It is easily seen that an "outer" estimate of p is still given by U_{k+1}. However, an "inner" estimate is now given by U_{k-1}, leading to a lower end point of the confidence interval which is unnecessarily small.

The method of obtaining a confidence interval for p discussed in this note is in a certain sense the reverse of the method discussed in an earlier paper of the author [2]. There it was shown how confidence intervals for p can be used to obtain confidence intervals for quantiles, which then can be used to obtain tolerance intervals.

REFERENCES

[1] S. S. Wilks, "Order statistics," *Bull. Am. Math. Soc.*, Vol. 54 (1948), pp. 6–50.
[2] G. E. Noether, "On confidence limits for quantiles," *Annals of Math. Stat.*, Vol. 19 (1948), pp. 416–419.

ABSTRACTS OF PAPERS

(*Abstracts of papers presented at the Minneapolis meeting of the Institute, September 4–7, 1951*)

1. **On Stieltjes Integral Equations of Stochastic Processes.** Maria Castellani, University of Kansas City.

This paper considers two methods of solving certain S-integral equations.

a. *A Fredholm-Stieltjes integral equation of generating functions.* We give the F-S integral equation $\int_E A(s, x)\, dg(x) = f(s)$, where $A(s, x) = \Sigma_{k=0}^{\infty} \alpha_k(x)s^{-k}$ and $f(s) = \Sigma a_k s^k$ for $s \to \varphi(s)$ and $a_0 = 0$ if $k = 0$. Let us assume that $u(x)$ and $v(x)$ are respectively solutions of $\int_E A(s, x)\cdot A(-s_1, x)\, du(x) = 1/(S - S_1)$ and $\int_E A(s, x)\, dv(x) = 0$. If we consider

$$\int_E A(s, x)A(-s_1, x)f(s_1)\, du(x) = f(s_1)/(S - S_1)$$

and if $\gamma(x)$ is the coefficient of $-1/S_1$ in the serial expansion of $A(-s, x)f(s_1)$, then under fairly general conditions the required solutions are given, almost everywhere, by $g(x) = \text{const.} \int^x dv(x) + \int^x \gamma(x)\, du(x)$. The proof is based on a Murphy D'Arcais linear operator and on the ρ operatior of S-integrals.

b. *A Volterra-Stieltjes integral of recurrent random functions.* Let us have over a time interval (τ, t) an unknown rf$\delta(t - \tau)$ satisfying the following recursive equation: $\delta(t - \tau) = \delta(\tau) - \int_\tau^t \delta(x - \tau)\rho(x)\, dF(x)$ where $F(x)$ is a df and $\rho(x)$ is bounded. We assume the interval divided into n parts and also that the set of the n discrete values of δ satisfy the following relation: $\delta(t - \tau)/\delta(\tau) = \Pi_{s=\tau}^{s=t}(1 - \rho(s)\Delta F(s))$. If $F = F_1 + F_2$, where the F_1 is a continuous function and F_2 is a jump function over a set S of points, then by a generalized method of Cantelli, taking finer and finer partitions, we obtain as a limit $\delta(t - \tau)/\delta(\tau) = \left[\exp\left(-\int_\tau^t \rho(x)\, dF_1(x)\right)\right] \Pi_{s\epsilon S}(1 - \rho(s)\, dF_2(s))$. This gives almost everywhere the required solutions.