

## OUR PRIZE COMPETITION.

DIFFERENTIATE BETWEEN (a) COMMUNICABLE, (b) CONTAGIOUS, AND (c) INFECTIOUS DISEASES, AND GIVE AN EXAMPLE OF EACH.

We have pleasure in awarding the prize this week to Miss J. G. Gilchrist, Gillespie Crescent, Edinburgh.

### PRIZE PAPER.

At first glance the terms "communicable," "contagious," and "infectious" would appear to be synonymous, but in medical and nursing work the definite knowledge of the germs concerned in infection and spread of disease have led to classification and distinction as to the methods of infectivity, and the comparative safety of the public as regards such. All diseases are spread by direct contact with patients; by indirect contact with articles used fresh from individuals affected, such as school children sucking sweets, or pencils passed from one to the other; indirect contact from fomites, such as infected bedding, clothing, hospital appliances. Contaminated water and articles of food with, maybe, dust-laden or insect-borne disease germs are the principal channels of disease communication; *i.e.*, inhalation, ingestion, inoculation.

(a) Communicable diseases are those which may be conveyed almost entirely by direct contact, such as kissing, or by inoculation by infective secretions on a roughened or broken skin surface. Diseases may be communicated in this way from person to person, and also from an animal to a person. As an example of the former—*i.e.*, from person to person—syphilis and gonorrhœa are the most important; as an example of the latter, tuberculosis and anthrax are the outstanding forms, though anthrax is not at all common.

The chief danger of communicable diseases lies in the lack of safeguarding of a perfectly healthy unsuspecting individual against an infected person. From the nature of the disease, which is both chronic and progressive in character to a large extent, the infected person does not submit to isolation till cured, even if undergoing treatment, thus distinguishing such from those contagious and infectious diseases which have certain obtrusive symptoms, and run an acute definite course of short duration (weeks, as compared with years), and are to a great extent under the jurisdiction of the sanitary authorities. Communicable diseases are of the first importance to the national health and for the coming generation, as conjugal infection is often the means of damaged children, as well as prematurity, and sterility as regards the

national birth-rate. As regards children also the non-abatement of what may be called surgical tuberculosis, due to infected milk from tubercular animals, is a matter for measures of safeguard to be taken for the public welfare in the future.

Though inoculation plays the chief part in communicable disease, there is always risk of infection from personal linen, bedclothes, spoons, cups, dressings, and anything coming in contact or used by patient, whether in an acutely infectious stage of disease or not. In gonorrhœa there is extreme danger of infection to the eyes of the nurse in contact with patient, demanding the strictest care and cleanliness.

(b) Contagious diseases may be distinguished from infectious diseases by being more readily conveyed by direct or virtual contact, and not so readily by indirect means, such as food and fomites. In all contagious and infectious diseases the period of greatest danger varies greatly; maybe the early stage as in measles, the acute stage as in enteric, and the later stage as in smallpox.

Contagious diseases may be imparted chiefly by secretions and excretions, such as sputum laden with specific organisms, the person infected by inhalation. Diphtheria, a virulent throat infection, may be taken as an example.

(c) Infectious diseases may naturally be imparted by means of direct communication and contagion as in the foregoing examples, but they may also be caused by ingestion of infected food or clothing, and by "carriers." They are also prone to occur in epidemic form, owing to the widespread germ infection, especially in a crowded community.

A typical example is scarlet fever, the source of epidemic infection being sometimes the dairy milk supply. Boots, clothing, and personal belongings may harbour the germ for a considerable time unless properly disinfected. A distinguishing feature of the contagious, infectious diseases in contrast to the above-mentioned communicable diseases is that one must be in a susceptible state to favour the development of disease even if exposed to it; one may be naturally immune or acquire immunity by keeping one's health up to concert pitch, so to speak, by a previous attack, or by inoculation, as against smallpox. Isolation, quarantine, disinfection, can be enforced as safeguards. In communicable diseases a healthy person is infected without any pre-disposition or susceptibility. Infection is at first local, and may pass unnoticed for a considerable time. Wrong treatment is also a danger, and its impregnation of the whole system, if unchecked, renders such

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