

can be regarded as the cosine of the angle  $\theta$  between the lines joining  $(\tau_1, \tau_2, \tau_3)$  and  $(t_1, t_2, t_3)$  respectively to the centre of the above-mentioned circle.

The relationships between the  $\tau_i$ 's given by (5) make it necessary for one value of the  $\tau_i$ 's to occur in each of the three non-overlapping intervals  $-\sqrt{2}$  to  $-\frac{1}{\sqrt{2}}$ ;  $-\frac{1}{\sqrt{2}}$  to  $\frac{1}{\sqrt{2}}$  and  $\frac{1}{\sqrt{2}}$  to  $\sqrt{2}$ . Exactly the same conditions hold for the  $t_i$ 's.<sup>2</sup>

The 6 permutations of  $\tau_1, \tau_2, \tau_3$  in these three intervals correspond to a subdivision of the circle on which the point  $(\tau_1, \tau_2, \tau_3)$  lies into 6 equal arcs of  $60^\circ$  each. Every point on any one of these arcs can be shown to correspond, one to one, to the position of  $\tau_i$  in any one of the intervals; also proceeding along the circle, points on three alternate arcs correspond to the positions of  $\tau_i$  as it takes on values from the highest to the lowest in this interval and points on the other three correspond to the positions of  $\tau_i$  as it moves from the lowest to the highest value.

It is clear that when adjacent arcs are combined in pairs dividing the circle into 3 equal arcs of  $120^\circ$ , the probability density function of  $(\tau_1, \tau_2, \tau_3)$  is the same on the 3 arcs and is symmetric on each. At any three points on the circle which divide it into three arcs of  $120^\circ$ , the probability density function of  $(\tau_1, \tau_2, \tau_3)$  is therefore the same. The same conditions hold for  $(t_1, t_2, t_3)$ .

It therefore follows that

$$(8) \quad P\left(-\frac{\pi}{3} < \theta \leq \frac{\pi}{3}\right) = P\left(-\frac{2\pi}{3} < \theta \leq -\frac{\pi}{3} \text{ or } \frac{\pi}{3} < \theta \leq \frac{2\pi}{3}\right) \\ = P\left(-\pi < \theta \leq -\frac{2\pi}{3} \text{ or } \frac{2\pi}{3} < \theta \leq \pi\right).$$

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### CORRECTION TO "THE DISTRIBUTION OF EXTREME VALUES IN SAMPLES WHOSE MEMBERS ARE SUBJECT TO A MARKOFF CHAIN CONDITION"

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In the paper mentioned in the title (*Annals of Math. Stat.*, Vol. 20 (1949), pp. 590-594) I claim to have proved a number of results dealing with the distribution of extreme values in samples of size  $n$  drawn at equally spaced intervals from a stationary Markoff process. As Professor W. Feller has kindly pointed

<sup>2</sup> This property has been utilised by the author and S. C. Bhoumik to obtain distributions of the correlation coefficient for samples of three, under varying assumptions regarding the distributions of independent variables  $x$  and  $y$ . The distribution of  $\tau_i$  or  $t_i$  is also of help in working out the distribution of Fisher's  $g_1$  for samples of three. For the distribution of  $g_1$  for samples of three from continuous rectangular distribution, refer to C. Chandra Sekar in *Current Science*, Vol. 13 (1944), pp. 10-11.