

## ASTRONOMY IN GREECE DURING THE WAR.

*By S. PLAKIDIS.*

THE first air raid against Piræus on 1940 October 28, the day of the Italian aggression against Greece, was a clear intimation as to how near had come all the risks implied by the terrible weapons of modern war. With the thought that some similar raid against Athens might bring disastrous results to the instrumental equipment of the National Observatory, we proceeded on that same day to strip down our most precious instrument, the Doridis Refractor (Gautier 16 inches). The object glass, the micrometer, the photoelectric photometer, the driving gear and other accessories were stored in a cave in the rocks of the hill of Pnyx. So our observational programme had to be limited within the bounds of our Syngros Transit Circle (Gautier 6 inches) and several smaller or portable instruments. Moreover, the fact that the younger members of the staff had joined the army almost immediately after the outbreak of the war against Italy, was another reason for the curtailment of our activities. The situation became still harder with the collapse of the resistance of our tiny army under the combined pressure of the ironclad forces of two empires. A few days later the peaceful region of the Observatory was flooded with German troops. Fortunately on May 16 this crowd suddenly disappeared, to give place to a few officers and men of the German Navy, who conducted a meteorological station established in a small pavilion of the Observatory. The station continued to function up to 1944 September 7, when the "Marine Wetterwarte" evacuated the pavilion.

To be fair, it must be confessed that the presence of Germans at the Observatory, although quite undesirable, did not interfere very much with our work, at least for some months at the beginning of the occupation. However, with the development of the local resistance movement, the nervousness on both sides grew. There were several instances of hostile behaviour of the German sentries in the gardens of the Observatory against the writer and other observers while on observing duty at night.

But besides the trouble from these undesirable neighbours, during the whole period of the German-Italian occupation we lived under a strong feeling of terror, not knowing what might happen during the day or what might occur before next morning. The prospects of imprisonment, deportation or being taken hostage were equally probable for everybody. The situation was aggravated by several restrictions, such as the black-out regulations and the curfew after sunset, which badly affected our observational programme. However, in spite of all the dangers entailed by disobedience to the orders of the conquerors, and without taking notice of some stray bullets while observing at night in the open air, patiently suffering from starvation and lack of clothing and shoes and enduring all kinds of moral or material privations, we managed to carry on to the best of our ability with our Transit Circle observations as well as with a programme on long-period variable stars, major planets, occultations, lunar topography, aspect of comets, eclipses, etc. Most of the above observations have already been published or are being prepared for publication. A special effort was also made to proceed with a programme of photometric observations of some short-period or irregular variable

stars by means of a Zeiss wedge photometer attached to the small Sinas refractor (Ploessl 6 inches).

The situation has been much harder with regard to the Astronomical Station erected in 1937 on the mountain of Pentele, about 12 miles outside Athens. Owing to several difficulties and above all to the lack of communications and the curfew, the work at that Station had to be confined to making some occasional astronomical observations and principally in collecting meteorological data for the study of the locality from a climatological point of view. The meteorological observations were continued there even after the premises of the Station were requisitioned by the Germans, who for the sake of their W.T. station, erected on the hill, brought electric power up to the Observatory. After the partial requisition of the Pentele Station all the astronomical instruments (the photo-visual refractor, Zeiss 4.4 in., with solar and lunar cameras, Herschel and Colzi prisms, etc.; three other refractors, Bardou 6 in., Secretan 4.4 in., Zeiss 3 in.; a Watts' theodolite, etc.) were moved for reasons of safety either to the Laboratory of Astronomy of the University or to the National Observatory.

In conclusion, it might be interesting to add some details about a change in administration brought about during the occupation. By a special law the National Observatory of Athens was divided into three Institutes: the Astronomical, the Meteorological, and the Geodynamical. The direction of each Institute is entrusted to the Professor holding the corresponding chair in the University of Athens. The formerly existing position of the General Director, which was occupied by a naval officer, is abolished, and the duties of administration of the three Institutes are entrusted in turn for a term of two years to each of the three Directors, who also acts as President of the Administration Council of the National Observatory of Athens.

## C O R R E S P O N D E N C E.

*To the Editors of 'The Observatory'.*

*A Method of finding with Increased Accuracy the Position of Shadows cast by the Sun.*

GENTLEMEN,—

As the Sun is not a point source but has an apparent diameter of approximately  $0^{\circ}.5$ , shadows of distant objects appear ill defined, due to the surrounding half-shadows. The width of the penumbra varies directly as the length of the shadow. At a distance of 100 ft. from an object, for instance, the penumbra is 1 ft. wide, and as a rule it is very difficult to determine to the nearest inch the position of the shadow of a house or similar object at this distance. The method described below has been found useful for increasing the accuracy of observation considerably.

Suppose the shadow of the smooth edge of a building is being observed on a white screen. If a piece of cardboard is moved from inside the shadow towards the half-shadow, then a shadow of this piece of cardboard becomes discernible on the screen at that moment when the cardboard passes the boundary between the shadow and the half-shadow of the