

Detailed report of the thesis of Miss Namita Gaur a candidate for D.Phil. degree from the Chemistry Department of the University of Allahabad.

The thesis of Miss Namita Gaur entitled "Microbial Fixation of Nitrogen" comprises of five chapters excluding the Introduction and Experimental part,

This field is under active investigation now.

The present status of our knowledge about nitrogen fixation.

Three organisms isolated from Allahabad and Bamrauli soil are used for investigations.

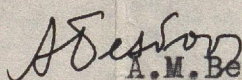
The action of lanthanum sulphate, sodium molybdate, ruthenium, rhodium, osmium and platinum on nitrogen fixing activity of three nitrogen fixers has been investigated. Close study reveals that lanthanum, molybdenum, ruthenium and osmium are the activators agents. Rhodium and platinum when presents in the culture media acts as inhibitors for the nitrogen fixing activity of all the organisms.

The effect of three amino acids/ glutamic acid, proline and hydroxyproline/ has been investigated. These observations are consistent with the view that in presence of amino acids nitrogen fixation in general by microorganisms is inhibited.

Experimental data allowed the author to discuss the results extensively and to draw interesting conclusions. There can be not doubt about the importance of this investigation.

The thesis is satisfactory in literary presentation and I recommend that thesis be accepted for the award of D.Phil. degree to the candidate.

31.III.1978



A.M. Bezborodov, Prof., Dr.Sc.,

The Bach Institute of Biochemistry
Acad.Sci USSR, Moscow.

Detailed report of the thesis of Miss Geeta Upadhyaya a candidate for D.Phil. degree from the Chemistry Department of University of Allahabad.

The thesis of Miss Geeta Upadhyaya entitled "Cytological and Histochemical studies of Self-sustaining coacervates" consists of five chapters together with Introduction and Experimental.

In the Introduction the author assesses the modern state of the problems of the origin of life. In particular, he reports about the progresses attained at the University of Allahabad under guidance of Dr Krishna Bahadur. It is known, that abiogenic cell-like structures /Jeewanu/ have been found there.

There are still many fundamental problems to be solved in this area.

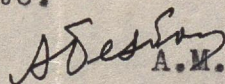
Experimental work has been done at a high methodical level.

The author examined many cytological and histochemical reactions on Jeewanu. It was observed that only a few biological fixatives could be used successfully. The development of this procedure brought confirmation of the presence of nuclear and phospholipide materials in coacervates.

Experimental data allowed the author to discuss the results extensively and to draw interesting conclusions.

The thesis is satisfactory in literary presentation and I recommend that thesis be accepted for the award of D.Phil. degree to the candidate.

31.III.1978



A.M. Bezborodov, Prof., Dr.Sc.

The Bach Institute of Biochemistry
Acad.Sci USSR, Moscow