



April 22, 1964

One question concerning Mr. Goldhammer's paper asked if the method did not, in effect, measure ciliary beat frequency, but he had not understood that the effects measured were immediate rather than delayed.

The Physiology Section had a number of papers concerning surface activity of lung extracts. This subject was one of great interest to many of the people present. The surfactants in the lung have rather marked effects on the compliance and elastance.

I believe the most informative part of this trip was the return flight. My seat partner was Dr. Glen B. Haydon, who is with the Palo Alto Medical Research Foundation. Dr. Haydon is conducting a study on the chronic effects of air pollutants on the lung. He has exposed rats to very low concentrations of  $\text{NO}_2$  (ca. 0.025 ppm) for extended periods. After one year the rats were sacrificed and their lungs were examined. He showed me slides which showed a definite thickening of the alveolar walls and an enlargement of the ducts. The control rats did not exhibit this thickening and enlargement. Dr. Haydon said these changes were definitely emphysemous. In addition, he had observed a definite thickening - almost a "crusting" - of the mucus in the tracheas of the rats.

Dr. Haydon feels that the emphasis on lung cancer is obscuring the problem of bronchitis and emphysema in the public eye. This feeling is natural for him, since he is not studying

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lung cancer. He is, however, a pathologist, and as such should be a reliable judge of the relative importance of the two problems.

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