South Africa (Final Report of the Miners' Phthisis Prevention Committee, Johannesburg, 1919, p.10) and also in Canada. The U.S.Bureau of Mines has also used it in some of its dust studies. In discussing the value of the Konimeter in their recent book "Industrial Dust" (McGraw-Hill Book Co., New York and London - 1936) Philip Drinker and Theodore Hatch of the Harvard School of Public Health write:

> "It is the most compact and simple sampling device. Space is provided for thirty samples on a single disc and no auxiliary source of power is required for its operation. Grab samples can be collected with speed and the fluctuations in dustiness and the development of dust floods can be revealed in a way that is impossible with more cumbersome apparatus. South African experience involving the collection of thousands of samples has shown that the figure of merit given by the Konimeter is directly related to the amount of phthisis - producing dust in the air. It is a valuable routine sampling instrument but because of its low and selective efficiency, the counts reported are probably considerably below the true level and they are not easily compared with data obtained in England, for example, with the Owens apparatus, or in the United States with the impinger."

Experience has shown that contrary to Drinker's statement, the Konimeter if properly used, will give results that agree very well with those obtained by the use of the Impinger. The U.S. Bureau of Mines Experiment Station at Pittsburgh in making some comparative studies with the Konimeter and the Impinger found that an average of five Konimeter determinations was within about two per cent. of one impinger determination. The reason for taking an average of individual results obtained by the Konimeter, for comparison with those of the Impinger, is due to the fact that the Konimeter takes an instantaneous grab sample of small volumes and owing to the hetrogeneous nature of dust in air grab samples do not represent the average conditions. The Impinger takes a continuous sample of rather large volumes and is thereby representative of the average. For these reasons, if it is desired to compare Konimeter results with Impinger results it is necessary to take several Konimeter samples during the course of the Impinger sample, in order to obtain average conditions. We have no correlating information of the Konimeter with the 20 to 30 micron porcelain filter against the standard impinger method.

A Zeiss Konimeter, using a 20 to 30 micron porcelain filter was used in making actual dust counts in our various dust producing operations. The particle size and size classification was estimated rather than accurately measured and computed. Only particles ten microns or less in size were counted since it is generally agreed that dust particles larger than ten microns in size are not particularly pathogenic.

Other methods in common use are the Owens jet dust sampler ("Jet Dust Counting Apparatus" by J.S.Owens, Jour.Ind.Hyg.,Vol.14,1932,P.522), which has recently been manufactured in this country and the photographic dust counter, developed by Ficklen and Ott. The Owens jet dust counter is used in this country to collect samples for particle size distribution determinations. It is used principally in Australia for determination of number concentration of atmospheric dust of industrial hygienic importance.

The latest device for determining dust concentrations is the Bausch & Lomb Dust Counter which was placed on the market a few months ago. This instrument consists of a dark-field microscope magnifying 200X, and an impinging apparatus mounted on a common base. The base is a hollow chamber with the bottom hinged to provide easy access to the dark field condenser and a circular glass specimen slide. By means of a hand pump, which is part of the impinging device, a sample of air is drawn