



THE INSTITUTE OF OPTICS - PARIS

The Institute of Theoretical and Applied Optics was founded in 1919 and began to function at the beginning of 1920, in the premises of the old School of Marine Engineering.

The object of the originators of this organisation was to bring together the scientist and the manufacturer — the laboratory and the factory. Suffice it to say that the science and industry of optics present, among the branches of human activity, a special character. Optics touch upon so many problems, the optical industry responds to needs so diverse, that a constant exchange of ideas and consultations should be arranged between the scientist in his laboratory and the workman in his shop. With this object, the Institute of Applied Optics is divided into three sections :

1° An upper school of optics, which is composed of Engineer Opticians, conversant with the most modern optical theories, and which will spread the taste for optical researches among students.

2° A central laboratory of optics for the benefit of scientists, public authorities and industrialists, where the examination of appliances and glasses, as well as researches of general interest, are undertaken.

3° A professional school which will produce workmen knowing all the specialities of their profession.

The Institute publishes, in the form of Annuals, a Review of Instrumental Optics.

On the 10th August 1920, the Optical Institute was acknowledged to be of public utility. In 1921 the State budget contained, for the first time, a grant, allotted to ensure its continuance. This grant has since been regularly renewed each year.

On the 1st January 1922, appeared the *Revue d'Optique Théorique et Instrumentale*, a monthly organ, which for five years has not ceased to record the progress of optics.

In October 1922, the third section of the Institute, the professional school, opened its workshops.

In 1926, the Institute of Optics was transferred to new buildings, 3 & 5, Boulevard Pasteur, which it occupies at the present date.

According to its statutes, the Institute of Theoretical and Applied Optics is a free institution of higher education, which has for its aim the study of all

questions which are of interest to the industry of optics. It has no commercial character. Its funds are wholly applied to the establishment and to the working expenses of its services.

The Optical Institute is administered by an Administrative Council, composed of representatives of government departments, scientists, artists and optical manufacturers.

The various activities of the Institute of Theoretical and Applied Optics are :

- 1^o. The Upper School of Optics.
- 2^o. The Laboratories for research work and experiments.
- 3^o. The Professional School.
- 4^o. The Optical Review.

1^o *THE UPPER SCHOOL OF OPTICS.*

The essential object of the Upper School of Optics is to train engineers for optical industries.

The programme of the courses and conferences comprises :

A course of Optical Instruments given by M. Charles FABRAY, professor at the Sorbonne and the Polytechnic School, Director General of the Optical Institute, Member of the Institute.

A course of calculation of optical combinations.

A course of physical optics.

A course of physical chemistry and chemistry of optical glasses.

A course of polarimetry.

A course of spectroscopy, spectroscopes and spectrographs.

A course of testing optical surfaces.

A course of drawing of standard instruments.

Practical work for students registered at the Faculty of Sciences, and candidates for the diploma of Engineer-Optician.

Additional work for obtaining the diploma of Engineer-Optician.

2^o *LABORATORIES FOR RESEARCH WORK AND EXPERIMENTS.*

The work of the Laboratories includes the following subjects :

Measurement of absorption and transmission power. Photometric densities.

Reflective force.

Refraction indices - Dispersion.

Bi-refringence.

Homogeneity of the mass of a glass.

Thermic dilatations. Mechanical deformations.

Gravimetric density. Chemical composition.

Planity-test of optical surfaces.

Curvature of surfaces.

Measurement of angles and parallelism.

Graduations - Eccentricities.

Study of images - determination of chromatic and spherical aberration

Testing photographic lenses.

Testing binocular instruments.

Testing spectacles of varying magnifying power.

Testing laboratory appliances.

Testing sextants. A sextant verifier has been constructed by the Optical Institute, according to the plans of M. Éd. BOUTY, to measure the errors of division of the limbs of sextants. The sextant to be examined, placed on an adjustable mounting, receives the rays of light emanating from two parallel collimators. One of these rays, before striking the index glass, traverses a combination of standard pentagonal prisms.

By means of this apparatus, all sextants sent out for Naval use are here subjected to a mechanical and optical verification.

Measure of the absorption of light by instruments.

Examination of spectacle glasses.

Study of diffusive powers.

Measurements of emission power.

3° *PROFESSIONAL SCHOOL OF WORK OF OPTICAL GLASSES.*

The object of the Professional School of the Institute of Theoretical and Applied Optics is to produce trained workmen, skilful and capable, who, when they leave the school, may be usefully employed in the optical precision instrument industries.

The apprenticeship lasts three years, each school year comprising ten months of study.

A certificate of professional efficiency is presented to the pupils at the end of their third year, after a technical examination.

Various evening classes are held at the Optical Institute for retail opticians, and for foremen and workmen. The instruction, which is of an essentially practical character, includes to a great extent the working of instruments.

4° *REVUE D'OPTIQUE THÉORIQUE ET INSTRUMENTALE.*

The Optical Review gives monthly, since January 1922, articles and scientific memoirs concerning all branches and all applications of Optics. It gives, moreover, regularly, reviews of works, articles and pamphlets, as well as all interesting information concerning the activity in Optics throughout the world, and especially in France.

The publication of a series of works concerning optics, all of a highly scientific character, has been undertaken under the auspices of the Optical Institute, which will also publish the principal courses taught by the Institute.
