A point should be mentioned in connection with filter observations. When observed with a Wratten 47 b blue filter, the phase always appeared narrower than when observed directly. In 1962, for example, drawings made a few days before dichotomy showed the terminator straight in blue light, whereas it appeared slightly gibbous when seen directly. Experiments with filters carried out by Cruikshank appear to indicate that this effect is due to the density of the filter rather than to the transmission wavelength of the filter.[6]

Much controversy exists as to the nature of the Schröter Effect. It is obviously not due to observational error since too much evidence is found in favor of its reality as a physical phenomenon. If the difference between the predicted and observed phases were entirely due to observational error or to an optical illusion, why does it vary from one apparition to another, since an optical effect would have to be consistent and the same at all times?

It should be pointed out here that a study carried out by Hartmann of A.L.P.O. observations made over several years appears to indicate that variations of the Schröter Effect from one apparition to the next are not statistically significant.[7] Rather, there appears to exist an average discrepancy of ±7.8 days, for both eastern and western elongations of Venus. However, in view of the large standard deviation obtained from those results (±5.5 days), the possibility that small scale fluctuations about an overall mean of ±7.8 days may exist should not be dismissed. This result may be indicated in Fig. 3, where in the 1962 graph (which includes all observations before and after dichotomy) the mean deviation for the apparition (about 6%) corresponds to the actual deviation some time in July of that year. In the 1960-61 graph (which is admittedly less accurate) the mean (about 4.5%) corresponds closely to dichotomy. In short, when the values for an entire apparition are averaged, the value obtained represents the mean between the maximum and minimum deviations; and since the rate of decrease from maximum to minimum appears to differ between different apparitions, an average value might correspondingly vary as well. This point can obviously only be settled through an increase in the precision of the observations, with a consequent reduction of their scatter.

Although the reality of the Schröter Effect can no longer be doubted, a satisfactory physical explanation for it has not as yet been found either, although most people probably agree that it is due, in part at least, to the atmosphere of Venus. The foregoing discussion points out rather emphatically that many more accurate phase observations are needed during both morning and evening apparitions in the hope that through them the problem can eventually be solved.

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OBSERVATIONS OF COMET PEREYRA

By: Charles F. Capen, Table Mountain Observatory

Comet Pereyra was observed at the Table Mountain Observatory on September 20, 1963 low in the east in Hydra near Alphard, 20 minutes prior

FIGURE 4. Photograph of Comet Pereyra at Table Mountain Observatory on September 23, 1963. Plus X Film. Exposure 14 mins., 35 mm., f: 1.4 camera. Other data in text of Mr. Capen's paper. Arrows point to tail jets, recorded in originals of several photographs on this date but probably difficult to see in this reproduction.

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to the coming of civil twilight, and on the south edge of the luminous Zodiacal Light. These observing conditions made the determination of Comet Pereyra's magnitude difficult indeed. The visual magnitude was approximated to be 5.5 to 5.8. The visual tail length was about 15° or 16°. An ill-defined nucleus in a small head was observed with 10 x 50 binoculars,

FIGURE 5. Photograph of Comet Pereyra at Table Mountain Observatory on September 27, 1963. Plus X Film. Exposure 33 mins. 35 mm., f:1.4 camera. Other data in text.

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a 6-inch refractor employing a 30 power ocular, and a 16-inch Cassegrain reflector using a 106 power ocular for best light grasp and definition. A crude visual position was obtained.

During the morning of September 21, photographic observation of Comet Pereyra was initiated with a Miranda 35 mm. reflex camera employing a telephoto lens of 135 mms. focal length, f/3.5 and using new improved Tri-X film.

A long straight tail of about 14° was photographed. A small fairly bright head with a very weak nucleus was recorded, and the photographic magnitude was noted to be 6.

On each following night the comet's magnitude has become fainter and the tail shorter. On September 26 the comet could barely be seen in a very transparent sky in which a 6.8 magnitude star was on the threshold of naked-eye visibility. The tail was recorded as between 10° and 11° long. A small head with a weak coma and with a possible nucleus was noted.

The following table gives Pereyra's nightly positions:

Date	Time	R.A.	Decl.	Visual Magnitude	Remarks
September 20, 1963	1215 U.T.	9^h $32^m.8$	-6° 35'.	5.5-5.8	Tail length ≃ 15° - 16° straight and dusty appearance. Small head with no definite nucleus.
				Photographic Mag.	
September 21, 1963	1220 U.T.	9 32.5	-7 06 .	6	Tail length ≃ 14° - 15° from a 10^m exposure on Tri-X f/3.5. A possible weak nucleus?
September 22, 1963	1220 U.T.	9 32.2	-7 25 .	6	Tail ≃ 13° from an 11^m exposure on Tri-X at f/3.5. Weak necleus? 16-inch Cass.with 105X & 10 X 50 binocs.
September 23, 1963	1220 U.T.	9 31.9	-7 43 .	6.2	Tail 12° from a 14^m exposure on Tri-X. Definite weak necleus noted with 16-inch Cass. with 105X.
September 24, 1963	1215 U.T.	9 31.8	-8 10	6.5	Tail ≃ 11½°-12° from a 20^m exposure on Tri-X & Plus-X employing f/3.5 and f/1.4, respectively. Weak nucleus observed.
September 25, 1963	1220 U.T.	9 31.4	-8 28	≃ 6.8	Tail length 13° photographically from a 25^m exposure on Tri-X f/3.5.
September 26, 1963	1145 U.T.	9 31.1	-8 50	≃ 7	Tail length 11°.2 from a 26^m exposure on Tri-X f/3.5. Weak nucleus.
September 27, 1963	1150 U.T.	9 30.8	-9 18	7+	Tail length 11°.75 from a 33^m exposure on Plus-X f/1.4.