Some significance tests for identifying deviation risks of large industrial enterprises, by J. VAN KLINKEN, *Actuariële Studiën*, January 1961, 's Gravenhage.

In judging whether the accident risk of an enterprise deviates significantly from that of the class to which it belongs, some criterion has to be applied. In addition to the observed experience, the size of the enterprise should play a role in considering of such deviations. It is argued that judgement should be based on statistical significance tests and a few tests are given based on a probability scheme introduced by H. Bühlmann.

A method for inquiring whether the Gamma-distribution represents the frequency distribution of industrial accidents costs, by J. VAN KLINKEN. *Actuariële Studiën*, July 1961. 's Gravenhage.

The distribution of the total accident costs per year may be derived from the observed frequency distribution of the size of the individual accident claims. The form of this last distribution is determinative. What then are the conditions to be fulfilled for the distribution of total costs to be a Γ- distribution? Or, in other words, if $X = \sum_{i=1}^{k} a_i x_i$ and the x_i are Poisson variables, what are the conditions for Ex_i, $i = 1, \ldots K$ so that X has a Γ- distribution? In answering such questions the theory of distributions, which can be completely factorized, may be helpful. The question is important when the insurer, in order to calculate a safe premium, wishes to estimate the random variation in the total accident costs.

Un modèle pour apprecier le risque atomique, by C. CAMPAGNE. *Actuariële Studiën*, April 1961. 's Gravenhage.

With a view to judging and investigating the solvency standard required in the insurance of atomic plants, a probability scheme has been devised, the author pointing out in advance that such an approach has only a limited informative character. The assumed general risk distribution related to one plant consists of three components:

(a) a distribution representing the "normal" risks, given by

$$F(x) = \int_0^x k\, u^p (1 - u)^{ap} du$$

(b) two discrete functions of the alternative (binomial) type accounting for the occurrence of calamities.

The resulting distribution has peaks in the tail. In fitting this distribution the author starts with a 4 per mille net premium. The gross premium, 6 per mille, includes 1 per mille for covering random fluctuations and 1 per mille for expenses. By varying the assumptions, a few alternative models are constructed. It is argued that, in order to judge solvency, it is not quite sufficient to be informed only about the excess probabilities at different levels. In addition, at least some knowledge is needed regarding the mean and variance of the risk when it exceeds certain levels. The arguments are illustrated with extensive tables and diagrams.

In the second part consideration is given to the case where several plants are involved and when pooling is adopted. This requires analysis of the risk