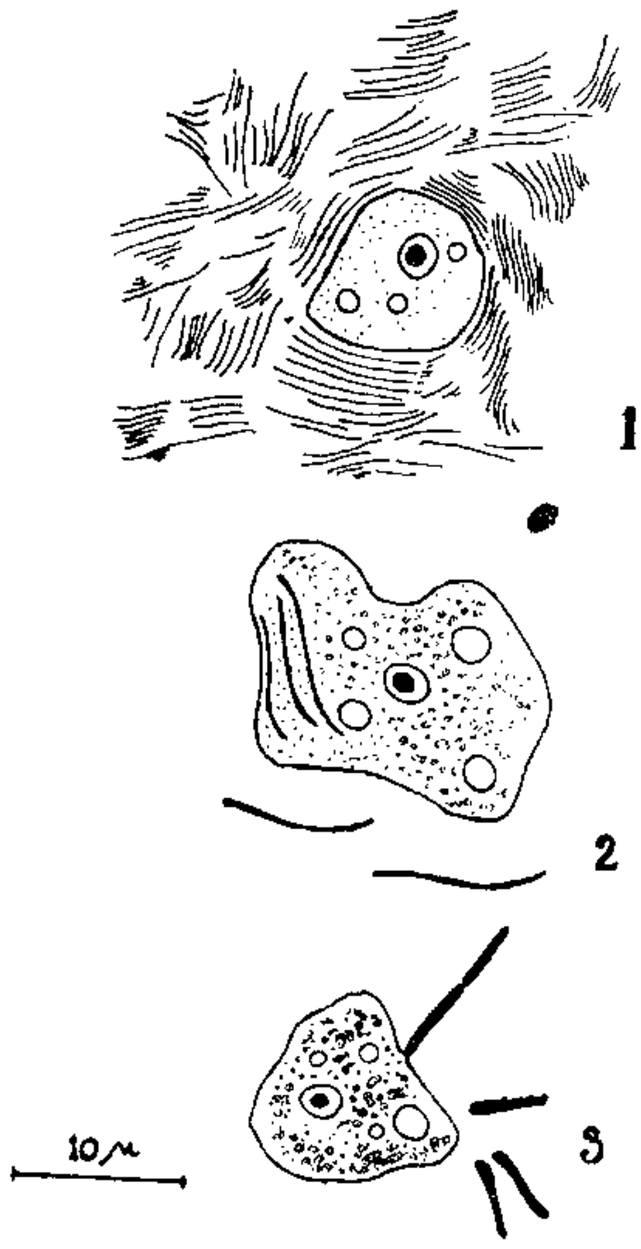
portions before their final elimination from the cell.



FIGS. 1–3

The peeling off of the surface layer suggested overproduction of surface-forming material induced as an after-effect of irradiation. In normal amœbæ such a phenomenon has never been seen. Overproduction of cell surface in radiated amœbæ can be taken as an induced phenomenon of a concerned activity of synthesis. It is still interesting to note that such overproduction can take place only during the active phase of trophic life of the amœba and not during the inactive phase of the cystic life (Mookerjee and Hajra[2]). It must be pointed out in this connection that whenever the trophic forms were mobilising in the excessive production of their surface layers, they invariably failed to undergo regular binary fissions and resulting into scanty culture.

Claims have already been made that a process of active synthesis goes on near the surface layer which results in the constant replacement of the previous limiting membrane. Bell[3] and Wolpert *et al.*[4] have suggested that the membrane may be synthesized *in situ* by enzymatic sites forming part of the membrane itself, particularly as the internal membranes of the cell have many synthetic functions. Radiation seems to stimulate this synthetic activity in the treated amœba. The theory is that the amœba renews its surface each time when it passes through its own length (Goldacre[5,6]). This view speaks of an ephemeral nature of the surface layer which is continually being formed to be replaced. Weiss[7] and Rosenberg[8] have advanced the idea that the cell surface is constituted by the staggering of many monolayers of protein films which are constantly shed as the cell mobilizes itself in movement. In the present set-up, the radiated amœbæ were attached on the glass surface and became imprisoned in a state of immobilisation and the active formation of layers are staggered around the cell body as distinct elements.

Another impressive case of the present result is to show that the surface is a definite structure distinguishable from the rest of the cytoplasm. This lends support to the other experiments where lifting and separation of surface layer were done by immersing the amœbæ in Alcian blue Nachmias[9] at 5° C., though it is not yet clear whether in this case only the polysaccharide part or the protein part is also lifted. Preliminary cytochemical tests which were carried out showed that the protruded cell surfaces gave RNP and alkaline phosphatase positive reaction but failed to do so when they were detached from the cell body of amœbæ.

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USE OF CONGLUTINATING COMPLEMENT ABSORPTION TEST FOR RAPID IDENTIFICATION OF ARBOVIRUSES

THE conglutinating complement absorption (CCA) test has been used in the sero-diagnosis of arboviruses. The test was found to be more sensitive than the ordinary hæmolytic complement fixation (CF) test in detecting the presence of arbovirus antibodies in serum.[1,2]

This communication deals with the adaptation of CCA test for rapid identification of arboviruses and reports the relative value of this procedure as compared to CF test.

A 10% (W/V) suspension of the infected infant or adult mouse brain in normal saline (0·9% NaCl) was made and centrifuged at 5,000 RPM for one hour at 4° C. The supernatant fluid was used as antigen. This antigen had shown a slight anti-complementary activity. Therefore, it was further diluted to 1 : 2 (sometimes 1 : 4) before use and was tested against two-fold dilutions (usually 1 : 16 to 1 : 1024) of homologous hyperimmune serum. The hyperimmune sera against arboviruses [Kyasanur Forest Disease (KFD), P 9605 strain; Kaisodi (KSO), G 14132 strain; Japanese encephalitis (JBE), Nakayama strain; West Nile (WN), E 101 or G 22886 strain; and dengue 2, P 23085 strain] were produced in adult mice.

Micro-CCA tests were done in hæmagglutination plastic plates according to the method described earlier.[3] CF testing was done by a micro-technique as described by Pavri *et al.*[4]

Seven hundred and fifty-two mouse brains were tested for evidence of arbovirus infection. Of these, 661 were positive in CCA for arbovirus and 655 in CF (Table I). Titres of hyperimmune sera with brain antigens, though not determined for end-points in all cases, were usually found to be two to four times higher in CCA than the CF.

TABLE I

Showing comparative results of CCA and CF tests with mouse brain antigens

Brain antigens	Total No. tested	No. positive with		Remark
		CCA	CF	
KFD ..	634	620	620	
KSO ..	10	0	0	
KSO/KFD	29	18	18	Positive for KSO
JBE/WN	8*	4	4	,, ,, JBE
		4	4	,, ,, WN
WN ..	24	4	4	
Dengue type 2	47	11	5	
Total No.	752	661	655	

* Antigens were tested with absorbed hyperimmune sera.

The CCA results indicated that KFD and KSO viruses could be distinguished from one another as well as from JBE-WN subgroup dengue virus. It was also possible to distinguish between the viruses of JBE-WN subgroup using JBE (Nakayama) and WN (E 101) hyperimmune sera absorbed as described by Clarke.[5] These results were similar to those observed with CF test by Pavri and Sheikh.[6]

These preliminary results suggest that CCA test may be used for rapid identification of arbovirus isolates. It was about as effective as the CF test.

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A NOTE ON THE PREVALENCE OF *MELOIDOGYNE INCOGNITA* (KOFOID & WHITE, 1919) CHITWOOD 1949, IN VARIOUS PLANTS OF RAJASTHAN

A SURVEY in the cultivated fields, orchards and gardens in different parts of Rajasthan for root-knot nematode infestations was started in 1966. Root samples of affected plants were collected and preserved in 5% formalin for detailed examination.

Many workers have reported host plants of *M. incognita* from different parts of the country.[2-4] From Rajasthan there are only few reports of *Meloidogyne* species.[3,6] This is the first extensive report of various new and known host plants found infested with *M. incognita* and extends its range of geographical distribution in Rajasthan. Infested plants were brought to the laboratory. Roots were gently washed to remove the adhering soil. Females were dissected out and pareneal sections were cut and mounted on slides. At least 10 to 15 sections from each host were examined for the morphology of the pareneal pattern. Identification of the species was made on the basis of key given by Taylor *et al.*[5]

Various host plants, locality and degree of infestation are given in Table I. It may be observed from Table I that *M. incognita* has been observed attacking about 30 genera of 20 different families in Rajasthan. The families; Cucurbitaceæ, Solanaceæ, Umbelli-