sacred well of the saint-house, which is thought to possess virtues, is all that is practised.

One of the lepers, an intelligent Moor, told me that there are seven kinds of leprosy; and the fact that he was surrounded by fellow-lepers, who at times interrupted his description in order to set him right, proved that the division is well recognised amongst them. The first, he said, is the kind which cripples the hands; the second is the tubercular form; the third, that in which the skin is affected, and the hair of the head and the beard fall off; the fourth, that in which the fingers and toes are destroyed; the fifth, that in which the skin becomes like the skin of a fish; the sixth, that in which cough is a prominent symptom, and also severe pains in the chest of a shooting nature; the skin is not much affected; but the disease is accompanied by so much debility, that the patient can at last hardly lift a pound weight; and, when this happens, the patient soon dies. The seventh kind destroys or greatly impairs the sexual power, and in this the skin is also affected. If persons with this form of the disease have children, they are weakly, but the children are seldom affected. It was added that, in the other kinds of leprosy, the sexual functions are intact; and that those who have lost fingers are apt to be salacious.

It is obvious that, in this minute subdivision, mere stages are regarded as different forms of the same disease; and also that certain symptoms have been regarded in the same way. No doubt some of the conclusions are crude and erroneous; yet, as they have been arrived at by the lepers themselves, they seemed to me worthy of notice.

There are more women in this village than men, but this is perhaps due to polygamy. The children of the leprous parents are sometimes, but not usually, diseased. The inhabitants enjoy no exemption from fever or other diseases. The causes assigned for leprosy were overwork and drinking cold water when perspiring, and also that God sends it to punish people for their crimes.

Leprosy is called "Jeddem" by the Moors; and the extensive use in cookery of argan-oil, expressed from the seeds of *Argania Sideroxylon*, is supposed by many to cause the disease; but there seems no good reason for this conclusion. Lepers are met in small parties in every part of the empire. They may be known at a distance by a straw hat with a wide brim, which they are compelled to wear, in order to distinguish them from those free from the disease. When the large number of the Jewish population is taken into account, their exemption is remarkable; but, as stated previously, they are not altogether exempt. I was consulted in the city of Morocco by a young Jew of the better class, who was suffering from the scaly form of the disease.

CASE OF DISSECTING RUPTURE OF THE HEART.

By J. HIGHAM HILL, F.R.C.S.,
Medical Officer to St. Pancras Workhouse.

THE pathological interest of the following case induces me to place it upon record.

S. G., aged 65, a woman of spare habit of body, was on December 6th, while in her usual health, suddenly seized with an acute pain in the region of the heart, followed by considerable dyspnoea and vomiting. She was removed to bed, and my attention was called to her. I found her slightly collapsed, with cold extremities, breathing with difficulty, and inclined to vomit. She still complained of pain in the region of the heart. On examination, I found that the cardiac action was irregular and very weak; there was, however, no murmur. She was ordered to have some brandy and Seltzer water, also a mustard-plaster over the heart, and a hot-water bottle to her feet. Under this treatment she rallied considerably; her circulation improved, and the dyspnoea, sickness, and pain were relieved. She continued in this apparently improved condition for about twenty-four hours, when death suddenly took place, consciousness being retained to the last.

On making a *post mortem* examination, the pericardium was found to be full of blood, which was discovered to have escaped from the interior of the heart through a small rupture in the right auricle. The left side of the heart was considerably hypertrophied, the right side much atrophied, and the cardiac tissue generally in a state of fatty degeneration. There was no valvular disease present.

The chief point of interest in the case is, that the blood, in escaping, had not made a direct passage through the wall of the auricle, but, having broken through the endocardium and a portion of the degenerated muscular structure, had then dissected the wall of the heart for a considerable distance around into two distinct layers, and finally had broken through the outer layer into the cavity of the pericardium.

Both openings were small—the external one two inches nearer the superior vena cava than the internal one. The interspace made by this dissecting process in the wall of the heart was filled with a layer of quite recently coagulated blood. The lungs were healthy, but the liver and kidneys were in a state of fatty degeneration.

ANÆSTHETICS.

THE ADMINISTRATION OF CHLOROFORM.

DR. ERNEST SANSON, Physician to the Royal Hospital for Diseases of the Chest, writes as follows.

There are many points in the paper on the Administration of Chloroform, by Dr. Henry Marshall, in the *BRITISH MEDICAL JOURNAL* of March 15th, 1873, with which I entirely agree. I believe that the occurrence of panic is apt to make us overestimate the danger of chloroformisation; that many of the deaths attributed to the anæsthetic may have been really due to shock; and that the time has not yet arrived at which we can point to any agent capable of inducing profound narcotism as absolutely free from danger to life. There is one deduction, however, of Dr. Marshall's from which I differ *toto calo*, because I think it endorses a widely spread but erroneous view.

The towel or handkerchief, as an article for the administration of chloroform, Dr. Marshall extols for convenience as well as for insuring a free admixture with air. He concludes, from Mr. Lister's experiments, that "when the towel is used, the amount of chloroform-vapour does not exceed four-and-a-half per cent. of the air inspired, even immediately after fresh chloroform has been added; but the average percentage must be less than four per cent." To this conclusion I emphatically demur. No one can have a higher appreciation than myself of the valuable contributions of Mr. Lister to the cause of science, but I believe that in this particular instance he has been victimised by imperfect experimentation. The method adopted (which I will not quote at length; it may be read in the article on Anæsthetics in Holmes's *System of Surgery*, vol. iii, p. 97) seems to me to be beset with fallacies: and the writer of an exhaustive review concerning anæsthesia, in the *American Journal of Medical Science*, January 1867, p. 176, says with regard to it: "We think common sense will negative any amount of such experimentation."

I have taken some pains to investigate this point, and the conclusions which I derived from my experiments tend to show that the percentage of chloroform-vapour capable of being inspired when the anæsthetic has been poured upon a piece of lint has been greatly underestimated. When 76.5, 38.25, 25.5, 12.75, and 6.375 grains respectively of pure chloroform were poured upon a piece of lint, and 100 cubic inches of air, at a temperature of from 60 to 64 deg. Fahr., were passed over it in each instance, the resultant atmosphere contained 9.9, 8.5, 6.9, and 4.3 per cent. of chloroform-vapour (*Transactions of the Obstetrical Society of London*, vol. x, p. 136). When little more than a drachm, therefore, of chloroform is poured upon lint at ordinary temperature, a patient may inhale an atmosphere containing more than nine per cent.—a dose certainly not free from danger.

I have never seen reason to change the opinion I long ago expressed, that a part of the mortality from chloroform is due to the inhalation of an overcharged atmosphere, when the towel or handkerchief is employed, with insufficient means of admixture with air; and I believe that the tendency of investigation has been to show that the chief mode by which the anæsthetic accomplishes its fatal effect is by paralysing the heart.

SULPHURIC ETHER AS AN ANÆSTHETIC.

DR. JOHN H. PACKARD, one of the surgeons to the Episcopal Hospital, Philadelphia, United States, writes as follows.

The reaction which seems to be taking place, or rather to have already taken place, in England in favour of sulphuric ether as an anæsthetic, has given me, as it has many other American physicians, sincere satisfaction; and, in the hope of aiding what I cannot but consider a good cause, I venture to offer some facts and considerations to those who are investigating the subject. During the past twenty years, the use of anæsthetics has been a matter of constant observation with me, either in my own hands or in those of my professional associates. Until 1864, my custom was to employ ether or chloroform indifferently: two cases then occurred, in one of which death from the latter agent was only averted by means of galvanism, while in the other it actually took place.*

* These cases were reported in the *American Journal Medical Sciences* for January 1865, p. 271.