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#### FREE DISCUSSION

Discussion libre

Freie Diskussion

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A previous speaker had regretted the difficulty in obtaining co-operation with a certain international society. This difficulty should not be experienced with the International Association for Shell Structures, many of whose members are present at this conference including the President, I would particularly like to bring to the notice of this conference the existence of the Working Group for Tower Structures which has recently been formed under the IASS to deal with special structural problems arising in Tower Structures such as Radio Towers, Cooling Towers, Chimneys and Tall Multi Storey buildings. And foremost amongst the problems is that of wind loading, not only the static but even more the dynamic loading from gusts and the eddy effect.

The collapse of 3 Cooling Towers in 1965 at Ferrybridge were discussed in great detail at a conference at the Institution of Civil Engineers in 1967 and amongst many other things this brought to light the dangerous effect not only of the eddy effect on the Tower itself but even more from a row of Towers in front. The eddies from two neighbouring Towers in the front row were shown to have opposite rotation at any one given time, thus magnifying the effect in the gap between them with disastrous effect on a Tower in the next line if it happens to be in line with the thus produced concentrated pulsating gusts.

I would also like to draw the attention of the Conference to a recent article in the June 68 issue of the Journal of the American Institution of Civil Engineers by Vellozzi & Cohen on Gust Responsive Factors.

Finally I would suggest that some of the lessons learnt in the building of very large chimneys could with profit be used in the design of very tall Multi-storey buildings. I have particularly in mind certain elastic joints and shock absorbers at one or more levels so as to change the natural frequency of the Tower structure out of the danger zone and absorb the energy induced.

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