

The art of medicine

A long look at obesity

Is the problem of obesity truly a recent phenomenon—the medical symptom of a sick western society overwhelmed by a cornucopia of calorie-laden food and drink? Or is it an unhealthy manifestation of what should be recognised as a natural inclination to adiposity, an evolutionary necessity without which many creatures, not merely human beings, could not survive the vicissitudes of an irregular food supply. There is a common presumption, particularly among those currently engaged in determining our approach to the issues of nutrition and obesity, that our ancestors must have been supreme specimens with healthy lifestyles. Even with their primitive understanding of nutrition, our neolithic forebears somehow made the “right choices”, thriving on a wholesome diet of nuts, seeds, and fruits with the occasional piece of meat. And what is more, their rare intake of animal protein could only have been obtained through vigorous exercise, which they would, of course, indulge in religiously every day.

Interestingly, the historical evidence suggests a quite different story. Those inclined to drift into nostalgic reverie over the conjectured idyll of stone age man, are less inclined to consider not only the lack of solid evidence for the palaeolithic diet, but the implications of the visual clues left to posterity by mankind’s earliest artists long before settled agriculture emerged. In May, 2009, *Nature* reported the discovery of a mammoth-ivory figurine from the basal Aurignacian deposit in the Swabian Jura of southwestern Germany. At 35 000 years old it is possibly one of the earliest pieces of figurative art and may be the earliest representation of obesity.

So why was this early sculpted image of a human being obese? The Hohle Fels Venus bears remarkable similarities to a series of Venus figurines unearthed in locations across Europe—but thousands of years as well as miles apart. Were those carving these tiny obese figures reflecting a shared imaginary stylised form or were they reflecting how the women around them really looked? There are more contentious claims surrounding even earlier hominid artifacts that possibly depict obesity; the so-called Venus of Berekhat Ram discovered in the Golan Heights is said to date from 230 000 to 500 000 BCE, while the Venus of Tan-Tan found in Morocco is also said to be a relic of the early to mid-Acheulian period. These would not have been the work of *Homo sapiens*, but of *Homo erectus*. Could *Homo erectus* have suffered from obesity? Surviving fossils don’t seem to provide sufficient information for conjecture.

Current speculation has focused on the idea that these ancient depictions of obesity represent important fertility symbols that show a rare and exaggerated phenomenon. Yet the fact that these Venus sculptures from diverse times and places appear to depict classic forms of obesity perhaps lends

some justification to a more liberal interpretation about the natural and apparently widespread propensity to become obese. As R Hautin suggested in his 1939 essay *A Historical Framework for the Development of Ideas About Obesity*: “The women immortalized in stone age sculpture were fat; there is no other word for it. Obesity was already a fact of life for palaeolithic man—or at least for palaeolithic women”.

Images of obesity have recurred over the ages. It may be supposed that obesity became more common as agricultural settlements began to take over from hunter gatherer tribes some 12 000 years ago. Figurines from Çatalhöyük in Turkey had pendulous breasts and swollen abdominal and gluteal regions. In their recent study, Carolyn Nakamura and Lynn Meskell proposed that: “At Çatalhöyük, the figures with both prominent breasts and stomachs are often depicted as flattened, drooping, and angular, rather than robust and rounded in shape. Many breasts are not portrayed

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Illustration from William Wadd’s *Comments on Corpulency* (1829)

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symmetrically and appear to be somewhat flattened and pendulous. Similarly, stomachs, while exaggerated, are not evocative of pregnancy, but rather of advanced maturity or even obesity." Early depictions of obesity, although rare, also seem to have existed in ancient Egypt. Joyce Tyldesley has postulated that Queen Hatchepsut might have been obese, with diabetes and cancer among her comorbidities. As well as the evidence of "pendulous breasts", which Tyldesley points to as a marker for obesity found in her mummified remains dating from 1500 BCE, a contemporary wall painting depicts her unequivocally as an obese woman.

A little over 1000 years later, Hippocrates noted the adverse effects of excess adiposity, and was particularly scathing about the Scythians, a nomadic race roaming around what is now Iran. In *On Airs, Waters, Places* childhood obesity is documented. "The male children, until they are old enough to ride, spend most of their time sitting in the wagons and they walk very little since they are so often changing their place of residence. The girls get amazingly flabby and podgy." More remarkably in the same text Hippocrates associated obesity with sexual dysfunction: "The men lack sexual desire because of the moistness of their constitution and the softness and coldness of their bellies...In the case of the women, fatness and flabbiness are also to blame." However, as with modern analyses, there is always scope for conflicting evidence. *On Airs, Waters, Places* notes that "sudden death is more common in those who are naturally fat than in the lean". But the text also says: "In all maladies, those who are fat about the belly do best; it is bad to be thin and wasted there"—this might suggest a possible early recognition of the modern "obesity paradox". By 25 BCE, Celsus advised on moderation in diet, and by the first century CE, Plutarch commented on obesity and health, remarking that "thin people are generally the most healthy; we should not therefore indulge our appetites with delicacies or high living, for fear of growing corpulent... The body is a ship which must not be overloaded." Soon after, Galen recounted one of the earliest case studies of treatment for obesity: "I reduced a huge fat fellow to a moderate size in a short time, by making him run every morning until he fell into a profuse sweat; I then had him rubbed hard, and put into a warm bath...Some hours after, I permitted him to eat freely of food, which afforded but little nourishment; and lastly, set him to some work."

Despite such accounts it is only much later in the 18th century that the modern history of obesity emerges. The physician Thomas Short wrote in 1727: "I believe no Age did ever afford more Instances of Corpulency than our own". Less than 40 years later, Giovanni Battista Morgagni described at length case studies of obesity and the relevance of abdominal adiposity. He noted android obesity in the body of an elderly female, and related hardening of the arteries in the post-mortem examination of a severely obese male.

Before his death in 1829, William Wadd, Surgeon Extraordinary to the King, had become celebrated for his *Cursory*

Remarks on Corpulence or Obesity Considered as a Disease, a publication that went to four editions from 1810 until the year of his death. Wadd provided a graphic observation of post-mortem examination of an obese person: "The heart itself was a mass of fat. The omentum was a thick fat apron. The whole of the intestinal canal was embedded in fat, as if melted tallow had been poured into the cavity of the abdomen...So great was the mechanical obstruction to the functions of an organ essential to life, that the wonder is, not that he should die, but that he should live." By the time of Wadd's death falling from a runaway carriage in Ireland, it was clear that obesity was commonplace and that dieting was to become a popular concern in the Victorian era. For example, William Banting's *Letter on Corpulence* was the testimony of a formerly obese undertaker who seems to have alighted upon the first "low carb" diet as a remedy for his hearing loss attributed to fat deposits obstructing his eustachian tubes. Banting's subsequent pamphlet went from self-publication to become a best-seller that is still selling in paperback today. Banting's name entered into the popular culture of the day, beloved of Mr Punch, even becoming subject of a theatrical comedy and music hall songs.

Banting's success was that his diet, prescribed by his physician William Harvey, appeared more effective than the many quack remedies and nostrums that have been flogged to the unwary over many centuries. One glance at a modern pharmacy shelf testifies that not much has changed. What has not changed much either is the public perception of obesity and the stigmatisation that goes with it. The 2200-year-old Terracotta Army of Chinese Emperor Qin comprises 8000 life-size figures, each with unique face, clothing, and posture. Buried with the Emperor to ensure high status in the afterlife, most are military, but others include accountants and administrators. Only one figure is obese: the Entertainer—included to ensure the Emperor could enjoy a good laugh at someone else's expense even after his death. In Victorian times, extreme obesity was displayed at "freak shows" and even in the 21st century, reality television programmes often reflect a morbid fascination, if not reproach for, a condition that affects an increasingly large section of society. What we may conclude from the past is that the potential to become obese is certainly not new, but the development of obesity on the scale of a global population pandemic certainly is. Wadd's observations of the consequences of obesity may highlight the fate awaiting millions if the lessons of history are not learned.

The Wadd Society, dedicated to exploring the history of obesity, will be formally launched at the International Congress on Obesity in Stockholm on July 12, 2010. David Haslam and George Bray are the co-founders of the Wadd Society.

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Further reading

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