difference in the crystal spacing of the alternate layers. These observed differences suggest that there should also be a difference in the spectral frequency of the lattice vibrations. Dr. Krishnan has also obtained evidence of this by a careful study of the width of the 1332 line observed.

cies calculated from Dr. Krishnan's results are found to agree well with the frequencies deduced from fluorescence spectra by Dr. Nayar and Miss Mani. Using the experimental values for the fundamental frequencies, Mr. Bisheshwar Dayal has evaluated the specific heat of diamond, the calculated values agreeing per-

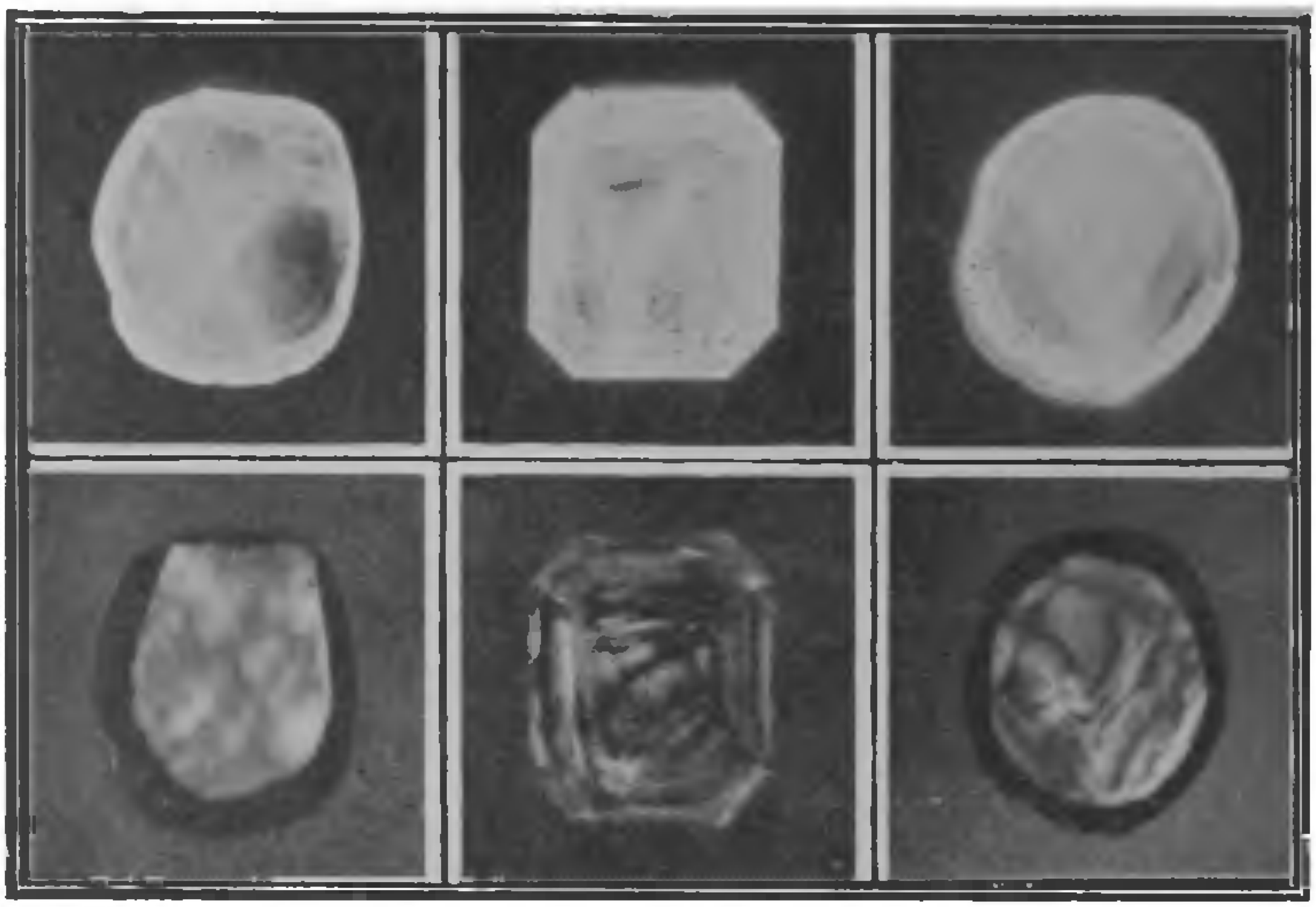

FIG. 3. Comparison of Luminescence and Birefringence Patterns

Reference must also be made to other results of importance announced in the symposium. Dr. Krishnan has studied the scattering of light in diamond in great detail, using the Rasetti technique, and has obtained ten other lines, besides the well-known line with a frequency shift of 1332 cm.$^{-1}$ These new lines have been identified as the octaves and the allowed combinations of the eight frequencies of oscillation of the diamond structure, calculated according to the principles of crystal dynamics developed by the present writer. These lines are not permitted to appear as fundamentals in light-scattering by reason of the selection-rules, but appear in fluorescence in combination with electronic frequencies. The frequen-

fectly well with the experimental data throughout the entire range of temperatures.

There is only space here for a brief reference to a paper by Mr. A. Sigamony on the magnetic susceptibility of diamond, and to two papers by Mr. Pant on the photoconductivity of diamond. The latter has studied the photoconductivity of a large number of diamonds, and has interpreted his results on the basis of the variations in the structure of the crystal as described above. Mr. Ramaseshan reports some interesting studies of the crystal forms of the Panna diamonds, and particularly of the nature of the curvature exhibited by their surfaces.

A NEW PUNJAB OIL-FIELD

A CABLE from London to Mr. D. N. Wadia from Mr E. S. Pinfold, Chief Geologist of the Attack Oil Co., announces the successful results of the boring tests proving the existence of natural oil (petroleum) at Joya-Mair village, near Chakwal, in North-West Punjab. This area was geologically suveyed in course of his Potwar Survey by Mr Wadia, who discovered this favourable oil-storage structure at Joya-Mair and reported it to the Government in 1926, suggesting this area as a possible oil-field in a paper published in the *Records, Geological Survey of India*, in 1929. For fourteen years this discovery remained untested by actual drilling trials.