

stories of the way in which we nurses are treated. Some people do not know how to treat a nurse.

But now I must close, and in so doing I would ask every member of our profession, whether a private nurse, or one of a hospital staff, uphold your branch of work loyally, but not at the expense of the other, remembering, as I have already said, that where every fibre of our being and character is being brought into play, and that always in the cause of Mercy, there can be no "lower" nor easier branch.

K. LEWIN.

FLIES.

ONE of the most remarkable advances in modern medicine and sanitary science has come from the knowledge of the fact, that many of the most murderous diseases of man and animals are caused by the bites of infected blood-sucking insects. The pioneers in this discovery were Theobald Smith and Kilborne, who showed, a quarter of a century ago, that the deadly Texas fever of cattle in the United States was caused by the bite of a fly, the *Boophilus bovis*, which had become infected by sucking the blood of affected cattle. This great discovery was soon followed by that of the relation of the mosquito to malaria and yellow fever, the relation of the tsetse fly to sleeping sickness and other forms of trypanosomiasis, the relation of the tick to tick fever, of the bug to relapsing fever, of numerous ticks to anæmic diseases in cattle causing vast economic losses.

In temperate climates it would appear that man is largely immune from blood-sucking infected insects. Recently, however, the house-fly has been found to be a danger, if in a manner somewhat different, in so far as it is unable to penetrate the skin owing to the construction of its mouth apparatus. Whatever disease germ it carries, it is a passive process, the chief danger being the contamination of foods by bacteria, carried on the surface of its body or in its bowels. Of all animals the house-fly is the most constant companion of man, tasting his food by day and frequenting his abode by night, whether in the far north or the far south, whether on the land or on the steamers, that ply on the great oceans. Its very name, *Musca domestica*, suggests its relation to man.

If the fly were a cleanly animal he might perhaps be tolerated, but from the double life he leads there is no question that he should be exterminated hip and thigh, for he spends half his day in the latrine or manure heap amid the most foul putridity that it is possible to imagine, amid dead, decaying, and diseased matter, from which at intervals he comes to bathe in your milk jug or to poise himself on your pat of butter or your

meat. Many of his habits have until recently been a riddle but are now becoming understood and in consequence his presence is as much feared as many of his congeners who have forsaken the dunghill for a meal of good human or animal blood. All modern experiments concur to show that the principal breeding place of the house-fly is the moist, warm manure heap, cesspool or latrine, although perhaps it must be admitted that some flies are more fastidious. If collections of filth were destroyed, the fly-plague would be kept largely in abeyance. As things are he can breed in countless numbers and at a great rate.

The evolution of the house-fly is complex, for from the moment that the female deposits her eggs in warm putrefying manure, the young go through various stages of development. Within a matter of hours the egg splits and a minute grub creeps out. At the end of twenty-four hours it moults and passes into the second larval stage, which in a day or two moults again and finally becomes a sort of chrysalis. At the end of three or four days of chrysalis life the case opens and the fly emerges to commence its life work. Within ten days or a fortnight it may be sexually mature and commence to lay great batches of eggs. As a rule breeding goes on rapidly between June and October, although under certain circumstances it may go on all the year round. It is a common observation that flies seem to disappear in winter. This must be explained by their ability to hibernate, the first warm day waking them from their slumbers.

It is a fortunate circumstance that they are liable to various forms of destruction, for apart from the magnificent work carried out by the bird, by the spider, and other insects, the fly is subject to devastating diseases, particularly an infective condition set up by a fungus, the *Empusa muscoe*. This plant, in the form of a spore, lights on the surface of the fly and begins to grow, throwing out a slender process which makes its way between the fly's scales, and thus gains entrance to its body. In the course of a few days the fungus has invaded all its organs and tissues, and now sick unto death the fly may be easily caught or may drop dead where it has alighted.

As was said above the chief danger of the fly is that it may be a carrier of foul putrefactive or disease germs to articles of diet consumed by man. This is not a figment of the brain of the medical scientist; it is a proved fact. Indeed, long before accurate experiments proved this to be the case, it was already supposed that the fly stood in some relation to typhoid fever, especially the typhoid of military stations and camps. There seems to be no doubt, that much of the typhoid in the Spanish-American and South African wars were explicable on no other theory.

In America this belief became so current that it was spoken of as "the typhoid fly."

Accurate experiments carried out in this country and elsewhere have demonstrated the disease-carrying propensities of the *Musca domestica*. Typhoid germs have been recovered from its body days after it was infected. In the case of some germs it has actually been found that where the larva is infected the infection may persist throughout the moultings and be present in the adult or imago stage as late as nineteen days. Not only as a typhoid-carrier, the fly is also believed to carry the disease germs of tuberculosis, cholera, dysentery and summer diarrhoea of children, a disease which sweeps away vast numbers of bottle-fed children in every civilised community at the present day.

The necessity of removing or destroying all putrid organic matter and filth comes home to us when we remember that the fly is capable of long and rapid flights. In actual experiments marked flies were released and were captured half-a-mile away within forty-five minutes. That flies carry filth on their bodies can be readily shown by taking one from any place and allowing it to walk over the surface of sterile nutrient jelly. Within a day or two masses of bacteria will have grown wherever its feet have touched. Picture to the mind the gross contamination which will occur when a fly weary with its half-mile flight from a dung-hill takes its morning bath in your jug of milk at breakfast. This will bring the problem home to all, and by concerted effort the doom of the house-fly will be sealed.—*The Sphere*.

He who sows courtesy reaps friendship, and he who plants kindness, gathers love.—*St. Basil*.

Not "what do we gain"? but what can we contribute to the general good? The union of all for good of all.—*The Canadian Nurse*.

If each man in his measure
Would do a brother's part
To cast a ray of sunlight
Into a brother's heart,
How changed would be our poor!
And then might Merrie England
Deserve her name once more—*Queen Mary*.

Labour! all labour is noble and holy.
Let thy great deeds be thy prayer to thy God.—

Fances Osgod.