

LETTERS TO THE EDITOR

	PAGE		PAGE
<i>The Apparent Shape of the Moonlit Overcast Sky.</i> D. VENKATESWARA RAO ..	19	<i>Change in Nitrogen Content of Milk on Souring.</i> S. C. ROY AND D. P. BHATNAGAR	25
<i>A Proposed New Component of Solar Radiation.</i> ALFRED B. ARLICK ..	20	<i>Gammexane (D. 025) and Cattle Ticks.</i> B. N. SONI ..	25
<i>A Bulb-Tube as a Pyknometer.</i> J. W. AIRAN ..	22	<i>Optically Positive Hypersthene from Charnockites of Guntur District.</i> C. MAHADEVAN AND A. NARASINGARAO ..	25
<i>The 2:4-Dinitro-phenyl Hydrazine Colour Reaction for Vitamin K.</i> D. V. S. REDDY AND V. SRINIVASAN ..	22	<i>The Sex Organs of Phytophthora himalayensis Dastur.</i> BALAJI D. MUNDKUR ..	26
<i>Influence of Extracts of Germinated Indian Pulses on the Formation of Amylase by Bacillus subtilis.</i> B. S. LULLA ..	23	<i>A Xenostele on Neolitsea zeylanica.</i> M. J. THIRUMALACHAR ..	26
<i>Effect of Antibiotics on the Milk-Clotting Enzymes of Carica papaya and Ficus carica.</i> R. RAGHUNANDANA RAO AND C. R. KRISHNA MURTI ..	23	<i>A Case of Cytomixis in Crotalaria medica-ginea Lamk.</i> N. SATYANARAYANA RAO ..	27
<i>Utilization of Desizing Washings for the Culture of Industrially Important Micro-Organisms.</i> B. S. LULLA ..	24	<i>On Gourami Nests in a Hill Spring and a Rocky Gundam.</i> V. D. SPURGEON ..	28
		<i>Young's Modulus—</i>	
		S. C. OAK ..	28
		V. L. TALEKAR ..	28

THE APPARENT SHAPE OF THE MOONLIT OVERCAST SKY

In an earlier note in this *Journal*,¹ the author has reported the measurements of the half-arc angle² under various conditions of clouding in the sky during day-time. They led to the anomalous conclusion that the half-arc angle decreases with increasing cloud-height, contrary to what should be expected on a geometrical basis. It was felt worthwhile to investigate whether the behaviour of the half-arc angle would be similar in the case of overcast night skies also. The results of such a study are reported in this article.

In the absence of the moon in the night sky, the clouding in the sky would be indiscernible, and the overcast would appear equally dark to the eye, irrespective of the height of its base. It is, therefore, only on moon-lit nights that such measurements could be carried out. As the intensity of illumination present in the sky may itself influence the half-arc angle to an uncertain degree,³ measurements were made only on days when the moon was full or nearly so and was sufficiently clear of the horizon so as to illuminate the clouding uniformly. On most of the occasions reported here, the skies were totally overcast and, on the rest, they were nearly so. The times of observation were between 21.00 and 24.00 hrs. I.S.T. The heights of base of cloud were visually estimated. The half-arc angle was measured as before.^{2,3} Eight measurements were taken on each occasion in four different directions, and their arith-

metical mean was adopted as the representative value.

The results are reproduced in Table I below. In the last column of this table are given the corresponding values of the half-arc angles for the day-time skies, picked up graphically from the measurements of the author¹ and of Miller and Neuberger.⁴

TABLE I

Date	Height of base of cloud in feet	Half-arc angle for full-moon night sky in degrees	Corresponding half-arc angle during day time in degrees
13-6-1946	2,500	22.6	28.6
14-6-1946	3,000	22.8	28.4
9-9-1946	5,000	23.2	27.7
14-7-1946	7,000	23.7	27.4
13-7-1946	10,000	24.7	27.1
9-9-1946	13,000	25.5	26.6
9-9-1946	16,000	26.0	26.3
10-9-1946	22,000	26.5	25.4

The most interesting feature of the above results is that the half-arc angle for the overcast night skies shows an actual increase with increasing cloud-height, quite unlike during day-time. This is in accordance with what may be deduced on a purely geometrical basis. For, if O is the position of the observer, H that of the apparent horizon and Z the zenith, the greater the value of OZ, the higher would be