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A HISTORY *of* WORLD *in* 6 GLASSES

TOM STANDAGE

Author of *The Victorian Internet* and *The Turk*

"Historians, understandably, devote most of their attention to war, politics and, not least, money. But history can also be seen through the prism of the commodities that money buys. In *A History of the World in Six Glasses,* Tom Standage argues that beer, wine, spirits, coffee, tea and cola have each, in their own way, helped to shape the course of history."—Matthew Rees, *Wall Street Journal*

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ALSO BY TOM STANDAGE

The Neptune File

The Turk

The Victorian Internet

A HISTORY *of the* WORLD *in 6* GLASSES

TOM STANDAGE

Walker & Company

New York

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To my parents

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Introduction

Vital Fluids

There is no history of mankind, there are only many histories of all kinds of aspects of human life.
—Karl Popper, philosopher of science (1902-94)

THIRST is DEADLIER than hunger. Deprived of food, you might survive for a few weeks, but deprived of liquid refreshment, you would be lucky to last more than a few days. Only breathing matters more. Tens of thousands of years ago, early humans foraging in small bands had to remain near rivers, springs, and lakes to ensure an adequate supply of freshwater, since storing or carrying it was impractical. The availability of water constrained and guided humankind's progress. Drinks have continued to shape human history ever since.

Only in the past ten thousand years or so have other beverages emerged to challenge the preeminence of water. These drinks do not occur naturally in any quantity but must be made deliberately. As well as offering safer alternatives to con taminated, disease-ridden water supplies in human settlements, these new beverages have taken on a variety of roles. Many of them have been used as currencies, in religious rites, as political symbols, or as sources of philosophical and artistic inspiration. Some have served to highlight the power and status of the elite, and others to subjugate or appease the downtrodden. Drinks have been used to celebrate births, commemorate deaths, and forge and strengthen social bonds; to seal business transactions and treaties; to sharpen the senses or dull the mind; to convey lifesaving medicines and deadly poisons.

As the tides of history have ebbed and flowed, different drinks have come to prominence in different times, places, and cultures, from stone-age villages to ancient Greek dining rooms or Enlightenment coffeehouses. Each one became popular when it met a particular need or aligned with a historical trend; in some cases, it then went on to influence the course of history in unexpected ways. Just as archaeologists divide history into different periods based on the use of different materials—the stone age, the bronze age, the iron age, and so on—it is also possible to divide world history into periods dominated by different drinks. Six beverages in particular—beer, wine, spirits, coffee, tea, and cola—chart the flow of world history. Three contain alcohol, and three contain caffeine, but what

they all have in common is that each one was the defining drink during a pivotal historical period, from antiquity to the present day.

The event that set humankind on the path toward modernity was the adoption of farming, beginning with the domestication of cereal grains, which first took place in the Near East around ten thousand years ago and was accompanied by the appearance of a rudimentary form of beer. The first civilizations arose around five thousand years later in Mesopotamia and Egypt, two parallel cultures founded on a surplus of cereal grains produced by organized agriculture on a massive scale. This freed a small fraction of the population from the need to work in the fields and made possible the emergence of specialist priests, administrators, scribes, and craftsmen. Not only did beer nourish the inhabitants of the first cities and the authors of the first written documents, but their wages and rations were paid in bread and beer, as cereal grains were the basis of the economy.

The flourishing culture that developed within the city-states of ancient Greece in the first millennium BCE spawned advances in philosophy, politics, science, and literature that still underpin modern Western thought. Wine was the lifeblood of this Mediterranean civilization, and the basis of vast seaborne trade that helped to spread Greek ideas far and wide. Politics, poetry, and philosophy were discussed at formal drinking parties, or *symposia,* in which the participants drank from a shared bowl of diluted wine. The spread of wine drinking continued under the Romans, the structure of whose hierarchical society was reflected in a minutely calibrated pecking order of wines and wine styles. Two of the world's major religions issued opposing verdicts on the drink: The Christian ritual of the Eucharist has wine at its center, but following the collapse of the Roman Empire and the rise of Islam, wine was banned in the very region of its birth.

The rebirth of Western thought a millennium after the fall of Rome was sparked by the rediscovery of Greek and Roman knowledge, much of which had been safeguarded and extended by scholars in the Arab world. At the same time, European explorers, driven by the desire to circumvent the Arab monopoly on trade with the East, sailed west to the Americas and east to India and China. Global sea routes were established, and European nations vied with one another to carve up the globe. During this Age of Exploration a new range of beverages came to the fore, made possible by distillation, an alchemical process known in the ancient world but much improved by Arab scholars. Distilled drinks provided

alcohol in a compact, durable form ideal for sea transport. Such drinks as brandy, rum, and whiskey were used as currency to buy slaves and became particularly popular in the North American colonies, where they became so politically contentious that they played a key role in the establishment of the United States.

Hard on the heels of this geographic expansion came its intellectual counterpart, as Western thinkers looked beyond long-held beliefs inherited from the Greeks and devised new scientific, political, and economic theories. The dominant drink of this Age of Reason was coffee, a mysterious and fashionable beverage introduced to Europe from the Middle East. The establishments that sprung up to serve coffee had a markedly different character from taverns that sold alcoholic drinks, and became centers of commercial, political, and intellectual exchange. Coffee promoted clarity of thought, making it the ideal drink for scientists, businessmen, and philosophers. Coffeehouse discussions led to the establishment of scientific societies, the founding of newspapers, the establishment of financial institutions, and provided fertile ground for revolutionary thought, particularly in France.

In some European nations, and particularly in Britain, coffee was challenged by tea imported from China. Its popularity in Europe helped to open lucrative trade routes with the East and underpinned imperialism and industrialization on an unprecedented scale, enabling Britain to become the first global superpower. Once tea had established itself as Britain's national drink, the desire to maintain the tea supply had far-reaching effects on British foreign policy, contributing to the independence of the United States, the undermining of China's ancient civilization, and the establishment of tea production in India on an industrial scale.

Although artificially carbonated beverages originated in Europe in the late eighteenth century, the soft drink came into its own with the invention of Coca-Cola one hundred years later. Originally devised as a medicinal pick-me-up by an Atlanta pharmacist, it became America's national drink, an emblem of the vibrant consumer capitalism that helped to transform the United States into a superpower. Traveling alongside American servicemen as they fought wars around the world during the twentieth century, Coca-Cola went on to become the world's most widely known and distributed product and is now an icon of the controversial march toward a single global marketplace.

Drinks have had a closer connection to the flow of history than is generally acknowledged, and a greater influence on its course. Understanding the

ramifications of who drank what, and why, and where they got it from, requires the traversal of many disparate and otherwise unrelated fields: the histories of agricul ture, philosophy, religion, medicine, technology, and commerce. The six beverages highlighted in this book demonstrate the complex interplay of different civilizations and the interconnectedness of world cultures. They survive in our homes today as living reminders of bygone eras, fluid testaments to the forces that shaped the modern world. Uncover their origins, and you may never look at your favorite drink in quite the same way again.

BEER *in*
MESOPOTAMIA
and EGYPT

1

A Stone-Age Brew

Fermentation and civilization are inseparable.
—*John Ciardi, American poet (1916-86)*

A Pint of Prehistory

THE HUMANS WHO migrated out of Africa starting around 50,000 years ago traveled in small nomadic bands, perhaps thirty strong, and lived in caves, huts, or skin tents. They hunted game, caught fish and shellfish, and gathered edible plants, moving from one temporary camp to another to exploit seasonal food supplies. Their tools included bows and arrows, fishhooks, and needles. But then, starting around 12,000 years ago, a remarkable shift occurred. Humans in the Near East abandoned the old hunter-gatherer lifestyle of the Paleolithic period (old stone age) and began to take up farming instead, settling down in villages which eventually grew to become the world's first cities. They also developed many new technologies, including pottery, wheeled vehicles, and writing.

Ever since the emergence of "anatomically modern" humans, or *Homo sapiens sapiens,* in Africa around 150,000 years ago, water had been humankind's basic drink. A fluid of primordial importance, it makes up two-thirds of the human body, and no life on Earth can exist without it. But with the switch from the hunter-gatherer lifestyle to a more settled way of life, humans came to rely on a new beverage derived from barley and wheat, the cereal grains that were the first plants to be deliberately cultivated. This drink became central to social, religious, and economic life and was the staple beverage of the earliest civilizations. It was the drink that first helped humanity along the path to the modern world: beer.

Exactly when the first beer was brewed is not known. There was almost certainly no beer before 10,000 BCE, but it was widespread in the Near East by 4000 BCE, when it appears in a pictogram from Mesopotamia, a region that corresponds to modern-day Iraq, depicting two figures drinking beer through reed straws from a large pottery jar. (Ancient beer had grains, chaff, and other

debris floating on its surface, so a straw was necessary to avoid swallowing them.)

Since the first examples of writing date from around 3400 BCE, the earliest written documents can shed no direct light on beer's origins. What is clear, however, is that the rise of beer was closely associated with the domestication of the cereal grains from which it is made and the adoption of farming. It came into existence during a turbulent period in human history that witnessed the switch from a nomadic to a settled lifestyle, followed by a sudden increase in social complexity manifested most strikingly in the emergence of cities. Beer is a liquid relic from human prehistory, and its origins are closely intertwined with the origins of civilization itself.

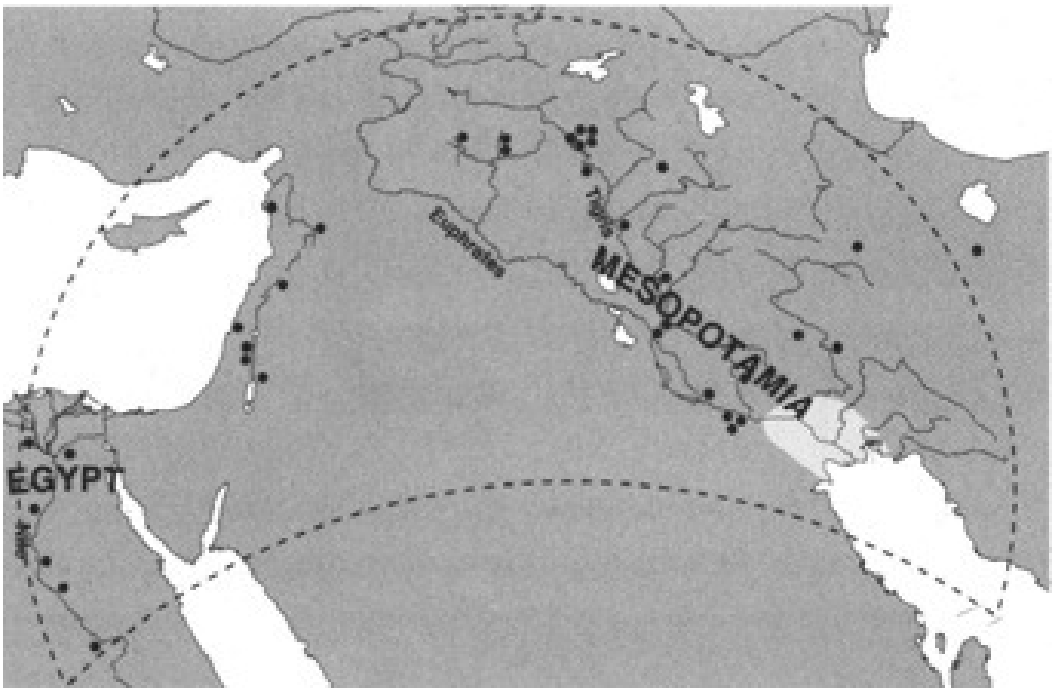
A pictogram from a seal found at Tepe Gawra in Mesopotamia dating from around 4000 BCE. It shows two figures drinking beer through straws from a large pottery jar.

The Discovery of Beer

Beer was not invented but discovered. Its discovery was inevitable once the gathering of wild grains became widespread after the end of the last ice age, around 10,000 BCE, in a region known as the Fertile Crescent. This area stretches from modern-day Egypt, up the Mediterranean coast to the southeast

corner of Turkey, and then down again to the border between Iraq and Iran. It is so named because of a happy accident of geography.

When the ice age ended, the uplands of the region provided an ideal environment for wild sheep, goats, cattle, and pigs—and, in some areas, for dense stands of wild wheat and barley. This meant the Fertile Crescent provided unusually rich pickings for roving bands of human hunter-gatherers. They not only hunted animals and gathered edible plants but collected the abundant cereal grains growing wild in the region.



The Fertile Crescent, a region of the Near East where humans first took up farming and established large-scale settlements (shown here as black dots)

Such grains provided an unexciting but reliable source of food. Although unsuitable for consumption when raw, they can be made edible by roughly pounding or crushing them and then soaking them in water. Initially, they were probably just mixed into soup. A variety of ingredients such as fish, nuts, and berries would have been mixed with water in a plastered or bitumen-lined basket. Stones, heated in a fire, were then dropped in, using a forked stick. Grains contain tiny granules of starch, and when placed in hot water they absorb moisture and then burst, releasing the starch into the soup and thickening it considerably.

Cereal grains, it was soon discovered, had another unusual property: Unlike other foodstuffs, they could be stored for consumption months or even years later, if kept dry and safe. When no other foodstuffs were available to make

soup, they could be used on their own to make either a thick porridge or a thin broth or gruel. This discovery led to the development of tools and techniques to collect, process, and store grain. It involved quite a lot of effort but provided a way to guard against the possibility of future food shortages. Throughout the Fertile Crescent there is archaeological evidence from around 10,000 BCE of flint-bladed sickles for harvesting cereal grains, woven baskets for carrying them, stone hearths for drying them, underground pits for storing them, and grindstones for processing them.

Although hunter-gatherers had previously led semisettled rather than entirely nomadic lives, moving between a number of temporary or seasonal shelters, the ability to store cereal grains began to encourage people to stay in one place. An experiment carried out in the 1960s shows why. An archaeologist used a flint-bladed sickle to see how efficiently a prehistoric family could have harvested wild grains, which still grow in some parts of Turkey. In one hour he gathered more than two pounds of grain, which suggested that a family that worked eight-hour days for three weeks would have been able to gather enough to provide each family member with a pound of grain a day for a year. But this would have meant staying near the stands of wild cereals to ensure the family did not miss the most suitable time to harvest them. And having gathered a large quantity of grain, they would be reluctant to leave it unguarded.

The result was the first permanent settlements, such as those established on the eastern coast of the Mediterranean from around 10,000 BCE. They consisted of simple, round huts with roofs supported by wooden posts and floors sunk up to a yard into the ground. These huts usually had a hearth and a floor paved with stones and were four or five yards in diameter. A typical village consisted of around fifty huts, supporting a community of two hundred or three hundred people. Although the residents of such villages continued to hunt wild animals such as gazelles, deer, and boar, skeletal evidence suggests that they subsisted on a mainly plant-based diet of acorns, lentils, chickpeas, and cereals, which at this stage were still gathered in the wild, rather than cultivated deliberately.

Cereal grains, which started off as relatively unimportant foodstuffs, took on greater significance following the discovery that they had two more unusual properties. The first was that grain soaked in water, so that it starts to sprout, tastes sweet. It was difficult to make storage pits perfectly watertight, so this property would have become apparent as soon as humans first began to store grain. The cause of this sweetness is now understood: Moistened grain produces

diastase enzymes, which convert starch within the grain into maltose sugar, or malt. (This process occurs in all cereal grains, but barley produces by far the most diastase enzymes and hence the most maltose sugar.) At a time when few other sources of sugar were available, the sweetness of this "malted" grain would have been highly valued, prompting the development of deliberate malting techniques, in which the grain was first soaked and then dried.

The second discovery was even more momentous. Gruel that was left sitting around for a couple of days underwent a mysterious transformation, particularly if it had been made with malted grain: It became slightly fizzy and pleasantly intoxicating, as the action of wild yeasts from the air fermented the sugar in the gruel into alcohol. The gruel, in short, turned into beer. Even so, beer was not necessarily the first form of alcohol to pass human lips. At the time of beer's discovery, alcohol from the accidental fermentation of fruit juice (to make wine) or water and honey (to make mead) would have occurred naturally in small quantities as people tried to store fruit or honey. But fruit is seasonal and perishes easily, wild honey was only available in limited quantities, and neither wine nor mead could be stored for very long without pottery, which did not emerge until around 6000 BCE. Beer, on the other hand, could be made from cereal crops, which were abundant and could be easily stored, allowing beer to be made reliably, and in quantity, when needed. Long before pottery was available, it could have been brewed in pitch-lined baskets, leather bags or animal stomachs, hollowed-out trees, large shells, or stone vessels. Shells were used for cooking as recently as the nineteenth century in the Amazon basin, and Sahti, a traditional beer made in Finland, is still brewed in hollowed-out trees today.

Once the crucial discovery of beer had been made, its quality was improved through trial and error. The more malted grain there is in the original gruel, for example, and the longer it is left to ferment, the stronger the beer. More malt means more sugar, and a longer fermentation means more of the sugar is turned into alcohol. Thoroughly cooking the gruel also contributes to the beer's strength. The malting process converts only around 15 percent of the starch found in barley grains into sugar, but when malted barley is mixed with water and brought to the boil, other starch-converting enzymes, which become active at higher temperatures, turn more of the starch into sugar, so there is more sugar for the yeast to transform into alcohol.

Ancient brewers also noticed that using the same container repeatedly for

brewing produced more reliable results. Later historical records from Egypt and Mesopotamia show that brewers always carried their own "mash tubs" around with them, and one Mesopotamian myth refers to "containers which make the beer good." Repeated use of the same mash tub promoted successful fermentation because yeast cultures took up residence in the container's cracks and crevices, so that there was no need to rely on the more capricious wild yeast. Finally, adding berries, honey, spices, herbs, and other flavorings to the gruel altered the taste of the resulting beer in various ways. Over the next few thousand years, people discovered how to make a variety of beers of different strengths and flavors for different occasions.

Later Egyptian records mention at least seventeen kinds of beer, some of them referred to in poetic terms that sound, to modern ears, almost like advertising slogans: Different beers were known as "the beautiful and good," "the heavenly," "the joy-bringer," "the addition to the meal," "the plentiful," "the fermented." Beers used in religious ceremonies also had special names. Similarly, early written references to beer from Mesopotamia, in the third millennium BCE, list over twenty different kinds, including fresh beer, dark beer, fresh-dark beer, strong beer, red-brown beer, light beer, and pressed beer. Red-brown beer was a dark beer made using extra malt, while pressed beer was a weaker, more watery brew that contained less grain. Mesopotamian brewers could also control the taste and color of their beer by adding different amounts of *bappir,* or beer-bread. To make *bappir,* sprouted barley was shaped into lumps, like small loaves, which were baked twice to produce a dark-brown, crunchy, unleavened bread that could be stored for years before being crumbled into the brewer's vat. Records indicate that *bappir* was kept in government storehouses and was only eaten during food shortages; it was not so much a foodstuff as a convenient way to store the raw material for making beer..

The Mesopotamian use of bread in brewing has led to much debate among archaeologists, some of whom have suggested that bread must therefore be an offshoot of beer making, while others have argued that bread came first and was subsequently used as an ingredient in beer. It seems most likely, however, that both bread and beer were derived from gruel. A thick gruel could be baked in the sun or on a hot stone to make flatbread; a thin gruel could be left to ferment into beer. The two were different sides of the same coin: Bread was solid beer, and beer was liquid bread.

Under the Influence of Beer?

Since writing had not been invented at the time, there are no written records to attest to the social and ritual importance of beer in the Fertile Crescent during the new stone age, or Neolithic period, between 9000 BCE and 4000 BCE. But much can be inferred from later records of the way beer was used by the first literate civilizations, the Sumerians of Mesojpotamia and the ancient Egyptians. Indeed, so enduring are the cultural traditions associated with beer that some of them survive to this day.

From the start, it seems that beer had an important function as a social drink. Sumerian depictions of beer from the third millennium BCE generally show two people drinking through straws from a shared vessel. By the Sumerian period, however, it was possible to filter the grains, chaff, and other debris from beer, and the advent of pottery meant it could just as easily have been served in individual cups. That beer drinkers are, nonetheless, so widely depicted using straws suggests that it was a ritual that persisted even when straws were no longer necessary.

The most likely explanation for this preference is that, unlike food, beverages can genuinely be shared. When several people drink beer from the same vessel, they are all consuming the same liquid; when cutting up a piece of meat, in contrast, some parts are usually deemed to be more desirable than others. As a result, sharing a drink with someone is a universal symbol of hospitality and friendship. It signals that the person offering the drink can be trusted, by demonstrating that it is not poisoned or otherwise unsuitable for consumption. The earliest beer, brewed in a primitive vessel in an era that predated the use of individual cups, would have to have been shared. Although it is no longer customary to offer visitors a straw through which to drink from a communal vat of beer, today tea or coffee may be offered from a shared pot, or a glass of wine or spirits from a shared bottle. And when drinking alcohol in a social setting, the clinking of glasses symbolically reunites the glasses into a single vessel of shared liquid. These are traditions with very ancient origins.

Just as ancient is the notion that drinks, and alcoholic drinks in particular, have supernatural properties. To Neolithic drinkers, beer's ability to intoxicate and induce a state of altered consciousness seemed magical. So, too, did the mysterious process of fermentation, which transformed ordinary gruel into beer. The obvious conclusion was that beer was a gift from the gods; accordingly,

many cultures have myths that explain how the gods invented beer and then showed humankind how to make it. The Egyptians, for example, believed that beer was accidentally discovered by Osiris, the god of agriculture and king of the afterlife. One day he prepared a mixture of water and sprouted grain, but forgot about it and left it in the sun. He later returned to find the gruel had fermented, decided to drink it, and was so pleased with the result that he passed his knowledge on to humankind. (This tale seems to tally closely with the way beer was probably discovered in the stone age.) Other beer-drinking cultures tell similar stories.

Since beer was a gift from the gods, it was also the logical thing to present as a religious offering. Beer was certainly used in religious ceremonies, agricultural fertility rites, and funerals by the Sumerians and the Egyptians, so it seems likely that its religious use goes back farther still. Indeed, the religious significance of beer seems to be common to every beer-drinking culture, whether in the Americas, Africa, or Eurasia. The Incas offered their beer, called *chicha,* to the rising sun in a golden cup, and poured it on the ground or spat out their first mouthful as an offering to the gods of the Earth; the Aztecs offered their beer, called pulque, to Mayahuel, the goddess of fertility. In China, beers made from millet and rice were used in funerals and other ceremonies. The practice of raising a glass to wish someone good health, a happy marriage, or a safe passage into the afterlife, or to celebrate the successful completion of a project, is the modern echo of the ancient idea that alcohol has the power to invoke supernatural forces.

Beer and Farming, the Seeds of Modernity

Some anthropologists have even suggested that beer might have played a central role in the adoption of agriculture, one of the turning points of human history. Farming paved the way for the emergence of civilization by creating food surpluses, freeing some members of society from the need to produce food and enabling them to specialize in particular activities and crafts, and so setting humanity on the path to the modern world. This happened first in the Fertile Crescent, starting around 9000 BCE, as people began cultivating barley and wheat deliberately, rather than simply gathering wild grains for consumption and storage.

Of course, the switch from hunting and gathering to farming was a gradual

transition over a few thousand years, as deliberately cultivated crops played an increasingly significant dietary role. Yet in the grand scheme of human history, it happened in an eyeblink. Humans had been hunter-gatherers ever since humankind diverged from the apes, around seven million years earlier; then they suddenly took up farming. Exactly why the switch to farming occurred, and occurred when it did, is still hotly debated, and there are dozens of theories. Perhaps the amount of food available to hunter-gatherers in the Fertile Crescent diminished, for example, either because of climatic changes, or because some species died out or were hunted to extinction. Another possibility is that a more sedentary (but still hunter-gatherer) lifestyle increased human fertility, allowing the population to grow and creating demand for new sources of food. Or perhaps once beer had been discovered, and its consumption had become socially and ritually important, there was a greater desire to ensure the availability of grain by deliberate farming, rather than relying on wild grains. Farming was, according to this view, adopted partly in order to maintain the supply of beer.

Tempting though it is to attribute the adoption of agriculture entirely to beer, it seems most likely that beer drinking was just one of many factors that helped to tip the balance away from hunting and gathering and toward farming and a sedentary lifestyle based on small settlements. Once this transition had begun, a ratchet effect took hold: The more farming was relied on as a means of food production by a particular community, and the more its population grew, the harder it was to go back to the old nomadic lifestyle based on hunting and gathering.

Beer drinking would also have assisted the transition to farming in a more subtle way. Because long-term storage of beer was difficult, and complete fermentation takes up to a week, most beer would have been drunk much sooner, while still fermenting. Such a beer would have had a relatively low alcohol content by modern standards but would have been rich in suspended yeast, which dramatically improved its protein and vitamin content. The high level of vitamin B, in particular, would have compensated for the decline in the consumption of meat, the usual source of that vitamin, as hunting gave way to farming.

Furthermore, since it was made using boiled water, beer was safer to drink than water, which quickly becomes contaminated with human waste in even the smallest settlements. Although the link between contaminated water and ill health was not understood until modern times, humans quickly learned to be wary of

unfamiliar water supplies, and to drink where possible from clear-running streams away from human settlements. (Hunter-gatherers did not have to worry about contaminated water supplies, since they lived in small, mobile bands and left their human waste behind when they moved on.) In other words, beer helped to make up for the decline in food quality as people took up farming, provided a safe form of liquid nourishment, and gave groups of beer-drinking farmers a comparative nutritional advantage over non-beer drinkers.

Farming spread throughout the Fertile Crescent between 7000 BCE and 5000 BCE, as an increasing number of plants and animals (starting with sheep and goats) were domesticated, and new irrigation techniques made farming possible on the hot, dry lowlands of Mesopotamia and in the Nile Valley of Egypt. A typical farming village of the period consisted of huts built from clay and reed mats, and perhaps some rather grander houses built of sun-dried mud bricks. Beyond the village would have been fields where cereals, dates, and other crops were cultivated, with a few sheep and oxen tethered or penned nearby. Wild fowl, fish, and game, when available, supplemented the villagers' diet. It was a very different lifestyle from the hunting and gathering of just a few thousand years earlier. And the transition toward an even more complex society had begun. Settlements from this period often had a storehouse where valuable items were kept, including sacred objects and stores of surplus food. These storehouses were definitely communal, since they were far larger than would have been needed by any single family.

Keeping surplus food in the storehouse was one way to ward off future food shortages; ritual and religious activity, in which the gods were called upon to ensure a good harvest, was another. As these two activities became intertwined, deposits of surplus food came to be seen as offerings to the gods, and the storehouses became temples. To ensure all villagers were pulling their weight, contributions to the common storehouse were recorded using small clay tokens, found throughout the Fertile Crescent from as early as 8000 BCE. Such contributions were justified as religious offerings by administrator-priests who lived off the surplus food and directed communal activities, such as the construction of buildings and the maintenance of irrigation systems. Thus were sown the seeds of accountancy, writing, and bureaucracy.

The idea that beer provided some of the impetus for this dramatic shift in the nature of human activity, after millions of years of hunting and gathering, remains controversial. But the best evidence for the importance of beer in prehistoric

times is its extraordinary significance to the people of the first great civilizations. For although the origins of this ancient drink inevitably remain shrouded in mystery and conjecture, there is no question that the daily lives of Egyptians and Mesopotamians, young and old, rich and poor, were steeped in beer.

2
Civilized Beer

Pleasure—it is beer. Discomfort—it is an expedition.
—*Mesopotamian proverb, c. 2000 BCE*
The mouth of a perfectly contented man is filled with beer.
—*Egyptian proverb, c. 2200 BCE*

The Urban Revolution

THE WORLD'S FIRST cities arose in Mesopotamia, "the land between the streams," the name given to the area between the Tigris and Euphrates rivers that roughly corresponds to modern Iraq. Most of the inhabitants of these cities were farmers, who lived within the city walls and walked out to tend their fields each morning. Administrators and craftsmen who did not work in the fields were the earliest humans to live entirely urban lives. Wheeled vehicles trundled through the matrix of city streets; people bought and sold goods in bustling marketplaces. Religious ceremonies and public holidays passed by in a reassuringly regular cycle. Even the proverbs of the time have a familiar world-weariness, as this example shows: "He who possesses much silver may be happy; he who possesses much barley may be happy; but he who has nothing at all can sleep."

Exactly why people chose to live in large cities rather than small villages remains unclear. It was probably the result of several overlapping factors: People may have wanted to be near important religious or trading centers, for example, and in the case of Mesopotamia, security may have been a significant motivation. The lack of natural boundaries—Mesopotamia is essentially a large open plain—meant the area was subject to repeated invasions and attacks. From around 4300 BCE villages began to band together, forming ever-larger towns and eventually cities, each of which sat at the center of its own system of fields and irrigation channels. By 3000 BCE the city of Uruk, the largest of its day, had a population of around fifty thousand and was surrounded by a circle of fields ten miles in radius. By 2000 BCE almost the entire population in southern

Mesopotamia was living in a few dozen large city-states, including Uruk, Ur, Lagash, Eridu, and Nippur. Thereafter Egypt took the lead, and its cities, such as Memphis and Thebes, grew to become the ancient world's largest.

These two earliest examples of *civilization*—a word that simply means "living in cities"—were different in many ways. Political unification enabled Egyptian culture to endure almost unchanged for nearly three thousand years, for example, while Mesopotamia was the scene of constant political and military upheaval. But in one vital respect they were similar: Both cultures were made possible by an agricultural surplus, in particular an excess of grain. This surplus not only freed a small elite of administrators and craftsmen from the need to produce their own food but also funded vast public works such as canals, temples, and pyramids. As well as being the logical medium of exchange, grain was the basis of the national diet in both Egypt and Mesopotamia. It was a sort of edible money, and it was consumed in both solid and liquid forms, as bread and beer.

The Drink of the Civilized Man

The recorded history of beer, and indeed of everything else, begins in Sumer, a region in southern Mesopotamia where writing first began to emerge around 3400 BCE. That beer drinking was seen as a hallmark of civilization by the Mesopotamians is particularly apparent in a passage from the *Epic of Gilgamesh,* the world's first great literary work. Gilgamesh was a Sumerian king who ruled around 2700 BCE, and whose life story was subsequently embroidered into an elaborate myth by the Sumerians and their regional successors, the Akkadians and Babylonians. The story tells of Gilgamesrrs adventures with his friend Enkidu, who starts off as a wild man running naked in the wilderness but is introduced to the ways of civilization by a young woman. She takes Enkidu to a shepherds' village, the first rung on the ladder toward the high culture of the city, where

They placed food in front of him,
they placed beer in front of him;
Enkidu knew nothing about eating bread for food,
and of drinking beer he had not been taught.
The young woman spoke to Enkidu, saying:
uEat the food, Enkidu, it is the way one lives.

Drink the beer, as is the custom of the land."
Enkidu ate the food until he was sated,
He drank the beer—seven jugs!—and became expansive and sang with joy.
He was elated and his face glowed.
He splashed his shaggy body with water,
and rubbed himself with oil, and turned into a human.

Enkidu's primitive nature is demonstrated by his lack of familiarity with bread and beer; but once he has consumed them, and then washed himself, he too becomes a human and is then ready to go to Uruk, the city ruled by Gilgamesh. The Mesopotamians regarded the consumption of bread and beer as one of the things that distinguished them from savages and made them fully human. Interestingly, this belief seems to echo beer's association with a settled, orderly lifestyle, rather than the haphazard existence of hunter-gatherers in prehistoric times.

The possibility of drunkenness seems to have done nothing to undermine the equation of beer drinking with civilization. Most references to drunkenness in Mesopotamian literature are playful and humorous: Enkidu's initiation as a human, indeed, involved getting drunk and singing. Similarly, Sumerian myths depict the gods as very fallible, human characters who enjoy eating and drinking, and often drink too much. Their capricious behavior was blamed for the precarious and unpredictable nature of Sumerian life, in which harvests could fail and marauding armies could appear on the horizon at any moment. Sumerian religious ceremonies involved laying out a meal on a table in the temple before a divine image, followed by a banquet at which the consumption of food and drink by the priests and worshipers invoked the presence of the gods and the spirits of the dead.

Beer was just as important in ancient Egyptian culture, where references to it go back almost as far. It is mentioned in documents from the third dynasty, which began in 2650 BCE, and several varieties of beer are mentioned in "Pyramid Texts," the funerary texts found inscribed in pyramids from the end of the fifth dynasty, around 2350 BCE. (The Egyptians developed their own form of writing shortly after the Sumerians, to record both mundane transactions and kingly exploits, but whether it was an independent development or inspired by Sumerian writing remains unclear.) One survey of Egyptian literature found that beer, the Egyptian word for which was *hekt,* was mentioned more times than

any other foodstuff. As in Mesopotamia, beer was thought to have ancient and mythological origins, and it appears in prayers, myths, and legends.

One Egyptian tale even credits beer with saving humankind from destruction. Ra, the sun god, learned that humankind was plotting against him, and dispatched the goddess Hathor to exact punishment. But such was her ferocity that Ra feared there would soon be nobody left to worship him, and he took pity on humankind. He prepared a vast amount of beer—seven thousand jars of it, in some versions of the story—dyed it red to resemble blood, and spread it over the fields, where it shone like a vast mirror. Hathor paused to admire her reflection and then stooped to drink some of the mixture. She became intoxicated, fell asleep, and forgot about her bloody mission. Humankind was saved, and Hathor became the goddess of beer and brewing. Versions of this story have been found inscribed in the tombs of Egyptian kings, including Tutankhamen, Seti I, and Ramses the Great.

In contrast to the Mesopotamians' relaxed attitude toward intoxication, however, a strong disapproval of drunkenness was expressed in the practice texts copied out by apprentice scribes in Egypt, many of which have survived in large quantities in rubbish mounds. One passage admonishes young scribes: "Beer, it scareth men from thee, it sendeth thy soul to perdition. Thou art like a broken steering-oar in a ship, that is obedient on neither side." Another example, from a collection of advice called "The Wisdom of Ani," gives a similar warning: "Take not upon thyself to drink a jug of beer. Thou speakest, and an unintelligible utterance issueth from thy mouth." Such scribal training texts, however, are unrepresentative of Egyptian values in general. They disapprove of almost everything except endless studying in order to pursue a career as a scribe. Other texts have titles such as "Do Not Be a Soldier, Priest or Baker," "Do Not Be a Husbandman," and "Do Not Be a Charioteer."

Mesopotamians and Egyptians alike saw beer as an ancient, god-given drink that underpinned their existence, formed part of their cultural and religious identity, and had great social importance. "To make a beer hall" and "to sit in the beer hall" were popular Egyptian expressions that meant "to have a good time" or "to carouse," while the Sumerian expression a "pouring of beer" referred to a banquet or celebratory feast, and formal visits by the king to high officials' homes to receive tribute were recorded as "when the king drank beer at the house of so-and-so." In both cultures, beer was a staple food stuff without which no meal was complete. It was consumed by everyone, rich and poor, men and women, adults and children, from the top of the social pyramid to the bottom. It was truly

the defining drink of these first great civilizations.

The Origins of Writing

The earliest written documents are Sumerian wage lists and tax receipts, in which the symbol for beer, a clay vessel with diagonal linear markings drawn inside it, is one of the most common words, along with the symbols for grain, textiles, and livestock. That is because writing was originally invented to record the collection and distribution of grain, beer, bread, and other goods. It arose as a natural extension of the Neolithic custom of using tokens to account for contributions to a communal storehouse. Indeed, Sumerian society was a logical continuation of Neolithic social structures but on a far larger scale, the culmination of thousands of years of increasing economic and cultural complexity. Just as the chieftain of a Neolithic village collected surplus food, the priests of the Sumerian cities collected surplus barley, wheat, sheep, and textiles. Officially, these goods were offerings to the gods, but in practice they were compulsory taxes that were consumed by the temple bureaucracy or traded for other goods and services. The priests could, for example, pay for the maintenance of irrigation systems and the construction of public buildings by handing out rations of bread and beer.

This elaborate system gave the temple direct control over much of the economy. Whether this resulted in a redistributive nirvana—a form of ancient socialism in which the state provided for everyone—or an exploitative regime of near-slavery is difficult to say. But it seems to have arisen in response to the unpredictable nature of the Mesopotamian environment. There was little rain, and the flooding of the Tigris and Euphrates was erratic. So agriculture depended on the use of carefully maintained communal irrigation systems and, the Sumerians believed, on making the appropriate offerings to the local gods. Both these tasks were handled by the priesthood, and as villages grew into towns and then cities, more and more power was concentrated into their hands. The simple storehouses of the Neolithic period became elaborate temples, or ziggurats, built on raised, stepped platforms. Numerous rival city-states arose, each with its own resident god, and each ruled by an elite priesthood who maintained the agricultural economy and lived off the surplus it produced. Carvings depict them wearing beards, long kilts, and round headdresses, and drinking beer from large pots through long straws.

For all this to work, the priests and their subjects needed to be able to record

what they had taken in and paid out. Tax receipts were initially kept in the form of tokens within clay "envelopes"—hollow shells of clay, called bullae, with several tokens rattling around inside. Tokens of different shapes were used to represent standard amounts of grain, textiles, or individual cattle. When goods were presented at the temple, the corresponding tokens were placed in a clay envelope, and the tax collector and taxpayer would both impress the envelope's wet clay with their personal signature seals to signify that the envelope's contents accurately reflected the tax paid. The envelope was then stored in the temple archive.

It soon became clear, however, that an easier way to achieve the same result was to use a tablet of wet clay, and to press the tokens into it to make different-shaped impressions signifying barley, cattle, and so on. The signature seals could then be applied to this tablet, which was baked in the sun to make the impressions permanent. Tokens were no longer needed; their impressions would do instead. Gradually, tokens were abandoned altogether in favor of pictograms scratched into the clay, derived from the shapes of the tokens or of the objects they represented. Some pictograms thus came to stand as direct representations of physical goods, while other combinations of indentations stood for abstract concepts such as numbers.

The oldest written documents, dating from around 3400 BCE from the city of Uruk, are small, flat tablets of clay that fit comfortably into the palm of one hand. They are commonly divided into columns and then subdivided into rectangles by straight lines. Each compartment contains a group of symbols, some made by pressing tokens into the clay, and others scratched using a stylus. Although these symbols are read from left to right and top to bottom, in all other respects this early script is utterly unlike modern writing and can only be read by specialists. But look closely, and the pictogram for beer—a jar on its side, with diagonal linear markings inside it—is easy to spot. It appears in wage lists, in administrative documents, and in word lists written by scribes in training, which include dozens of brewing terms. Many tablets consist of lists of names, next to each of which is the indication "beer and bread for one day"—a standard wage issued by the temple.

A modern analysis of Mesopotamian ration texts found that the standard issue of bread, beer, dates, and onions, sometimes supplemented with meat or fish and with additional vegetables such as chickpeas, lentils, turnips, and beans, provided a nutritious and balanced diet. Dates provided vitamin A, beer provided vitamin B, onions provided vitamin C, and the ration as a whole

provided 3,500 to 4,000 calories, in line with modern recommendations for adult consumption. This suggests that state rations were not just occasional handouts, but were the primary source of food for many people.

An early cuneiform tablet, dating from around 3200 BCE, recording the allocation of beer

Having started out as a means of recording tax receipts and ration payments, writing soon evolved into a more flexible, expressive, and abstract medium. By around 3000 BCE some symbols had come to stand for particular sounds. At the same time, pictograms made up of deep, wedge-shaped impressions took over from those composed of shallow scratches. This made writing faster but reduced the pictographic quality of the symbols, so that writing began to look more abstract. The end result was the first general-purpose form of writing, based on wedge-shaped, or "cuneiform," indentations made in clay tablets using reeds. It is the ancestor of modern Western alphabets, which are descended from it via the Ugaritic and Phoenician alphabets devised during the second

millennium BCE.

Compared with early pictograms, the cuneiform symbol for beer is barely recognizable as a jar shape. But it can be seen, for example, on tablets that tell the story of Enki, the cunning and wily god of agriculture, as he prepares a feast for his father, Enlil. The description of the brewing process is, admittedly, somewhat cryptic. But the steps are recognizable, which means that the world's oldest written recipe is for beer.

The evolution of the written symbol for beer in cuneiform. Over the years the depiction of the beer jar gradually became more abstract.

Liquid Wealth and Health

In Egypt, as in Mesopotamia, taxes in the form of grain and other goods were presented at the temple and were then redistributed to fund public works. This meant that in both civilizations barley and wheat, and their processed solid and liquid forms, bread and beer, became more than just staple foodstuffs; they were convenient and widespread forms of payment and currency. In Mesopotamia, cuneiform records indicate that the lowest-ranking members of the Sumerian temple workforce were issued a *sila* of beer a day—roughly equivalent to a liter, or two American pints—as part of their ration. Junior officials were given two *sila,* higher officials and ladies of the court three *sila,* and the highest officials five *sila.* Large numbers of identically sized bevel-rimmed bowls found at Sumerian sites seem to have been used as standard units of measurement. Senior officials were given more beer not because they drank more; having drunk their fill, they had some left over to tip messengers and scribes and pay other workers. Liquids, being easily divisible, make ideal currencies.

Later documents from the reign of Sargon, one of a series of kings from the neighboring region of Akkad who united and ruled Sumer's rival city-states from

around 2350 BCE, refer to beer as part of the "bride price" (a wedding payment made by the groom's family to the bride's family). Other records indicate that beer was given as payment to women and children for doing a few days' work at the temple: Women received two *sila* and children one *sila.* Similarly, documents show that refugee women and children, who may have been slaves or prisoners of war, were issued monthly beer rations of twenty *sila* for women and ten *sila* for children. Soldiers, policemen, and scribes also received special payments of beer on particular occasions, as did messengers as a form of bonus payment. One document from 2035 BCE is a list of provisions paid out to official messengers in the city of Umma. Various amounts of "excellent" beer, "ordinary" beer, garlic, cooking oil, and spices were issued to messengers whose names included Shu-Dumuzi, Nur-Ishtar, Esur-ili, Ur-Ningirsu, and Bazimu. By this time, the Sumerian state employed three hundred thousand people, all of whom received monthly rations of barley and annual rations of wool, or the equivalent amount of other goods: bread or beer instead of barley, and fabric or garments instead of wool. And every transaction was noted down methodically on indestructible cuneiform tablets by Mesopotamian accountants.

The impression of a cylinder seal depicting a banquet scene, including seated figures drinking beer from a large jar through straws

What is without doubt the most spectacular example of the use of beer as a form of payment can be seen on Egypt's Giza plateau. The workers who built the pyramids were paid in beer, according to records found at a nearby town where the construction workers ate and slept. The records indicate that at the time of the pyramids' construction, around 2500 BCE, the standard ration for a laborer

was three or four loaves of bread and two jugs containing about four liters (eight American pints) of beer. Managers and officials received larger quantities of both. No wonder that, according to some ancient graffiti, one team of workers on the third Giza pyramid, built for King Menkaure, styled themselves the "Drunkards of Menkaure." Written records of payments to the construction workers show that the pyramids were built by state employees, rather than by an army of slaves, as was once thought. One theory is that the pyramids were built by farmers during the flood season, when their fields were under water. The state collected grain as tribute and then redistributed it as payment; the building work instilled a sense of national unity, demonstrated the wealth and power of the state, and provided a justification for taxation.

The use of bread and beer as wages or currency meant that they became synonymous with prosperity and well-being. The ancient Egyptians identified them so closely with the necessities of life that the phrase "bread and beer" meant sustenance in general; their combined hieroglyphs formed the symbol for food. The phrase "bread and beer" was also used as an everyday greeting, much like wishing someone good luck or good health. One Egyptian inscription urges women to supply their schoolboy sons with two jars of beer and three small loaves of bread daily to ensure their healthy development. Similarly, "bread and beer" was used by Mesopotamians to mean "food and drink," and one Sumerian word for banquet literally means "the place of beer and bread."

Beer also had a more direct link to health, for both the Mesopotamians and Egyptians used it medicinally. A cuneiform tablet from the Sumerian city of Nippur, dated to around 2100 BCE, contains a pharmacopoeia, or list of medical recipes, based on beer. It is the oldest surviving record of the use of alcohol in medicine. In Egypt, beer's use as a mild sedative was recognized, and it was also the basis for several medicinal concoctions of herbs and spices. Beer was, of course, less likely to be contaminated than water, being made with boiled water, and also had the advantage that some ingredients dissolve more easily in it. "The Ebers Papyrus," an Egyptian medical text that dates from around 1550 BCE but is evidently based on far older documents, contains hundreds of recipes for herbal remedies, many of which involve beer. Half an onion mixed with frothy beer was said to cure constipation, for example, while powdered olives mixed with beer cured indigestion; a mixture of saffron and beer massaged into a woman's abdomen was prescribed for labor pains.

The Egyptians also believed that their well-being in the afterlife depended on having an adequate supply of bread and beer. The standard funerary offering

consisted of bread, beer, oxen, geese, cloth, and natron, a purification agent. In some Egyptian funeral texts the deceased is promised "beer that would not turn sour"—signaling both a desire to be able to pursue beer drinking eternally and the difficulty of storing beer. Scenes and models of brewing and baking have been found in Egyptian tombs, along with jars of beer (long since evaporated) and beer-making equipment. Special sieves for beer making were found in the tomb of Tutankhamen, who died around 1335 BCE. Ordinary citizens who were laid to rest in simple shallow graves were also buried with small jars of beer.

A Drink from the Dawn of Civilization

Beer permeated the lives of Egyptians and Mesopotamians from the cradle to the grave. Their enthusiasm for it was almost inevitable because the emergence of complex societies, the need to keep written records, and the popularity of beer all followed from the surplus of grain. Since the Fertile Crescent had the best climatic conditions for grain cultivation, that was where farming began, where the earliest civilizations arose, where writing first emerged, and where beer was most abundant.

Although neither Mesopotamian nor Egyptian beer contained hops, which only became a standard ingredient in medieval times, both the beverage and some of its related customs would still be recognizable to beer drinkers today, thousands of years later. While beer is no longer used as a form of payment, and people no longer greet each other with the expression "bread and beer," in much of the world it is still considered the staple drink of the working man. Toasting someone's health before drinking beer is a remnant of the ancient belief in beer's magical properties. And beer's association with friendly, unpretentious social interaction remains unchanged; it is a beverage that is meant to be shared. Whether in stone-age villages, Mesopotamian banqueting halls, or modern pubs and bars, beer has brought people together since the dawn of civilization.