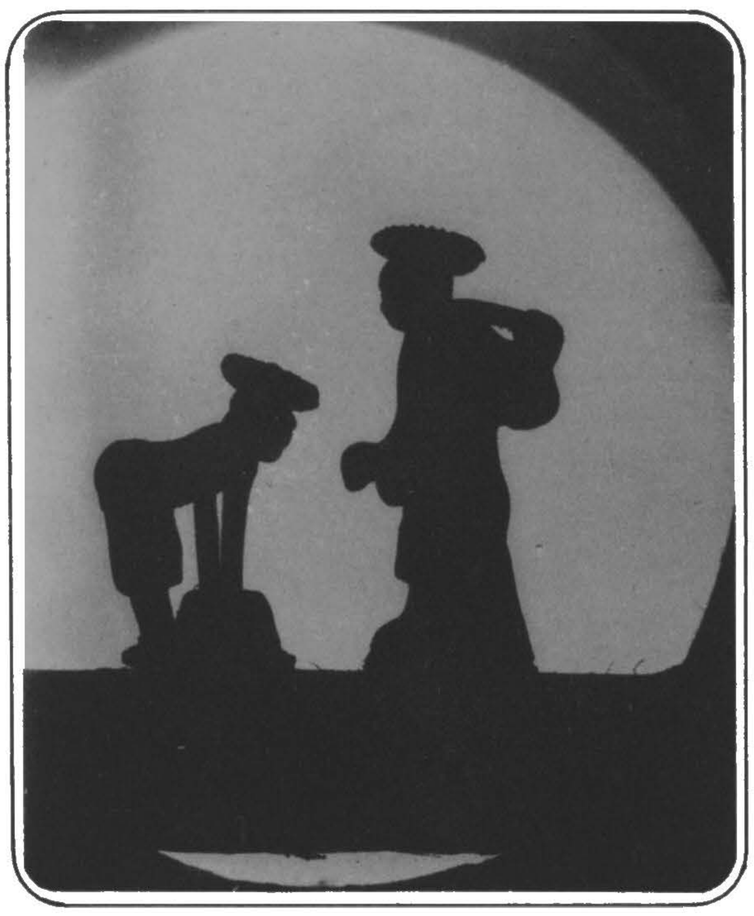
THE ILLUSTRATED LONDON NEWS

SATURDAY, MAY 21, 1932.

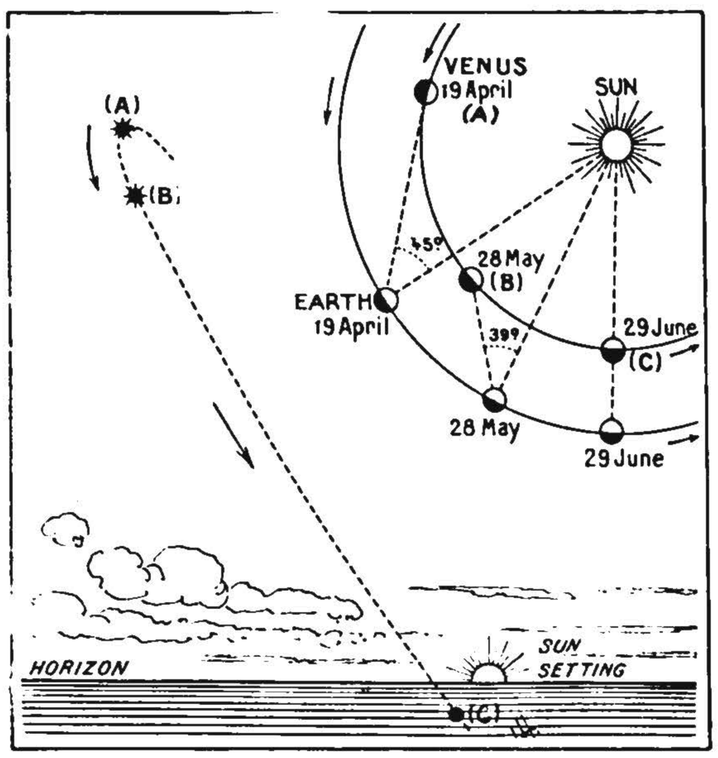
PHOTOGRAPHY BY VENUS-LIGHT:

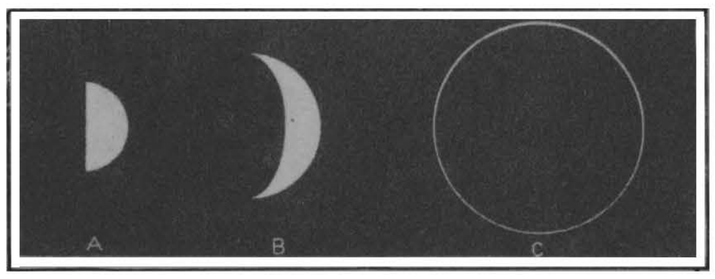
THE PLANET NOW AT HER BRIGHTEST.

ILLUSTRATIONS AND DESCRIPTION BY LUCIEN RUDAUX.



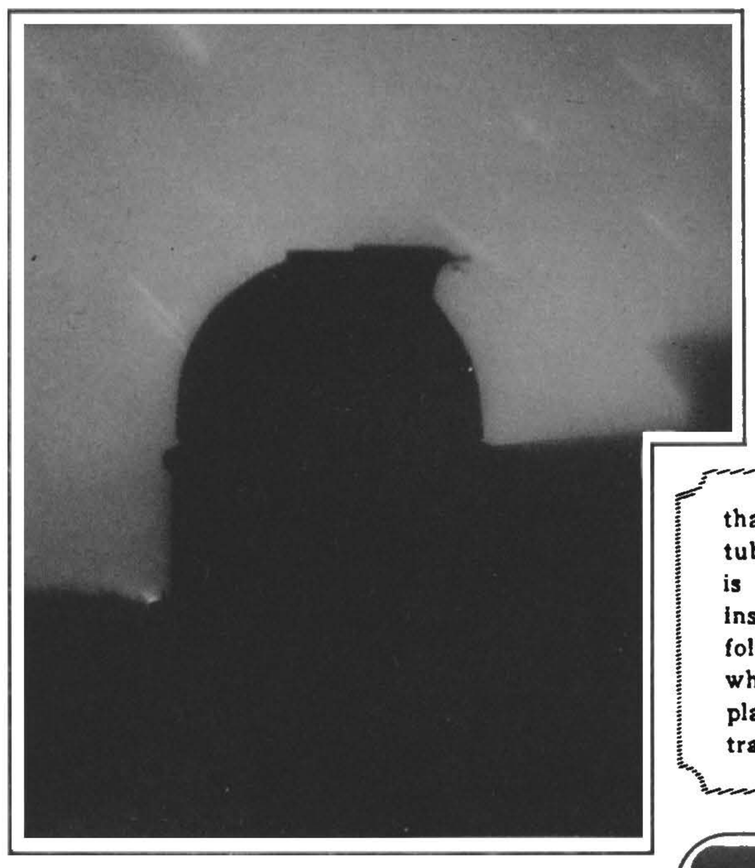
MAGIC LANTERN EFFECTS OBTAINED PHOTOGRAPHICALLY, WITH AN EXPOSURE OF 20 MINUTES, BY THE UNAIDED LIGHT OF THE PLANET VENUS.





THE MOVEMENT AND PHASES OF VENUS FROM APRIL TO JUNE: (ABOVE) VENUS AND THE EARTH ON THEIR ORBITS AT VARIOUS DATES (MARKED AT A, B, AND C)—B REPRESENTING VENUS' MAXIMUM BRILLIANCE; (BELOW) PHASES OF THE PLANET AND HER APPARENT INCREASE OF DIAMETER AS SHE APPROACHES THE EARTH, PASSING BETWEEN IT AND THE SUN.

A SHADOW OF A BRANCH OF HAWTHORN, OBTAINED PHOTOGRAPHICALLY, WITH 15 MINUTES' EXPOSURE, BY THE UNAIDED LIGHT OF VENUS—ENLARGEMENT SHOWING THE CURIOUS PHENOMENON OF FRINGES OF DIFFRACTION AT THE EDGES.



THE LIGHT OF VENUS ILLUMINATING THE SKY: A PHOTOGRAPH TAKEN WITH 20 MINUTES' EXPOSURE AND A MAGIC LANTERN CONDENSER (VENUS MASKED BY THE OBSERVATORY CUPOLA).

A PHOTOGRAPH OF THE LUMINOUS TRACK OF VENUS, SHOWING ITS REMARKABLE PREPONDERANCE OVER THAT OF ORDINARY STARS AND DIMINUTION OF LIGHT DUE TO ABSORPTION OF THE ATMOSPHERE, OF WHICH THE WIDTH TO BE CROSSED INCREASES AS THE STARS ARE NEARER THE HORIZON.

1.

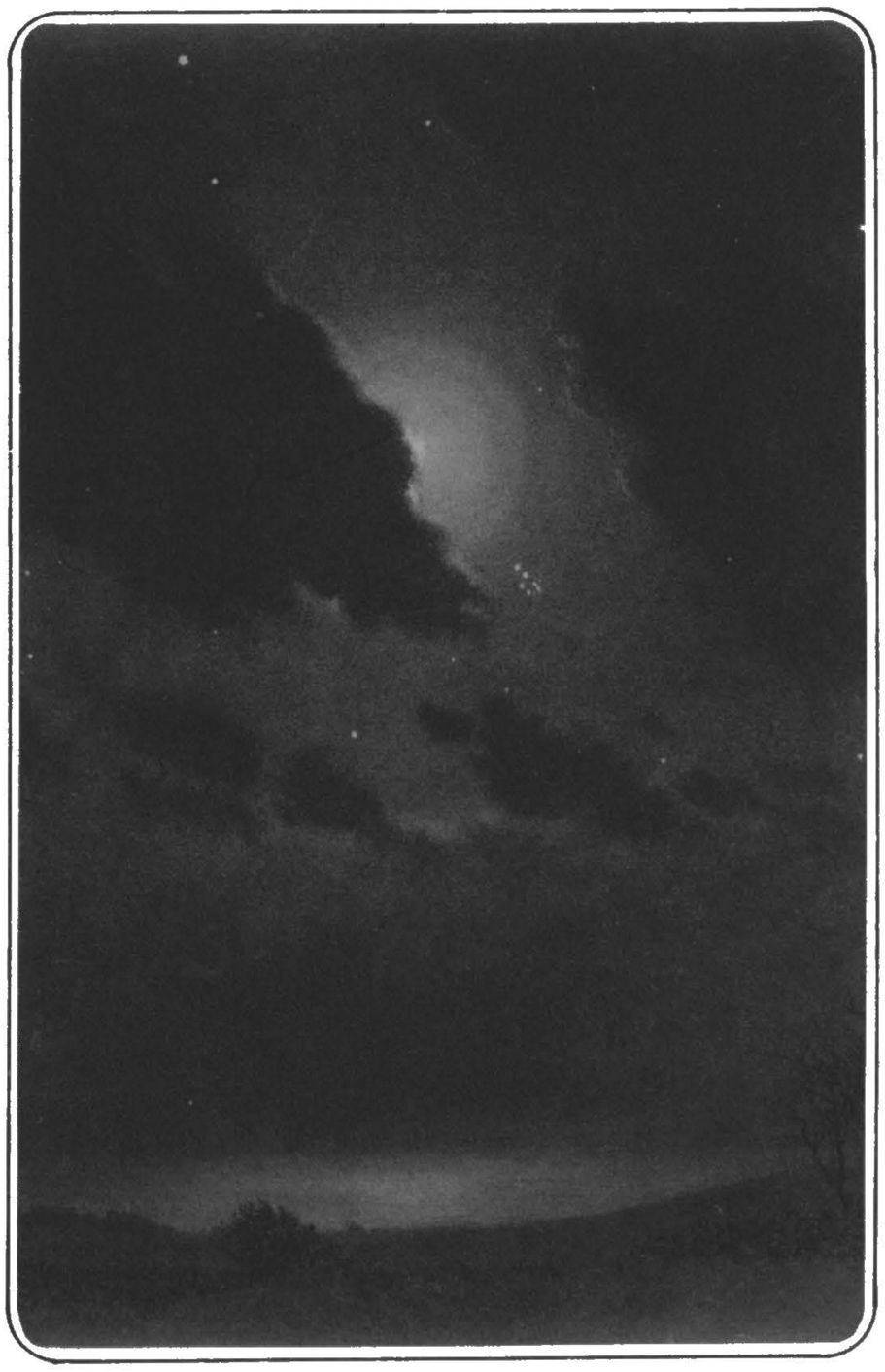
THE planet Venus has lately been a brilliant object in the evening sky, near the crescent Moon, and through field-glasses could be seen to be herself crescent-shaped. She is indeed so bright as to be visible in the day-time, on a clear day, to the naked eye, to those who know where to look. These illustrations by M. Lucien Rudaux, the well-known French astronomer, are therefore of special interest just now. "Under present conditions," he writes, "Venus is playing the part of a veritable 'little Moon,' spreading a perceptible light on the Earth. By her soft radiance objects can be easily distinguished, and their shadows, if interposed before a light surface, are clearly defined; this fact can easily be proved on a sheet of white paper, in the complete absence, of course, of any artificial light. Though for watching the skies the absence of clouds is desirable, a few of them, if they pass near Venus, will make one appreciate the more, by their black silhouettes and fine reflections, her relative brilliance. This general illumination of the sky is sufficiently marked to permit the taking of somewhat detailed photographs, as here seen. The apparatus used was a simple magic lantern condenser, wretched in respect of clearness of the image, but precious for its extended field of view and luminosity, an essential condition in the circumstances. No optical artifice has to be used to obtain good pictures of the shadow of an object by the light of Venus. It is enough to put a sensitive plate behind the object selected, at the foot of a rather long tube designed to eliminate any luminous radiance other than

[*Continued in Box 2.*

2.

that coming directly from the planet, towards which the tube is pointed and kept for the desired time. This condition is obtained by placing the apparatus on an astronomical instrument, by which the planet's apparent motion can be followed correctly. Such pictures are particularly interesting when the object shadowed is placed at some distance from the plate. A record of the *diffraction* can in that way be obtained, tracing curious luminous zones according to the outlines of the

[*Continued in Box 3.*



THE LIGHT OF VENUS ILLUMINATING THE SKY, CLOUDS, AND SEA, ON A STORMY EVENING DURING LAST APRIL: A DRAWING BY M. LUCIEN RUDAUX.

3.

object. The explanation of this phenomenon, caused by the undulating motion of light, cannot be given in a few words, and demands the study of a treatise on physics. It is related — to draw an analogy — to that of the waves on the surface of the water, which, when they encounter any obstacle to their spreading, surround it more or less by an enveloping process. Soon the brightness of Venus will cease to illumine the fine evenings. The planet's motion (as seen on our diagram) is—to all appearance—bringing her rapidly towards the Sun, in whose neighbourhood she will be lost to sight during June. Her maximum brilliance is visible now as a result of the conditions of distance and size of the illuminated portion of her globe which we can perceive. The succession of her phases, quite similar to those of the Moon, forms one of the most beautiful and most easily studied of astronomical spectacles, as it can be observed by means of a simple telescope. On June 29, Venus will pass between the Earth and the Sun, a little below the latter. Turning towards us her non-illuminated side, she will be practically invisible, but astronomers armed with sufficiently powerful instruments will try to discover her in the form of a brilliant ring due to illumination, by counter-light, of the atmospheric layer that surrounds her. Afterwards continuing her course she will pass the Sun, leave it rapidly, and once more lavish upon us her light, but then during the summer sunrise."