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The 6th International Conference on Water Pollution Research,
Jerusalem.

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OCH LUFTVÅRDSFORSKNING
Biblioteket

B 130
Stockholm
Augusti
1972

The 6th International Conference on Water Pollution Research in Jerusalem (Israel) was opened on June 19, 1972 and closed on June 23, 1972. On June 18 the registration and the tour of Jerusalem took place.

The conference occurred in three sessions. Average 100 papers were presented; the best attention was given to the following problems:

- 1) Bacteriological aspects of water quality
- 2) Analytical Techniques, Waste water Quality Criteria and Control
- 3) Economical aspects of waste treatment
- 4) The activated sludge questions
- 5) The purification of the industrial wastes
- 6) The eutrophication aspects of waste water treatment

Among the compounds specially dangerous for the natural water, the detergents and mercury occupied the leading position.

Among the most interesting papers about the activated sludge problems should be mentioned:

- 1) T. Matsuo (Japan) - Effects of suspended solids concentrations on the structure of turbulence and the oxygen transfer mechanism in activated sludge.
- 2) D. Jenkins and D. Orhon (U.S.A.), P.H. Jones (Canada) - The mechanism and design of the contact stabilization activated sludge process.

3) J.C. Jacquart, D. Lefort and M. Ravel (France) - An attempt to take account of biological storage in the mathematical analysis of activated sludge behaviour.

Tomonori Matsuo investigated the role of the extent turbulence in the oxygen transfer mechanism of activated sludge and the effects of the hydrodynamic conditions on the biological reactions. The concentration of the suspended solids was considered as a useful parameter which characterizes the structure of turbulence. The research of Jenkins and Orhon demonstrated, that in addition to the often quoted advantage that the contact stabilization modification of the activated sludge process allows aeration basin volume reduction by conducting part of the aeration on a concentrated return sludge underflow, other significant advantages can be assigned to this type of flow scheme. These advantages largely result from the ability to operate a contact stabilization system at a lower net growth rate than a conventional system of the same COD removal rate. Important results of this observation are that sludge production rate can be reduced, the loading at which nitrification is achieved can be increased and the sludge mass carried in the plant can be minimized because of its high viable organism content - all of these results being obtained without any deterioration in effluent quality compared to a conventionally operated flow scheme.

Jacquart et al. showed, that in literature about the mathematical description of the behaviour of activated sludge at least one point is not covered by the usual model: the decay between the occurrence peak of BOD_5 load and peak of the respiratory activity. Authors made an attempt to evolve a more sophisticated model which by taking account of the ability of bacterial cells to store externally or internally part of the available food, leads to much better fit between the calculated and observed measurements.

I should like to mention the following papers about the industrial wastes purification.

- 1) P. Farkas (Hungary) - Problems in the operation of plants treating mixed industrial wastes.
- 2) A.K. Basu (India) and E. Leclerc (Belgium) - Studies on mesophilic digestion of beet molasses distillery wastewater.
- 3) J. Bebin, P. Boulenger and J.C. Bourdelot (France) - Color removal from bleached kraft pulp wastewater.

Farkas discussed the following questions concerning the operation of plants treating wastes from many sources, industrial and municipal:

- a) the conditions of stable biological plant operation
- b) a model describing the effect of mixed wastes on biological oxidation
- c) the prediction of effluent quality changes on the connection of new dischargers to existing plants.

Basu and Leclerc investigated the mesophilic digestion at 35°C of the beet molasses distillery effluent. Three methods of operation were used: 1) Batch digestion. 2) Conventional digestion and 3) High rate digestion.

Bench-scale digestors (4 l) were fed initially with a heavy inoculum of digested sludge, after which a stream of nitrogen were passed through the digestors to displace the oxygen present. The digestors so prepared were kept immersed in different thermostats (35°C). After every three days, 3 mg/l of digester materials of synthetic substrate was added for the first 15 days.

1) Batch digestion - in this section, a certain amount of the waste water was fed and the progress of BOD reduction, pH change and gas yield was observed for a particular period, the experi-

ment showed that batch digestion even with a 13 - 15 fold dilution of the waste is not economical in practice owing to the long lag period.

2) Conventional digestion was carried out on a semi-continuous basis. Each day a measured amount of supernatant liquor was taken out and an equal volume of feed of distillary waste was given.

3) High rate digestion - the loadings in the digestors were gradually increased.

Authors confirmed, that batch digestion is unacceptable owing to the long lag period.

Conventional digestion does not merit consideration because of the high efficiency of BOD loading and removal at high rate digestion.

Bebin et al. described a new process of colour removal with aluminium sulphate coagulation, taking as an example waste water from the manufacture of bleached kraft pulp.

Colour removal of paper-pulp effluents with aluminium sulphate is competitive with lime treatment. It gives efficient decoloration of the water. Comparative costs of treatment by aluminium sulphate and lime is calculated.

I had the opportunity to visit The A. Felix Public Health Laboratory (Ministry of Health), Abu-Kabir, Tel-Aviv-Jaffa. (Director: Dr. Z Imre).

The Chemical Unit headed by Mrs. E. Bloch and the Bacteriological Unit headed by Mrs. Y. Yoshpe-Purer deal with water examinations and research in water quality improvement.

The Chemical Unit (3 workers) performs the usual chemical and biochemical examinations of drinking water, wastewater and sewage. Surveys on such specific problems as nitrates and fluoride in ground water are also carried out. The analyses are carried out according to Standard Methods.

Fluoride is determined by the method of Samamura et al:
"Direct spectrophotometric Fluoride Determination"
(Anal. Chem. 34, 10, Sept. 1962, p. 1308-1312)

The Bacteriological Unit (3 workers) is occupied in the first place with Coli-bacteria research and performs routine examinations of drinking water.

As well the Chemical Unit, as the Bacteriological Unit are in contact with the sanitary engineers and assist in training of the sanitary inspectors.

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