the contractions begin, the mother is made to hold her thighs while her head and back are lifted and supported. Again the main consideration is to make the straining and bearing down easy and efficient.

DR. SAMATHA POTTU, *The Hindu*, 8 October 2000

Status of doctors in ancient India

What was the status of doctors in our early history? In the legal literature of the Dharmashastras, which took shape in the sixth and fifth century BCE, the doctors were declared to be impure. Their very presence was said to pollute a place; food received or given to them was considered impure, and they were not invited for sacrificial ceremonies. In social status they were considered equal to hunters and followers of other 'despicable professions'. These views were recorded in the *Apasthamba Dharmasutra* (1.6.19), *Gautama Dharmasutra* (XVII. 7) and *Vashistha Dharmasutra* (XIV. 110, 19). Because the healers were denied respectability, it was ordered that medical practice should be restricted to the ambastha caste as stated in *Manusmriti* (X: 4647). Persons of 'noble birth' were forbidden from learning medicine. In Kautilya's *Arthashastra* (written about 300 BCE), there is chapter on salaries to be paid by the Mauryan emperor to his employees. The highest salary was 64,000 panas was to be paid to the queen mother, chief minister, commander-in-chief of the army, and the emperor's priest. The next salary slab was halved to 32,000 panas for notable government functionaries. In this descending scale, the physician, along with the water-carrier and the horse-groom, was placed in the salary slab of 4 panas. Thus formidable difficulties were created for the progress of medical science.

P.S. CHARI, Head, Department of Plastic Surgery, Postgraduate Institute of Medical Education and Research, Chandigarh, in his article "Susruta and our heritage", *Indian Journal of Plastic Surgery*, 2003, 36: 413.

In India, barbers are known by various caste names depending on the region. In Telugu-speaking areas, they are known as mangali; in Tamil Nadu as nasuvan and navithan. In most Hindi-speaking parts they are known as nayee, and also as vostaad and hajjam. Barbers are also associated with music. They are known to play the nadaswaram and shehnai. The famous mandolin player U. Srinivas and the mridangam maestro Yella Venkateswara Rao belong to the mangali community.

9 LABOUR AS LIFE

over thousands of years, labour has
improved the quality of human life

Every human being needs to work in order to live. The process of work is known as labour. Labour is organised in such a way that some people have to do certain primary works without which others cannot survive. Some people perform secondary works, which supplement the primary labour processes.

In ancient times, the hunting of animals, the gathering of fruits, the digging of roots and fishing were basic life-sustaining works. These activities involved the generation of food from nature. After this primitive stage, humans tried to gain control over nature in order improve the quality of life. The cultivation of land and organised food production were the first steps. The tilling of land necessitated the development of basic science and technology in order to become full-scale agriculture. Leatherworkers, potters, ironsmiths, carpenters and so on created the earliest science and technology. All these technological instruments were essential to bring land under cultivation, to produce grains, vegetables and fruits in a sustainable and controlled fashion.

Before agriculture became a full-fledged, labour-oriented activity, human beings domesticated cattle. With the development of agriculture leading to a settled life, goat, sheep and hen rearing was developed. The rearing of cattle – the science of animal husbandry – also involved intense labour. Following this, the science of weaving clothes, and washing and cleaning them developed. Before agriculture, the domestication of cattle and the evolution of pottery and other artisan crafts, human life was very short. In 5000 BCE, life expectancy was as little as 30 years for women and 35 for men. With the development of various labouring processes, the discovery of new science and technological practices followed. Men and women

from societies across the world contributed to these processes of improvement of human life. In India, communities involved with such labours came to be treated as 'lower' castes.

Labour as profession

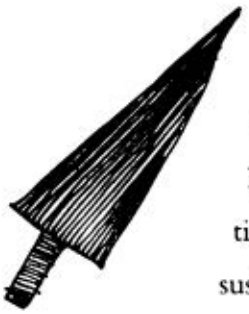
These productive tasks were divided among various groups. Each social group specialised in some work or the other. Meanwhile, religions developed. Early religions were essentially a means of dealing with certain physical and natural phenomena that could not be explained or understood by the human mind. Some religions organised the labouring masses. A few people in society became priests, some became writers, weavers, potters, farmers, singers and painters. In many societies, if one generation was involved with a particular profession, the next generation picked up another profession. A woman could have been a potter, but her son could become a farmer or a priest. In most societies, professions rotated among people. Leatherworkers became storywriters and storywriters became leatherworkers. Pot-makers became priests and priests became pot-makers. Barbers became administrators and administrators became barbers, and so on.

If we look at family names and surnames that evolved around the medieval times (12th and 13th centuries) in Europe, several people have family names based on the occupation with which they or their ancestors were involved at some point of time: Potter, Baker, Sawyer Smith, Fuller, Taylor, Barber, Carpenter, Archer, Fischer and so on. However, most people bearing these surnames today would not necessarily be involved in their original professions. Over generations, in these societies, people changed their professions frequently. Since families shifted and

changed professions, the professional knowledge rotated and expanded into all working communities. That is how most universal religions came to respect all kinds of work. The principle of 'work as worship' sustained several religions.

The problem of caste

However, in India, about 3000 years ago, a few non-labouring groups devised the caste system. The priests and administrators of that period took the existing divisions of labour and declared that every human being had a predestined, preordained station in life. Writers like Manu and Kautilya divided such specialised groups into castes. Unlike in other societies, in most parts of India it was birth that determined a person's profession and the labour he or she could do. Except for those born in castes that called themselves brahmins, kshatriyas and vaishyas, others were not allowed to go to school, read and write books for centuries. The priests and writers of this period spread negative views about any work that involved productive labour. Leatherwork, the cleaning of public places, the making of pots and even the tilling of land were treated as bad work. People involved with these life-sustaining tasks were called 'lower' castes. They were placed at the bottom of the caste system as sudras and sometimes outside the caste system as chandalas. The non-productive castes – priests, warriors, administrators and traders – did not do any hard, physical work. Nor did they create any material science and technology. However, they enjoyed the benefits of the labouring, technological castes.



The promoters of the caste system created a philosophy, according to which the educated intellectual classes should not be involved in the production of food, in

pot-making, in leatherwork, in cleaning tasks, carpentry, weaving, etc. Such an understanding destroyed dignity of labour. Over a period, with every labour-oriented activity treated as undignified, the educated sections of society forgot the fact that labour is the source of life. Because of the denial of education and writing to the labouring castes, science did not develop to a more advanced stage in India. Egyptian paintings and scrolls carry graphic natural-style depictions of the labours of weaving, agriculture, carpentry and iron-making. However, in Indian temples, the natural labour processes of the productive working classes were never portrayed. While eating, dancing and sexuality were given a place in the sculptural art of temples, everyday labours were not considered a suitable subject for art.

The lifeblood of civilisations

Labour is the lifeblood of civilisations. If labour is neglected, the cancer of laziness develops in every society. In India, the labouring communities have been humiliated and those who do not do laborious work enjoy a high status. Because of this negative attitude towards labour, the labouring castes were treated as untouchables. If the labour was more difficult and a greater number of people benefited by such labour, the caste was made more untouchable. We therefore see that those who clean drains and roads, those who dispose dead animals in villages, those who look after the cattle, those who shave human heads and wash people's clothes are not only disrespected but are paid very low wages. Sometimes they are not even paid. Women's inequality was built into this caste system because of the extensive domestic labour women have been forced to do. In general, men in our society even today do not involve themselves with the work that women are traditionally forced to do.

Not only this, the educated castes and communities condemned those who laboured as stupid and unworthy of being treated as human beings. They were treated as people not worthy of education; not worthy of becoming writers, manager, engineers, doctors or accountants. The priestly community supported the attitude of treating hardworking people as bad people. Thus, the practice of humiliating the labouring communities received the sanctity of religion.

God does not hate any labour. It is some humans who do so. The concept of god is not related to issues like condemning labour and praising leisure. Whatever the belief of some people, labour is essential for the basic survival of human beings.

Labour is not like a prayer, which is an individual act. Labour is the process of regenerating oneself and regenerating others. The fruits of one individual's labour sustain other lives too. If one works on leather, it is transformed into a commodity—jacket, rope, belt, shoe, bag, drum, doll, etc. If one works on clay, it can be transformed into a pot. If one tills the land and sows seeds, it produces grains, vegetables and fruits. Once the labour of an individual produces commodities, several people consume them. The priest consumes them, the doctor consumes them, the teacher consumes them. If a priest or a teacher says that the producer is a fool, it is not just a spiritual sin but also a social crime.

Children must learn that labour is the source of life. They must not just respect labour, but also attempt to acquire skills in pottery, leatherwork, tilling, cattle-rearing, carpentry and weaving. They must learn about how these labours have an organic relationship with science and technological practices.

10 LABOUR & RELIGION

in a positive religion, labour is the best form of prayer

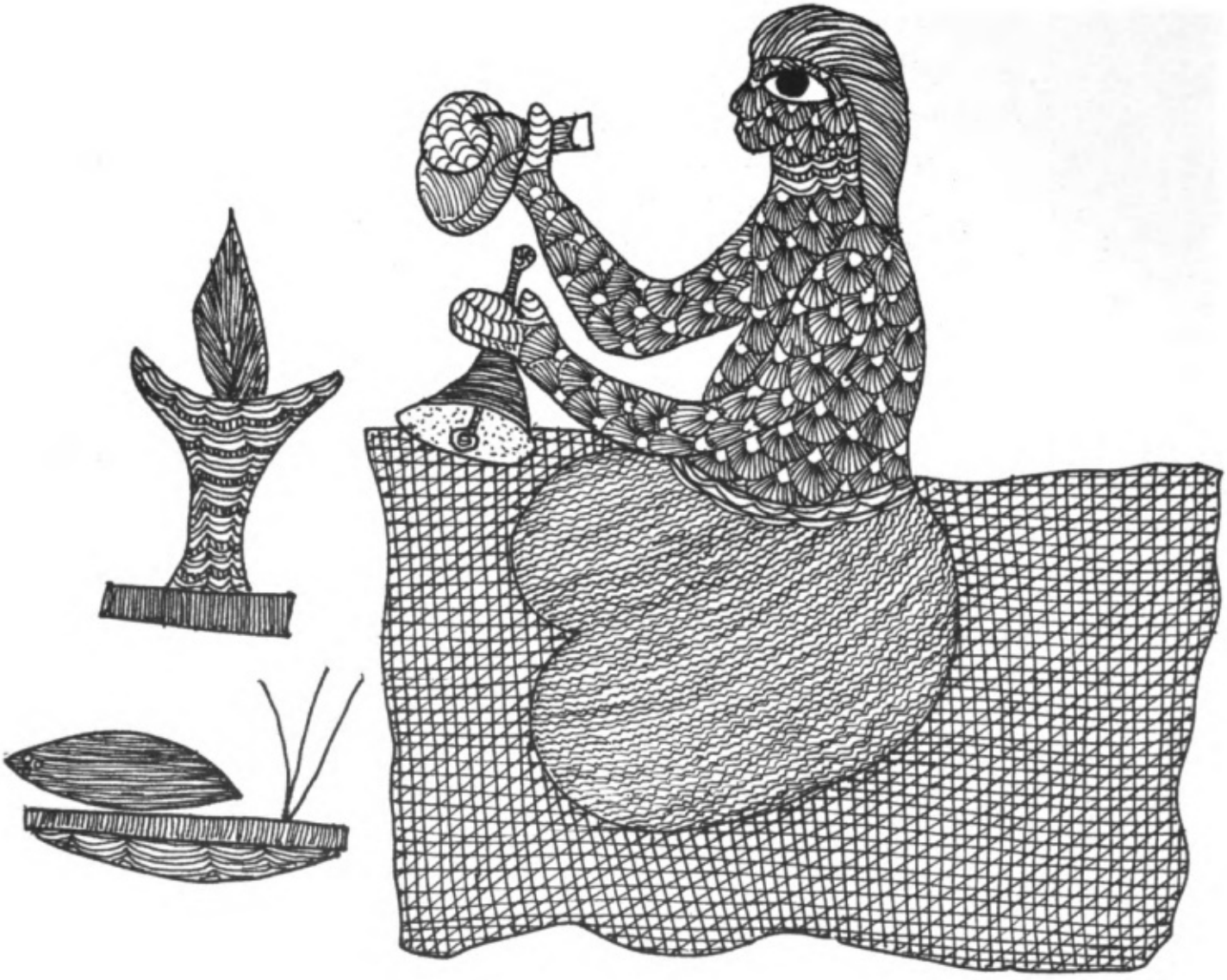
Does god exist, or not? This cannot be simply answered in 'yes' or 'no'. Most people in the world believe that god exists. Some do not believe so. It depends on the beliefs of individuals and communities. Based on the belief that god exists, different religions came into existence. Those who believe in god and consider themselves part of a particular religion cannot say 'god gives me food, shelter and education' without labouring for these goods. Both those who believe in god and those who do not believe in god will have to work in order to eat and live in comfort. Thus labour, god and religion are complementary.

Can a religion say that god does not like shoemaking, pot-making, the washing of clothes, or the tilling of land? Can a religion believe that a particular kind of productive labour is 'polluting' and that non-involvement in such work amounts to 'purity'? If a religion promotes such beliefs, it should be considered a negative religion. The concepts of god and religion seek to integrate productive, life-sustaining work with the natural processes of human existence.

Does god not like a person who sweeps the roads and keeps our cities, towns and villages clean? Does the waste that goes out of the human body – as urine, faeces, phlegm, menstrual blood – make that body untouchable? No positive religion thinks this way. It is important that when such waste comes out of the human body, the body needs to be washed clean, just as we wash our clothes. No civilised religion can say that those who wash themselves and wash the dirt of others are sinners or untouchables. In fact, those involved with the task of cleaning other people's waste should receive more respect in a positive religion.

Doctor = Sanitary Worker

A doctor inserts his hand or fingers into a patient's body in order to examine the



person. He does this by wearing gloves for two reasons: to prevent causing any new infection in the patient, and to ensure that the disease the patient has does not get passed on to the doctor. Similarly, the benefits of modern science must be extended to all professions. People who dispose garbage should be given the best mechanised equipment and protective gear so that contact with waste is minimised. Equally important, the salary of a doctor who cures human diseases and the salary of a sanitary worker who prevents the outbreak of diseases must be the same. They both perform equally significant labour. Similarly, those who work with leather must be paid the same as engineers who build dams.

If a religion and society evolve discriminatory principles, either through practice or through written principles in scriptures, it must be considered anti-human. The establishment of any institution – religious, social or political – that is against the dignity of labour is inhuman. The moment anyone finds an inhuman practice in any form in any society, she or he must reject such a practice and the values behind such a practice.

If indignity of labour is taught in the name of god and religion, it is done by people who wish to sustain their life by exploiting others. The concepts of god and religion in modern times cannot allow exploitation in any form. God and religion also cannot preach inequality and untouchability towards individuals and groups.

If dignity of labour becomes central to any society and religion, one can do leatherwork or dish washing in the morning, and in the afternoon he or she can work as a pujari, pastor or mullah. Is it right to use a leather product and to treat the leatherworker as an untouchable, to use pottery and consider the potter unworthy of respect, to wear clothes washed by a dhobi but to treat her/him as polluted?

11 LABOUR & GENDER

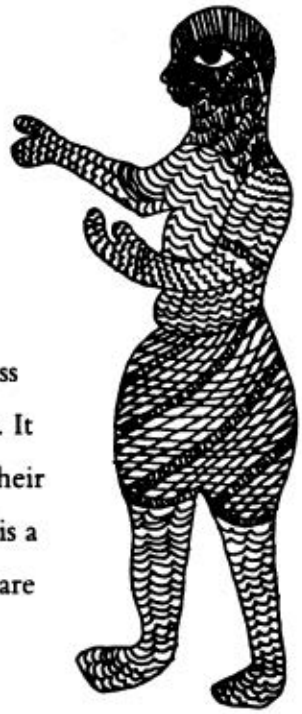
women can do all the work that men can,
and men must begin to share all household work

All human beings, women and men, need to work in order to live. The human body sustains and survives in good health only with work. The question is whether women and men can do the same work. In our day-to-day life, we see in our homes and even in the fields that women are made to do one type of work and men other types.

The gender difference in labour starts with the nurturing of a child. A child is born as a result of sexual intercourse between the mother and father. The mother bears the child, and then feeds the child with breast milk and sometimes with bottled milk. She washes the child's body when it passes stools or urine. Normally, the mother also bathes and dresses the child. In the kitchen, we see that she cooks the food. Again, it is the woman who washes the dishes, cleans the house. If the family does not hire a domestic help to wash clothes, the mother alone does all the work. Sweeping the house, swabbing it, or any other work of cleaning is generally done only by women members of the family.

This should not be the case. Except for feeding the baby with breast milk, every other task can be shared by both parents, by men and women equally. In the last few decades, in several societies men and women have begun to share such basic domestic labour. However, in most cases, Indian men do not share any such work. Why?

In Indian families, right from childhood, work within the house gets divided between girls and boys. Girls are told to help the mother in the kitchen. Cutting vegetables, washing dishes, washing clothes, sweeping and swabbing the house and so on are seen as female tasks. Boys are only told to help the family with regard to agrarian work and buying provisions from shops. Mothers themselves do not like



to teach male children how to clean the house or help with the cooking. They also do not like to send girls out on agrarian work or ask them to cycle down to the neighbourhood shop. If some mother wants to train her son and daughter in every type of work, the father may disapprove.

Society assumes that women and men are naturally meant to do different things. This thinking is similar across caste, religion and class background of families. This results in the gender division of labour. It is a wrong idea that if boys do the cooking, cleaning and washing, their maleness gets reduced and they are seen as *feminine*. Similarly, there is a misconception that if girls do the things that traditionally only boys are supposed do, their femaleness gets reduced and they are seen as *masculine*. These are wrong and baseless views.

In several professions, men and women share the tasks equally. In some cases, women do more work. In villages, there are women who till the land, and there are men who sow the seeds. In dhobi families, both women and men wash the clothes of their customers. Among the weavers, women are equally involved. In several families, there are men who cook and there are women who do jobs outside the home. But in urban households, where women work as professionals outside their homes, they end up doing double the work. This is so because when it comes to cooking for the family men do not fully participate in kitchen work. Such double work destroys the health and energies of women.

The gender division of labour is largely a result of patriarchy—a condition where fathers or male members in a family or society tend to dominate. A patriarchal society forces girls and women to feel inferior to boys and men.

It conditions men to think they are superior. The question of equality between men and women is a labour-related question. For example, a question that is normally asked is: can a girl/woman do every kind of labour that a boy/man can do? The scientific answer is 'yes'. If girls are given the same food that boys are given, if girls are assigned the same work that boys are assigned, if they are trained in schools and colleges like boys, if they are trained equally in every field of activity, they can do all the things that boys can do. Similarly men can and must do every household activity that women do.

Stone Age labour

Most histories claim that hunting was a key activity in human development that allowed humans to survive and inherit the earth. Traditionally men are said to have had a more significant role in hunting since the Old Stone Age. But hunting alone cannot provide enough food. Stone Age humans hunted for only one week per month, that too collectively, along with the women. The rest of the time they ate the nuts, berries, herbs and grasses that women gathered. This often amounted to 80 percent of the total food consumed and indicates that women would never have been dependent on men to bring home the meat.

However, a more significant development took place entirely inside women's bodies: the shift from primate oestrus (when the female periodically comes on heat) to menstruation. The great female primates – chimpanzees, gorillas and orang-utans – come on heat rarely and produce one baby every five or six years. This puts the species at great risk. Among several mammals, the females come on heat less often than in human females. It also means they can only survive in a favourable environment. With 12 chances of conceiving every year, the human female has a much greater reproductive capacity. This enabled the species to survive in the most hostile habitats.

Besides food-gathering a more important contribution to the evolution of the human brain was childcare. And the female of the human species played a more important role in this.

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