

# 1 FOOD AND CONFLICT: PREMONITIONS

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*‘Homo homini lupus: Man is the Wolf of Man’*

*Latin proverb*

## The Crimson Thread

For thousands of years, famine and conflict have united in the human mind and destiny. And they will rule its future, also.

In Albrecht Dürer’s famous woodcut of the Four Horsemen of the Apocalypse (opposite), drawn from the Biblical book of Revelation, Famine is the central figure, astride a black horse and with empty food scales in hand, riding down the hapless multitudes of citizens, along with his grim allies: False Ideologies (or Saviours); War; and Pestilence and Death.<sup>1</sup>

Most people who die in wars perish from hunger, as their food stocks are plundered and devoured by marauding armies, farming is disrupted by military recruitment, food requisitions and scorched earth policies, and the food and trading systems that sustain their society collapse. Contrary to the popular imagery of war, hunger is a far greater killer than military action or disease, though it interacts with both.

The earliest-known battle painting of all, a vivid piece of Australian Aboriginal rock art (Figure 1.1) dating from perhaps 17,000 years ago depicts two battlelines of combatants exchanging volleys of multi-barbed harpoons and boomerangs – which are primarily hunting implements rather than weapons. The



**Figure 1.1.** The 17,000 year old Gwion Gwion rock art from Australia depicting a battle between two groups of warriors, hurling multi-barbed harpoons and boomerangs. Credit: Bradshaw Foundation & G. L. Walsh.

leader of one side has charged his enemies and fallen before their missiles. The painting is from an enigmatic phase of art in the Kimberley (northwestern Australia) known as Gwion Gwion, which was strangely different to other, later, Aboriginal art forms and was contemporary with the peak of the last Ice Age.<sup>2</sup> The fact that the combatants are using hunting tools, rather than purpose-made man-killing weapons, hints that the origins of their dispute lie in access to food in the form of hunting rights, territory or water (which amount to the same thing, as animals were often hunted when they came to drink at water holes in the parched Australian landscape).

The figures depicted in the Australian battle scene are from the later ‘clothes peg’ period of Gwion Gwion, which is thought to coincide with a time when sea levels were rising rapidly, by

an astonishing 53 metres (174 feet), as the great ice sheets covering the continents melted and collapsed. The flood they unleashed inundated a quarter of the Australian landmass (over 2.12 million square kilometres) drowning beneath the sea an area larger than France, Spain, Germany, Britain and Italy combined. Prehistorians have calculated this flooding would have halved the area of good coastal land available to support each inhabitant of the continent at the time, thrusting overwhelming stresses onto populations which had expanded over the previous 20,000 years with the largesse of a far greater area. On the fertile, well-watered coastal plains where most of these hunter-gatherer people subsisted, the pressure on resources would have become intense as the existing population was compressed into a rapidly dwindling area, or else driven into the harsh interior Australian deserts.<sup>3</sup> At the end of this period the Gwion Gwion art ceases abruptly and is replaced by the Wandjina tradition. It may be no coincidence that this was also about the same time that Australia's Ice Age megafauna – giant kangaroos, emus and wombats – also vanished entirely and forever. Thus, it is also probably no mere coincidence that the world's first battle painting appears at this time of stress, extinction and possible genocide. Those ancient warriors were in all likelihood fighting over food and the shrinking territory that supplied it – as a direct consequence of a rapidly warming world.

Conflict over scarce resources of food, land and water is a crimson thread that runs through the entirety of human history. In every inhabited continent periods of scarcity have ignited conflict, insurrection and war – and wars have been followed in turn by prolonged hunger and hardship, sometimes giving rise to new wars in a horrible, almost interminable cycle.

## Food Empires

Food has played a dynamic role in the genesis of human conflict since the dawn of civilisation – and not merely its lack. Also its

abundance. The world's great civilisations almost all arose in fertile river valleys such as the Nile, the Tigris–Euphrates, the Indus, the Ganges, the Yangtse and Yellow, the Mekong, the Rhine, the Danube, the Tiber and lake systems such as those of Switzerland, Scandinavia and Mexico for a good reason: to build and maintain an army you need two things – a surplus of young males to use as warriors and a surplus of food to breed and feed them. With the advent and spread of agriculture, 5000–7000 years ago, in the fertile bottomlands of the great rivers and lakes, a comparatively stable food surplus became possible for the first time in the human experience. With pottery and basketry came the ability to store and preserve nutrients through the lean times of the year, leading to declines in infant and maternal mortality. This in turn bred steady expansion in human populations – which soon began to exceed, or even to exhaust, the resources within their traditional boundaries. Since farming makes it possible for one person to support many, there were soon plenty of spare, fit young males to go a-roving – and this coincided with the advent of the age of metals. These raids, like those of the later Vikings and Mongolian tribes, soon developed into organised warfare. Time and again, the fertile regions of the world have spewed out great armies, bent on conquest, plunder and, often, on the acquisition of fresh lands in which their people can flourish. But first they must displace or absorb the conquered.

It is likely that the Tiber Valley, in Italy, provided sufficient reliable sustenance to support a primitive Roman army, originally organised into legions on family clan lines, that was able to subdue many of its neighbouring tribes, like the Sabines, Latins, Volscians and Etruscans, who inhabited hillier, less-fertile regions. However, this amateur force was nowhere near powerful enough to resist the military might of the Gauls, who had crossed the Alps and subjugated the fertile Po Valley in northern Italy, flourishing as a consequence. In 390 BC, a well-fed Gallic warband under King Brennus broke out of the Po Valley, smashed the early Roman

army at the battle of the Allia and then went on to sack and occupy the little city of Rome – though legend insists the citadel on the Capitoline Hill held out, thanks to the geese who warned the sleeping guards of an attempt by the invaders to storm their hilltop fortress. The Romans fled in all directions, taking shelter with their frightened neighbours. Eventually these scattered Romans managed to raise enough cash to ransom their city and induce the Gauls to depart, and the invaders made their way into southern Italy.<sup>4</sup> Their departure left a power vacuum which the Romans, having rebuilt their city and army more strongly, gradually filled over the next two centuries, asserting hegemony over the whole of Italy.

During this period, Rome faced another invasion, led by the Carthaginian general Hannibal who, in 216 BC, after the prodigious feat of crossing the Alps from southern France with his army, its horses and elephants, inflicted several crushing military defeats on the Roman army – but failed to capture the city, which was, by then, ringed with a formidable stone wall. The Romans and the Carthaginians had been scrapping with one another on and off for almost half a century, as their growing spheres of trade, colonial and political interest collided. To begin with, Carthage, chief city of the Phoenicians in North Africa, had the upper hand because theirs was a ‘thalassocracy’ – an empire founded on the wealth garnered from its sea-borne trade and its maritime strike power. However, this perspective overlooks one of the chief dynamics in its rise: the ability to grow crops and supply its largely mercenary armies through access to the great grain bowl of the Mediterranean, the North African coastline, stretching from Egypt to Morocco, including its own Libyan hinterland. Access to reliable food supplies thus fed the growth of both the Roman and Carthaginian empires and their war machines, bringing forward the inevitable head-clash over colliding spheres of interest in the form of the three devastating Punic Wars. These ended only when the Romans, spurred by the vitriolic cries of the Elder Cato that ‘*Cartago*

*delenda est* ' (Carthage must be destroyed') provoked the third war by demanding the Carthaginians surrender all their children, then used their refusal as a pretext to besiege, starve and eventually take the city and enslave its inhabitants. To make sure that Carthage never arose to trouble them again they razed the city and its defences utterly, cursed the rubble and sowed the surrounding fields with salt, so they could not grow crops. This ancient Roman 'Agent Orange' tactic is nowadays questioned by some scholars, but the *Cambridge Ancient History* asserts 'Buildings and walls were razed to the ground; the plough passed over the site, and salt was sown in the furrow made. . . A solemn curse was pronounced that neither house, nor crops, should ever rise again'.<sup>5</sup> Logically, if you curse a place, you might wish to make sure the curse will stick – and salt, which is freely available from desert lakebeds in North Africa, was an effective way to discourage wheat production, for a time at least.

If they indeed salted the Carthaginian farmland, then the Romans clearly understood the importance of a sustainable local food supply as the springboard for the growth of both a city and a military power (although it was not a permanent solution, as the salt would eventually leach out of the soil after a few years of rain). The Romans' most important gains from the conquest of Carthage and their consequent acquisition of its overseas territories in Spain and Africa were a navy, which they used to suppress piracy and encourage peaceful trade across the entire Mediterranean, and access to the priceless grain belt of Egypt and North Africa. This both fed and enriched the subsequent expansion of Rome and its imperial dominions, supplying the vital bread that accompanied the circuses that various Emperors used to placate the mob and manage local urban politics. More importantly, the grain trade generated a large part of the mercantile wealth that was taxed to pay the 55 legions that guarded the Empire's frontiers, from Britain and Spain to the Black Sea and Persia. The importance of this industrial-scale grain trade to Rome's life and economy can still be seen in the vast ruins of the harbour at Ostia.

Besides being competent warriors, the Romans were excellent farmers themselves and their agricultural system, from the huge *latifundia* (large slave-worked estates) to the diversity of smallholder agriculture supplied most of their needs for grains, olives, vegetables, meat and grapes. Indeed, our global food supply today is still essentially patterned on the Roman system of broadacre single-crop agriculture in favoured regions, exporting grain and other produce to distant cities – except that today, industrial technology has substituted machinery and chemicals for agricultural slavery and draft animals. This point needs to be borne in mind as we explore the frailties of the modern food system in later chapters (Chapters 3 and 4). Ominously, when its food system failed in the early centuries of the Christian Era, the Roman Empire collapsed.

There are numerous popular theories as to why Rome fell, starting with the obvious proximate cause – the invasion of Goths, Huns and other barbarian tribes – imperial overreach (the favoured view of the historian Gibbon) and the economic mismanagement of the Empire itself. However, history is seldom quite so simple.

In 165 AD, Roman legionaries returning from the Middle East brought with them a horrible plague, whose symptoms were fever, diarrhoea and boils. Known as the Antonine Plague (165–180 AD) it was probably smallpox. It slew an estimated seven million people throughout the Roman Empire before subsiding. Plagues, classically, are thought of as largely urban contagions stemming from overcrowding and bad public hygiene – but their effects among country dwellers and farmers, whose immune systems have never been ‘vaccinated’ by previous exposure to city diseases, can be even more devastating (as the Black Death subsequently demonstrated in the fourteenth century). The Antonine Plague was followed in 251–266 AD by the Cyprian Plague, possibly also smallpox or maybe a virulent form of measles – which was then a killer, not a ‘childhood disease’. These two events made a massive hole in the Roman agricultural workforce, as well as in the cities and trading fleets of the Empire and its economy. Between 482 AD and 535 AD, a

third pandemic, the Plague of Justinian, cut another swathe through the population.

Simultaneously, the climate changed. Between about 150 AD and 400 AD weather conditions cooled and deteriorated with temperatures reaching unprecedented lows in what became known as the 'Late Antique Little Ice Age'. This climatic switch, combined with short-term weather events such as the failure in 244 AD of the Nile River to rise and flood the grain farms along its banks, created a time of hunger which interacted with the incoming plagues to make them even more lethal, according to epidemiologist and historian Tony McMichael.<sup>6</sup> This had a compounding effect on the Roman food supply and economy, and especially on the ability of Rome to pay and feed its legions. Many of these legions were made up largely of local recruits who then mutinied, becoming independent war bands, some of which even joined forces with the raiding Goths who devoured the Western Empire.<sup>7</sup> Scholars have also found that periods of drought correlate strongly with the assassinations of 25 Roman Emperors and unrest among Germanic tribes between 27 BC and 476 AD.<sup>8</sup>

If the pathway to war, government failure or the collapse of a civilisation can be thought of as a series of dominoes, collapsing one upon another, the fall of the food domino and the climate domino lie very early in the sequence and have irresistible impact and consequences. Despite our technological mastery, these dominoes are no less deadly in a twentyfirst century world which, typically, has only about 10–12 weeks' surplus of grain in store at any time – a surplus that depends for its renewal on the succession of harvests round the planet. A major crop failure in any of the great grain bowls would reduce this to zero and send world bread prices rocketing through the roof for everybody, thanks to the globalised trading system and world grain prices that now exist. Since our population is now straining at the very limits of the Earth itself (Chapters 3 and 4), this risk is more pronounced than ever. Indeed, food insecurity represents as direct an existential threat to our civilisation in the event of major disruption – such as a worldwide conflict, a nuclear war



or a climate catastrophe – as it did to the ancient Romans. We ignore the lesson of their experience at our peril.

## Here Come the Long Ships

In 789 AD, a sheriff called Beaduheard who worked for the King of Wessex in southern England went to greet three Norwegian ships that had been observed pulling into Portland Bay. Naively assuming they were merchants, he invited the Viking crews to meet with the King in Dorchester to discuss trade, which they, having other ideas, refused to do. In the ensuing dispute and scuffle they cut him down, and Beaduheard became the first named victim in three centuries of violence, plunder and exploitation that was visited on the countries of Western Europe from the North.<sup>9</sup> But who were the Vikings? And why did they come?

The Vikings were not, as they are sometimes considered, a separate race of people. They were a violent and rapacious minority of an otherwise largely peaceful and prosperous community of farming settlements extending across Norway, Denmark, Sweden and Jutland. Outcasts, adventurers, terrorists and religious fanatics, Vikings were a product of a long, slow improvement in farming methods from the Iron Age onward that had brought about a steady expansion in Nordic populations. This pastoral progress was then rudely disrupted by the same climatic blow that brought down the Roman Empire – a sudden cold spell when crop yields, especially in Northern climes where growing seasons are short and cool, fell below subsistence and communities that had hitherto had ample sustenance found their wooden trenchers empty. The situation was especially dire in countries such as Norway, where level farmland was in scant supply along the towering walls of the fjords. Over the next few centuries this period is marked archaeologically by a proliferation in fortified homesteads, villages and towns across Scandinavia, whose sturdy defences testify to the unsettled nature of the times.

What began as petty raids among local Scandinavian tribes, probably with food, slaves and farmland as the chief aims,

steadily grew with experience into a more formalised kind of warfare, especially with the development of the Viking long ship, which could cover thousands of miles of open sea or major European river systems as far afield as Russia and Turkey in one direction and Greenland and America in the other. Armed initially with the weaponry of the failing Roman Empire and lured on by its riches – silver, gold, iron, food and slaves – from weakly defended Roman centres which presented easy targets to a ruthless, unexpected adversary – the Viking raiding tradition was born. In countries such as Iceland, Ireland, Normandy and northeast England the raiders soon settled down and began to farm again, once they had taken suitable lands. This farming had two aims – to sustain those who wished to settle permanently, a form of eighth-century agrarian colonialism or *Lebensraum*<sup>10</sup>, and to feed up the Viking raiding forces for the next season's depredation. Particular targets were the rich monasteries, fortified towns and cities which the post-Roman Europeans could no longer protect, places such as London, York, Paris, Rouen, Cologne, Aachen and Bonn. Eventually the Vikings, raiding, trading and settling along the Dneipr/Volga river system – where they founded Kiev – teamed up with the local Rus to assault Constantinople (Istanbul) in 907 AD.

Then as now, most Scandinavians were peaceable people with a strong social ethos and an attachment to their land. But when ample food increased their populations and climate-induced famine followed, the young, the strong and the ruthless among them of necessity became wolves – *homo homini lupus*<sup>11</sup> as the chroniclers put it. Like the Gauls who had raided Italy in the fourth century BC, the source of their manpower was a reliable food supply, the trigger for their outward movement was lack of it – and the aim of further settlement was to feed their military might.

Thanks to vivid accounts left by quaking mediaeval chroniclers, especially in the monasteries, the Vikings are usually remembered as merciless, bloodthirsty pirates roving and butchering at will. However, historian John Hayward argues they were also civilised traders, farmers, craftsmen, artists and sailors – the settlement of Iceland, which boasted the world's