of 200 mgm. of PAB should prove invaluable in detecting genuine cases of pantothenic

TABLE I

Percent acetylation of PAB in normal and deficient persons

Dosage of PAB	Treatment		Normal subjects		Patients with burning feet	
	Riboflavin	Phantothenol	No.	Acetylation value	No.	Acetylation value
mgm.	mgm.	mgm.				
100	..	..	11	89·5–93·8 (Ave. 91·5)	3	84·6–85·6 (Ave. 84·9)
200	..	..	8	89·7–92·4 (Ave. 91·0)	4	77·7–79·9 (Ave. 78·5)
100	125	..	1	92	1	84·2
100	..	350	1	90·7	1	87·6
200	..	350–750	2	91·6	6	86·9–90·3) (Ave. 88·8

acid deficiency among the various patients complaining of 'burning feet'. Acetylation would thus serve as a useful laboratory diagnosis in detecting cases of 'burning feet syndrome'. Treatment with sulfa drugs or an attack of malaria during the acetylation determinations have been found to vitiate the results and hence care must be taken to exclude these conditions during the test. Other conditions likely to interfere with acetylation in the laboratory diagnosis of this nutritional deficiency are under investigation and full details will be published later in the *Indian Journal of Medical Research*.

Our thanks are due to Dr. V. N. Patwardhan, Director, Nutrition Research Laboratories, for his kind encouragement and to Hoffman-La-Roche, Basle, Switzerland, for the gift of 'Bepanthen' (Pantothenol).

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THE LIFE-HISTORY OF A TYPICAL FUNNEL CLOUD

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TORNADOES, Waterspouts and Funnel Clouds (Elephant's Trunks) indicative of violent whirling motion in the atmosphere, are quite frequent in some parts of North America. The frequency, for instance, of destructive tornadoes is as high as a dozen per year in Kansas State in the U.S.A.[1,4,6,7] Other principal tornado regions of the world are North Africa, Southern and Western Europe, China, parts of Central Asia and Australia. In India (and in the Tropics in general)[6] it is a rare phenomenon, only few instances being on record.[3] The tornado that occurred on the 5th April 1933 at Peshawar,[8] the group of three waterspouts that were observed over the North Bay of Bengal[2] on the 14th February 1936 and the tornado cloud recently observed at Madras[5] on the 8th October 1945 are, perhaps, the only examples that have been well recorded. It is the purpose of this note to put on record one more typical instance of a Funnel Cloud that was observed by the author on the 26th June 1946 at Dum Dum (about 10 miles NE of Calcutta).

In the afternoon of 26th June 1946 the sky at Dum Dum was overcast (8-9/10ths sky covered with Cu, Fb, and Ns) and slight intermittent rain was falling; when suddenly at about 1510 hours I.S.T. the author noticed a protuberance of a very unusual form at the base of a cloud in the SW portion of the sky. It soon developed into a tube like appendage obliquely hanging from the base of the cloud (see Plate I, Fig. 1). Even at this stage it showed a whirling motion about its axis which obviously indicated the cause of its formation. Further development then continued rapidly and simultaneously in two directions;—

(*i*) More and more cloud material was formed or drawn into the whirl to produce longer and longer trunk below the cloud base;

(*ii*) The growing trunk itself travelled bodily in a curved path.

pictures in pencil which are reproduced in Plate I, Figs. 1-6. They thus represent six successive stages (not at equal intervals of time) in the development of the phenomenon which only lasted for about 15-16 minutes. The trunk had a slate colour and

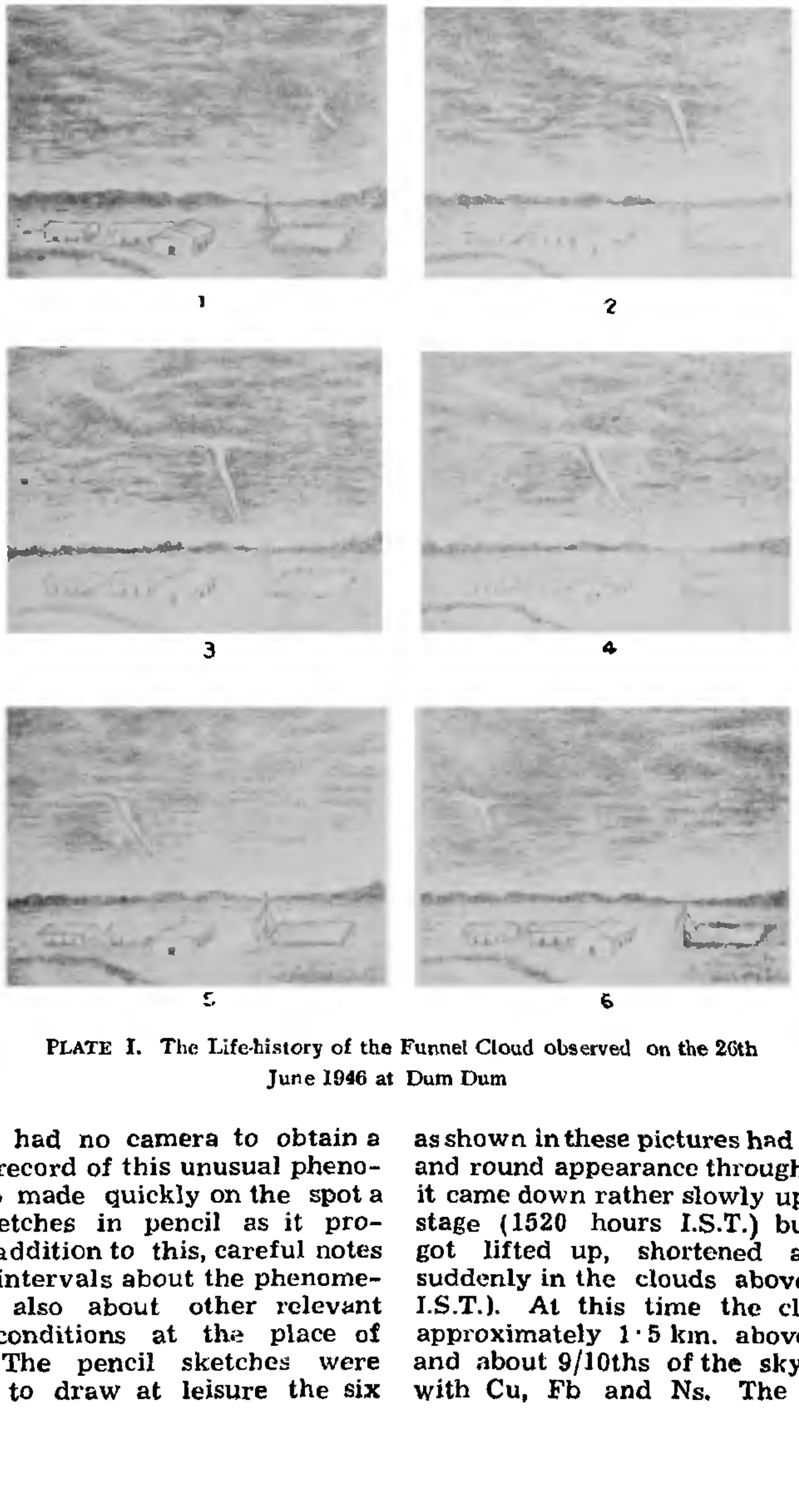

PLATE I. The Life-history of the Funnel Cloud observed on the 26th June 1946 at Dum Dum

The author had no camera to obtain a photographic record of this unusual phenomenon; and so made quickly on the spot a number of sketches in pencil as it progressed. In addition to this, careful notes were made at intervals about the phenomenon itself as also about other relevant atmospheric conditions at the place of observation. The pencil sketches were later on used to draw at leisure the six

as shown in these pictures had a very smooth and round appearance throughout. At first, it came down rather slowly up to the fourth stage (1520 hours I.S.T.) but afterwards got lifted up, shortened and vanished suddenly in the clouds above (1525 hours I.S.T.). At this time the cloud base was approximately 1·5 km. above the ground and about 9/10ths of the sky was covered with Cu, Fb and Ns. The surface wind

was light and variable, SW/S. From the observed churning movement of the cloud mass from which the trunk was hanging and also from the lively wriggling movement of the lower portion of the trunk it could easily be inferred that the whirling motion was very vigorous in the first four stages and in the fifth and the sixth stages it had slowed down considerably. The trunk, to start with, as shown by its position in Fig. 1, was nearly to the South-West and then gradually moved from there with an easterly component. It did not, however, travel in a straight line but approached the observer in the first four stages and receded from him during the later stages. When it was nearest to him about 2·5—3 miles away (Fig. 4), the lower end of the trunk was not well defined but could well be estimated to have come down to within a distance of 500–600 ft. of the ground. Of course, it never touched the ground, nor did it visibly influence any objects on the ground. As in most tornadoes, it may be noted that here also the whirling process (presumably counter-clockwise as seen from above) appears to have started high up in the atmosphere, at or above the cloud level, and gradually descended downwards as it strengthened.[3,8,9] A more detailed and quantitative discussion of this phenomenon, however, could not be taken up here as, particularly, the upper air data of (26-6-1946) for Dum Dum (or neighbourhood) are not available.

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OBITUARY

THE LATE PROF. M. S. SABHESAN

THE sudden death of Professor M. S. Sabhesan who, for 30 years, was in charge of the Botany Department in the Madras Christian College, is a great loss not only to that Institution but also to the whole educational world of South India.

The late Professor was no narrow specialist. His sympathies were as wide as his abilities and extended beyond text-books and curricula into the living world of men of the profession.

He was a progressive scientist and educationalist being one of the enthusiastic supporters of the South Indian Science Association founded in 1919. In espousing the cause of teachers he believed he was serving the cause of teaching and higher learning. He genuinely dedicated his spirit to the profession which he zealously followed, and has earned his blissful rest in communion with his Maker.

P. R.

Regional Scientific Bibliography for S.E. ASIA

THE UNESCO Office in South Asia proposes to compile a regional scientific bibliography to be distributed among the outside scientific world so as to increase the exchange of scientific literature from this region.

The bibliography is to be published annually with only the titles, authors' names and references to scientific publications in all branches of pure and applied sciences, including also the social, historical and educational aspects of science. Emphasis will be on original papers, books, monographs, reviews, surveys, annual reports, etc. All scientific organisations and individual scientists of this region, are invited to send such reprints, reports, etc., as are not readily available in public libraries, or at least to indicate their titles and references. A small fund is available for subscription and purchase of these publications. Postage will be refunded.