

drawal rates, etc., are not procurable, though the necessities of the case may require that some working plan be nevertheless devised—a situation commented upon by Mr. Grant as being by no means agreeable to the actuary whose advice is being solicited. Even when there are no difficulties of this sort, there is perhaps more call for the exercise of skill and trained judgment in pension fund work than in most other branches of actuarial science.

Coming to particulars of the superannuation provisions made for Canadian civil servants, Mr. Grant calls to mind that the original pension scheme was introduced in 1870, three years after confederation. The measure applied to all persons then in the permanent service as well as to future entrants; and a large number were superannuated either immediately, or within a comparatively short time after it went into effect. In 1894 the act was amended to provide for higher rates of contribution, and in 1898 the two so-called "Funds" thus constituted were closed to further entrants—the rights of all persons then members being, however, left undisturbed. Mr. Grant states that the permanent service now contains upwards of 5,000 persons who have entered since the repeal of the act in 1898, and who are not entitled to superannuation of any kind. The two funds, therefore, are now in course of working themselves out, but it is estimated that the process will not be complete for more than another half-century. On March 31, 1908, the membership numbered 2,098, exclusive of 721 persons then in receipt of superannuation allowances. The total superannuation charges for the fiscal year then closed amounted to \$372,842.

The experience which Mr. Grant has so thoroughly investigated extended from the year 1870 to 1908, and with the exception of 10 female lives, which were excluded, has reference only to males. The total number of males who entered observation by being pensioned during the period was 2,087; of whom 21 were excluded from the final list of cards on account of defective information. The number of admitted lives was thus 2,666; of whom 1,395 died, and 671 were existing at the close of observation. The total period of exposure amounted to 17,442 years—an average of 8.4 years. Entry ages covered a wide range; namely, from ages 28 to 88 inclusive, with one patriarch entering at 94. The mean pension age was found to be 61.05 years.

Mr. Grant points out that one reason for anticipating rates of mortality among civil service pensioners, lighter than the English annuitant rates determined by Messrs. Manly and King, is the system of sick-leave which obtains. The effect of this system is to assign to the pre-superannuation section most of the deaths which occur within, say, the first year of sickness, and to reduce deaths among the pensioned correspondingly. The feature, however, which would seem most surprising (if the longevity of annuitants were not proverbial) is the vigorous hold upon life shown by those who have reached the age of seventy and upwards.

DULUTH-SUPERIOR TRACTION earnings for October were \$86,170 as compared with \$78,112 last year. For the year to date, earnings total \$797,684 as compared with \$727,279.

THE C. F. U. A. AND FIRE PREVENTION.

The public gives but scant thought to the organized efforts of underwriters to reduce fire waste. Too often, if the ordinary householder considers the matter, it is only to grumble at an inspector's persistence in demanding that he use a metal ash can instead of a barrel or box. Logically, underwriters have no concern in fire prevention. To rate risks as they find them is the theoretical principle, no doubt. But in practice they have come more and more to constitute themselves public mentors with regard to property protection. And in view of the general laxity, on this continent, of municipal regulation and individual practice, it is well for the public that bodies of underwriters have been urging reforms, in season and out. Otherwise property loss by fire would run still further over the twenty or twenty-five million dollar tribute that Canada pays yearly to the "fire dragon." The \$10,000,000, and over, of loss indemnity distributed during 1908 by the fire insurance companies doing business under Dominion license, by no means represents their only service to the property interests of the country.

In dealing with individual risks, underwriters rightly enforce the importance of eliminating dangerous features, by offering lower rates where satisfactory improvements are made in accordance with skilled inspectors' reports. More than this, the Canadian Fire Underwriters' Association makes it its business to have its engineers and experts inspect municipalities as to the characteristic hazards they present and their methods for fire prevention or control. The resultant reports are at the public service, and when acted upon invariably bring lowered rates. Reductions are sometimes noted in obscure corners of the daily press—rather in contrast to the prominence accorded to grumbings at "high rates."

Lately, in the United States, underwriters have had the able assistance of the National Association of Credit Men in arousing greater interest in fire prevention. And this is eminently fitting, since fire insurance is at the very basis of business credit arrangements.

The insurance committee of the credit men's association makes the plain statement that the continent's fire loss will never be reduced except through the co-operating of business men. As to the business man's frequent habit of scoffing at underwriters' advice, a blunt question is put: "If we follow the precautionary advice of all other classes of experts, why spurn the advice of the insurance expert? Furthermore, his prosperity, just as truly as yours, depends upon avoiding losses, a fact that should make his opinion especially valuable."

In Montreal the C. F. U. A. is this autumn exerting special efforts towards arousing general concern as to fire prevention. Apart from constant inspection of risks insured, the public is being warned through the daily press of the winter's common fire dangers. In both these respects the civic fire department and the underwriters are supplementing each others' efforts.

As Mr. Alf. W. Hadrill, Montreal secretary of the C. F. U. A., points out, the association maintains three inspectors, who are continually engaged in making a door to door visit of all mer-