

## PAUL BAILLIART (1877 – 1969)

**J. François**

Gent

**Paul Bailliart**, one of the richest and most complete personalities in contemporary French ophthalmology, was born in Poitiers on 9th November 1877 and died in the Val-de-Grâce Military Hospital in Paris on 29th October 1969.

**Paul Bailliart** received his secondary education at Besançon and his medical training in the Army Medical School at Lyons, where, already attracted toward ophthalmology, he sustained a doctorate's thesis on the surgical treatment of myopia by lens extraction. In 1907, he joined **Victor Morax's** department in the Lariboisière hospital. After the First World War, he went to Dr. Dehenna's Clinic in rue Monsieur-le-Prince in Paris, and in 1929 he was appointed ophthalmologist of the *Clinique Nationale des Quinze-Vingts*, where he remained until his retirement in 1943.

As early as 1909, Paul Bailliart took a particular interest in the retinal blood circulation and his candidature paper for the *Société d'Ophtalmologie de Paris* already suggested to induce the arterial pulse by digital compression of the ocular globe. He showed that, the younger the patient, the more supple the wall

and the lower the arterial pressure, the more readily and rapidly was the pulsation obtained. He considered that this was a sign worthy of being utilised, and suggested that it could prove very useful in the exploration of the arterial system in general and of the cerebral system in particular.

He supported his analysis of artificially induced retinal pulsations by the existence of the spontaneous retinal arterial pulse that is observed when the intraocular pressure is high (which occurs in glaucoma) or when the diastolic arterial pressure is low (which occurs in aortic insufficiency).

In due course, **Paul Bailliar**t continued his research on the retinal blood circulation in collaboration with **Vaquez** and **Babinski**. After having established the method, he developed an instrument, the ophthalmodynamometer, suitable for this method and minimising the sources of error by the very simplicity of its mechanism. The magnitude of the exerted pressure could be read, expressed in grams of water on the graduated rod or on the dial with its pointer. Paul Bailliar insisted that the end knob should be convex, in order that the pressure should be applied normally to the ocular globe, on the temporal sclera, at the level of the equator. He insisted also that the observation should be made with the direct ophthalmoscope, exactly at the level of the papillary segments of the central retinal artery. Besides, he stressed that the initial intraocular pressure – which he measured by means of his own tonometer – should be known, as well as the degree to which it was modified by the compression of the globe. The observation of a large number of pathological cases, the comparisons with the results obtained by other clinicians and the experiments carried out on cats with his friend **André Magitot** made it possible for him to deduce the complex relations with the intraocular pressure and to put forward correction charts which rendered the interpretation of the readings more correct. The position of the patient under examination, whether sitting or lying down, had also to be taken into consideration. His book on the normal and pathological retinal blood circulation, published in 1923 with a preface by **Vaquez**, described the anatomy, the physiology and the pathology of the retinal blood circulation and explained the very particular characteristics of the spontaneous or induced venous pulse, which distinguish it from the arterial pulse. After having adopted the methods of physiology and cardiology and having applied them to the study of the retinal circulation, **Bailliar**t concluded that he could in his turn offer to these disciplines some informations not yet available to them.

Numerous papers were read and numerous lectures were given on the retinal circulation and on retinal diseases in relation to systemic pathology, at the *Société d'Ophtalmologie de Paris* and at other societies in Belgium, Canada, Cuba, the Netherlands, Spain, South America and the United States. In 1927, Paul Bailliar wrote a report on the role played by the sympathetic system in ocular pathology for the *Société d'Ophtalmologie* and, in 1936, a report on



*Fig. 1:* Paul Bailliart (1877 – 1969)

arterial hypertension for the International Congress of Ophthalmology in Cairo. In 1953, he published a book on the vascular diseases of the retina, wherein are found some notions which today seem to be commonplace, but which, at that time, were really prophetic. Although the theories put forward by Paul Bailliart are marred by a few errors, although the pressure measured at the level of the disc is not that of the retinal artery, but that of the ophthalmic artery, and although retinal capillarosis, which he thought to have identified, does not exist, **Paul Bailliart** was nevertheless the first to have recognized the importance of the retinal circulation. He was in fact the initiator of the entire endocular vascular pathology.

Once he had become Head of the Ophthalmological Department of the *Quinze-Vingts*, Paul Bailliart was able to show his full stature. Under his driving force, the Pasteurian discipline, introduced in ophthalmology by **Victor Morax**, prevailed in the Surgical Unit, whereas in the Clinic reference was always made to systemic pathology.

At a time when there existed no official teaching of ophthalmology for those who wished to specialise, he wrote, in 1950, in collaboration with **André Magitot**, a text-book of ophthalmology. In addition, he gave noteworthy theoretical lessons every week, in which he explained the ocular pathology, without notes, without hesitation and without repetition. He gave generously of his knowledge, even at the bedsides of his patients, whom he questioned with kindness, listened to with attention and examined at length in the greatest detail. In the course of the observation, the retinal circulation in all its networks, in all its aspects, with all its modes of reaction to the dynamometric pressure, were explained by him, integrated into the wider framework of the general circulation, cerebral irrigation and systemic pathology. Even before **Amsler's** charts were invented, Paul Bailliart determined the paramacular visual field by projecting an intentionally reduced spot of light from his ophthalmoscope on to a sheet of paper marked with a cross in ink and stretched in front of the patient, who has required to fix on the intersection of the cross. He stressed already the prognostic influence of the level of the arterial pressure on the future of glaucoma patients.

In this way, he trained a phalanx of pupils, which bore his name in Paris, throughout France and abroad.

**Paul Bailliart** did not deceive himself as to the unfavourable prognosis that he foresaw, but he always tried to encourage his patients and to inspire some hopes. His compassion in cases of therapeutic failures or deficiencies brought him close to the blind and particularly to the most cruelly afflicted, the blind children, whom he visited from 1935 on at the *Institut National des Jeunes Aveugles* and at Saint Mandé. Moreover, he organised in the *Clinique des Quinze-Vingts* a welfare department, which provided the blind and visually handicapped with moral support, material aid and professional reeducation.

It is not at all surprising that Paul Bailliar's great scientific activity and his justified reputation brought him glorious rewards and heavy tasks. He was Secretary General of the *Société d'Ophthalmologie de Paris* from 1922 to 1938, President of the *International Association for Prevention of Blindness*, President of the *International Organization against Trachoma*, President of the *European Ophthalmological Society*, member of the Council of the *Société Française d'Ophthalmologie* and member of the Editorial Board of the *Annales d'Oculistique*. In addition, he was lecturer at the Ophthalmological Laboratory of the *Ecole des Hautes Etudes*. He was laureate of the Academy of Medicine (**Maynet Prize**, 1926) and of the Academy of Sciences (**Jean Dagnan Bouveret Prize**, 1954). He was honorary Fellow of the Royal College of Surgeons of England, honorary member of the *Panamerican Ophthalmological Society*, of the Oxford Congress and of the Ophthalmological Societies of Belgium, Greece, Italy and Switzerland. He was Doctor honoris causa of the University of Vilna. He received the **Donders Medal** in 1939 and the **Gonin Medal** in 1945, the two highest rewards in ophthalmology. He won the 1914–1918 War Cross and was Officer of the *Légion d'Honneur*, Officer of the *Instruction Publique et de la Santé*, Commander of the *Nicham* and Knight of the *Order of Léopold*.

**Paul Bailliar's** personality was unique and radiated wisdom as well as charity. By his tenacious work and his faith in the value of his research, his communicable enthusiasms and his clinical knowledge, he was one of the most prestigious and most unquestioned masters of the twentieth century. Although his culture and his science had a deep influence on the ophthalmological thinking of his time, Paul Bailliar was not a pedantic mandarin, steeped in self-admiration. He was, on the contrary, accessible to everybody, and the warmth of his human relations radiated sympathy and induced it in all those who came into contact with him. His rigorous moral and professional conscience, his general culture and his life entirely devoted to his ideals of science and charity, his kindness and his charm, allied to so much perfect goodness, were an example that nobody could equal. His generous and indulgent friendship, his modesty and his courtesy, his humanism and his dedication, formed his greatness and his brilliance. All these qualities were underlined by a deep, warm and pleasant voice, the low tone of which remembered that of a violincello and by an incomparable eloquence of an admirable elegance, worthy of a classicist of the eighteenth century.

All the ophthalmologists of the second third of the twentieth century remember the cordial receptions given by **Paul Bailliar** and his wife, at Massy, not far from Paris, on the occasion of the Congress of the French Ophthalmological Society in the month of May. In their eighteenth-century house, magnificently decorated with Louis XV and Louis XVI furniture, and under the foliage of the great trees, they received with affection and simplicity ophthalmologists from all over the world.

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