

It is useful also (with a slight alteration in the bend of the stem) for gynecology, and in abdominal surgery specially valuable.

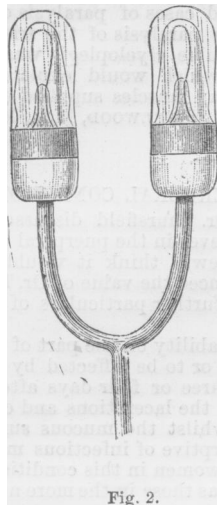


Fig. 2.

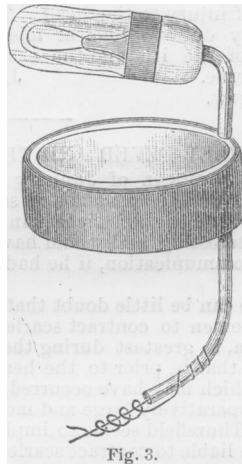


Fig. 3.

Fig. 2.—Five-volt lamps for lighting the bones of the face, either by mouth or nostrils.

Fig. 3.—For dental operations. Both full size.

Fig. 3 is another application chiefly useful for scaling long teeth sloping inwards. The lamp is fixed by the air tube to a flat silver ring, which is surrounded with gutta-percha, so that it may be conveniently held in position by passing the forefinger through it. Whilst the lamp lights the whole floor of the mouth, it also keeps the tongue out of the way, and the ring prevents the mouth from closing and protects the finger from the teeth.

I fitted another into the tongue plate of Mr. Smith's gag for cleft palate operations; with this the surgeon gets a perfect light, and is relieved from the nuisance of having constantly to dodge his own shadows; this, indeed, is one of the chief advantages in all these lights. The necessary air tube here is carried in a groove in one side of the lower limb of the gag, and emerges into the open air near the hinge. The operator regulates both these instruments by pressing with his foot or knee a specially arranged switch for the purpose. If a constant light is wanted for a long operation, air would have to be forced through one tube and out at another by means of a similar arrangement to that used for diffusing spray, but although this would be less complicated than the hydraulic plan, it is quite unnecessary for ordinary purposes.

Dr. Felix Semon suggested that I should try the experiment first employed by the late Professor Heryng to diagnose empyema of the antrum. He used a five-volt lamp fixed to a tongue depressor, and in a perfectly dark room, lighted the bones of the face from the mouth. I have repeated this with two five-volt protected lamps (Fig. 2) on one stem, and have further modified it by introducing them into the nostrils. The bright red in the facial cavities and the lurid glare of the soft tissues gives the face a ghastly aspect, the practical value of which is that if either antrum is diseased or filled with pus, it will be less luminous than the other, and the abnormal condition will be detected. Of course, a naked lamp cannot be used in the nostrils, as the heat would be unbearable.

I cannot estimate the practical value to others of these instruments, but I think there must be many who will find them as I do of great service. I have myself made or mounted all those I have referred to, and if anyone wishes to do the same, I may as well mention that the lamps are from the Edison and Swan Electric Light Company, and are called five-volt pencil-shaped micros. In mounting the most important points are to have the lamps without other attachment than the conducting wires, and to hermetically seal the glass cover to the socket. Those who do not care to make them can obtain them with the batteries from Mr. Schall, Wigmore Street. The carbons are so delicate that the instruments must be handled with great care; a drop of three inches on anything hard will probably break them. I always try to place them gently on something soft, like blotting paper or velvet.

THE Mexborough Montagu Cottage Hospital was opened on January 30th.

## THE PROPAGATION OF LEPROSY.

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It is well known that (1) heredity is one of the means of propagation of leprosy. This is, however, a less potent factor than might be supposed. Out of twenty-two cases in which I made careful inquiry there was no hereditary history in fifteen.<sup>1</sup> (2) Direct inoculation has been almost, if not quite, proved to be a possible source, as in Arning's case.<sup>2</sup> It appears improbable that it is a frequent origin. (3) A considerable number of cases have been recorded<sup>3</sup> in which there are reasons to suppose that the disease has been communicated by a leper to a previously healthy person. I have quite recently heard of a case in this country in which a healthy woman who had lived with a leper became leprosy after the death of the latter. Such propagation may be due to vaccination with contaminated lymph, or to contagion from clothes and eating vessels, or even to aerial transmission. (4) There has been for many years a popular impression<sup>4</sup> that the eating of fish, especially when salted, is a specific cause of leprosy. This view has been adopted by a well-known surgeon,<sup>5</sup> whose eminence appears to me the strongest argument in favour of the theory; for the facts adduced in support are of slender proportions, and the theory has been repeatedly challenged.

That there is nothing intrinsically improbable in the transmission of bacilli by means of fish may be readily admitted. It has been recently pointed out by Edington<sup>6</sup> that dried salt fish contains organisms of putrefaction to a considerable extent. It is quite probable that the leprosy bacillus might find a suitable nidus in fish; but the previous contact of leprosy virus with that fish would, I imagine, be a *sine quâ non*. And, if so, then fish is in no sense a cause of leprosy, but may be relegated to a minor place as a possible medium of cultivation. Thus, as we might expect, leprosy is common in districts in which fish is never eaten; and, conversely, it often does not exist where fish is eaten in large quantity. In this country the fishermen and boatmen are almost the only important classes of the community free from leprosy taint.

It is probable that (5) many nutrient substances, if exposed to leprosy contamination, may become sources of danger. Forster<sup>7</sup> has shown that various bacilli may retain their vitality in salt meat. Again, milk is especially liable to different forms of infection.

In Kashmir, leprosy exists to a considerable extent amongst herdsmen, many of whom never eat fish, but all of whom consume largely milk and milk products. One adult may eat from six to twelve pounds of curds in twenty-four hours; putrid buttermilk is considered a delicacy. It is easy to see that a leprosy milkman might spread infection; and in this connection I would point out that Europeans, who drink unboiled milk, if they chance to live in or visit a district where leprosy is endemic, might contract the disease in this way; in fact, this may be the explanation of various recorded cases. Probably, however, some predisposition is required.

6. In this country, the distribution of leprosy corresponds to the mountain slopes and valleys of the trap or sedimentary series, and to a less extent to the plateaux of the pleistocene. On the flat, alluvial floor of the main valley leprosy is by no means common. I question, however, whether the geological formation exercises any influence on the propagation of the disease except in so far that leprosy tends to become endemic in certain valleys and tracts shut in by natural mountain barriers.

We know that a pathologist engaged in constant *post-mortem* work enjoys a freedom from accidental blood poisoning not shared by those fresh to the work. The surgeon who frequently attends cases of infectious disease appears to become similarly protected. Does living in contact with leprosy ever produce a like immunity?

The prolonged incubation period of leprosy, often of several years' duration, interferes with the solution of this question; it also renders—in connection with the question of contagion—the tracing of the original source of infection difficult, if not impossible.

<sup>1</sup> *Lancet*, ii, 1889, p. 900.

<sup>2</sup> *JOURNAL*, ii, 1888, p. 1171.

<sup>3</sup> *Vide (int. al.) JOURNAL*, i, 1887, p. 1269; ii, 1887, pp. 335, 799, 1119, 1055; i, 1888, pp. 112, 1372.

<sup>4</sup> *JOURNAL*, ii, 1889, p. 167.

<sup>5</sup> *JOURNAL*, i, 1889, p. 1449.

<sup>6</sup> *JOURNAL*, ii, 1889, p. 997.

<sup>7</sup> *JOURNAL*, ii, 1889, p. 938.