The Ancient World

Prehistory

The first medical activity of which the bones of antiquity provide a record is trephination. Skulls of the New Stone Age, which in the Near East began about 9000 years BC, show that our prehistoric forefathers sometimes survived this operation in which an opening was made through the vault of the skull. An example, from Jericho, and of about 2200 BC, is shown in Figure 1. The subject

Figure 1  A trepanned skull from about 2200 BC, Jericho. [Wellcome Institute library, London.]
was fairly extensively reported by Just Marie Lucas-Championnière (1843–1913) in his *Trépanation néolithique, trépanation pré-Colombienne, trépanation des Kabyles, trépanation traditionnelle* published in Paris in 1912 – this eminent French surgeon being of interest as having been one of the first to adopt the principles of Listerism, and having written the first authoritative work on antiseptic surgery after introducing the practice of antisepsis into France.

In neolithic times these circular or square holes in the skull can have been produced only by using a pointed flint or a flint knife or scraper to drill a ring of small holes and remove a disc of bone or, as seems to have been more common, scraping away at the skull until a piece of bone could be lifted out without damage to the meninges. These skulls are far older than the dawn of the art of writing some 5500 years ago and it is remarkable that few indeed of them show signs of injury or evidence of any other practical reason why this difficult and dangerous operation should have been undertaken: they must be taken to show the considerable lengths to which primitive man, driven by some strange motive of his own, was prepared to go.

A differential diagnosis is provided by Figure 2 which represents skulls, used as holy relics, from the tombs of the eleventh century Anglo-Saxon bishops of Wells. In two cases holes have been cut in the backs of these skulls, probably to make religious amulets from the cut-out roundels. Apart from their location in the skulls (and such pieces of bone could hardly be removed in primitive times from the living) these holes show no sign of new bone formation at their edges, whereas, as shown in Figure 1, many of the Stone and Bronze Age skulls exhibit new bone formation, sometimes closing the trephination; this establishes that some of those who underwent this operation survived to grow new bone.

Why, under such conditions, was it undertaken? The practice is usually said to provide evidence that primitive man believed in the supernatural as a cause of disease and trepanned the skull to let the demon of such disease escape. It seems likely that much primitive medicine arose from equally primitive religion and that many medical practices had their origin in magic. The roundels from the Anglo-Saxon skulls in Figure 2 were presumably intended to transfer sanctity with them. It is also possible (though this is little more than a guess) that trephination was, in prehistoric times, undertaken as a treatment for epilepsy. This illness continued to be known even in the days of classic Greece as the ‘divine disease’. Although it shows no feature of divinity that we would now recognize, few things could, to primitive man, look more like demonic possession than the aura, tonus, clonus and recovery of the epileptic fit.

Whatever the exact truth, there is little doubt that these trephined skulls form part of the evidence suggesting that early in his history man looked to some sort of supernatural force for the cause of disease. In seeking a cure he thought that, by intercession, he could influence those same supernatural forces.

Folk medicine has always been, and still is, full of such ideas. It also embodies items of everyday wisdom arising from maternal, hunting, and domestic experience. Some of the early knowledge of plant medicines may have arisen in the same way: from noting what seemed especially helpful in the feeding of the sick.

The practical element may though have been small. Many ideas on medicines seem to have arisen from what we would call magic and a good deal of primitive