**INTRODUCTION**

Ophthalmology was founded in the Netherlands in the city of Utrecht in 1858. The first documentation of ocular pathology was performed by the medical illustrator Grondijs, also at the University of Utrecht (Figure 1). Early work in ophthalmic photography was carried out by Wertham Salomonson and Dekking. They faced problems with the slow sensitivity of films, small maximum apertures, long exposure times and low flash energy and long recharging times. In 1917 Wertham Salomonson, Professor of Neurology at the University of Amsterdam built a fundus camera (Figure 2), which was an improvement compared to Dimmer’s camera. This article is a tribute to the following physiologists who further developed ophthalmic photography: Dr. F.P. Fischer, Professor H.M. Dekking, Professor B.G. Ziedses des Plantes, Professor J.A. Oosterhuis, Dr. A. Craandijk and Professor J.G.F. Worst.
Although Fischer was not a Dutch ophthalmologist, he worked in the Netherlands from 1933 until his death in 1949. He came from Germany to our country, because of the threat of war. During the second world war, the Germans forbade him to practice ophthalmology in Utrecht. Importantly for ophthalmic photography, he wrote his thesis in 1928 on an instrument, the Reflectograph (Figure 3), to photograph the corneal epithelium. The Fischer reflectograph operates as follows: a beam of parallel light from an arclight was directed through a central hole in a disc onto the cornea. This parallel light was reflected from the cornea onto a screen which was covered with a light sensitive emulsion. The result, the reflectogram, shows an irregular pattern of polygons (Figure 4). The pattern is reproducible and is often compared with a fingerprint. The technique of corneal reflectography was published in this Journal.

In the beginning of ophthalmic photography Dekking was very important, not only for our country, but also worldwide. He wrote many contributions to photographic and ophthalmic journals. He used different photographic techniques and films to photograph the anterior eye, mostly with self designed instruments made by Oostmeijer. He wrote a handbook of photographic objectives and it was reprinted many times. His thesis, "Fotografie der cornealoppervlakte" described a photokeratoscope (Figure 5). This instrument took photographs or keratograms of the complete corneal surface, including the limbus.

He was a pioneer of infrared photography and simultaneous stereo photography of the anterior segment (Figure 6). Using infrared films, he made photographs through opaque corneas and dense arcus senilis, to examine the iris and pupil. He was able to show the pupillary aperture and pigmentary changes of the iris, also understanding the value of stereo photos to define depth localisation. To show 6 x 6 cm stereo slides, special stereoviewers were available (Figure 7). Dekking and also Winkelman designed both illuminating systems which give very small reflexes. Another advantage of these illuminating systems was that the flashtube and focusing lamp came exactly from the same direction (Figure 8) to avoid unwanted reflections on areas of interest. Dekking was an inventive man of sciences, a deserving photographer, cinematographer (Figure 9), poet and painter.
Former professor of Radiology at the University of Amsterdam wrote his thesis on “Planigrafie en Substractie”. Subtraction is a valuable technique for fundus fluorescein angiography and cardiogreen angiography in ophthalmology. He wrote many articles on stereo imaging and subtraction of X-ray photographs. Stereograms give valuable information of three dimensional structures of X-ray pictures (Figure 10).

Oosterhuis was a founder of ophthalmic photography as we know it today, together with his photographers Lammens and Gaemers. In 1964 he introduced fundus fluorescein angiography into our country. A special power supply with a rapid recycling time and timer were made for him by van Gogh to enable rapid acquisition fluorescein angiography. He wrote a coding manual for ophthalmic pathology which is still in use today. He was also the founder of the Dutch society for fluorescein angiography the “FAN” club (Figure 11):

Angiography Netherlands. He was the chairman of the club for 25 years. A club with representatives from all ophthalmology clinics. These meetings soon became popular in the rest of Europe. Interesting cases were presented. His preference was high quality paper enlargements mounted on cardboard for easier discussion of presented cases. He was also a keen stereo photographer.
CRAANDIJK

Craandijk introduced Indocyanine green angiography to our country. The first results were presented in 1972 and published later.

WORST

Like his chief and teacher Dekking, Worst is an enthusiastic photographer, cinematographer, painter, scientist, ophthalmologist and stereo photographer (Figure 13). He wrote a book with 80 beautiful three-dimensional slides of the vitreous. The attendees at our first International Congress of Ophthalmic Photography in Rome may remember him as an invited speaker on stereo photography. He won several prizes for ophthalmic movies.

CURRENT STAGE

In general hospitals, ophthalmic photography is carried out by medical photographers, optometrists, technical ophthalmic assistants (TOA) and ophthalmologists. At University centres (Figure 14) and the Eye Hospital Rotterdam, ophthalmic photographers are usually employed. More and more our profession is being taken over by technical ophthalmic assistants who have a multi-functional role allowing placement at any ophthalmic department. Digital angiography is performed at almost all University hospitals. Some general hospitals are now following this trend. At two Universities, digital cameras (Kodak/Nikon) are adapted to slitlamps. Once a year the OFN group has a meeting at different locations in our country, the last meeting was at the Free University of Amsterdam (Figure 15).

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REFERENCES
9. Dekking HM. Infrarothotographie des Auges. Graefe’s Arch. 1933; 130, 373 - 374
10. Dekking HM. Infrarothotographie des Auges II. Graefe’s Arch. 1934; 133, 20-25.