that of 200 mm. of mercury. Remove this membrane by pencilling, and the fluid easily invades and swells up the cornea. It is this membrane alone that in the living eye prevents the imbibition of the aqueous humour, and the production of a swollen œdematous condition of the cornea.

Apart however from these general considerations, there are certain observations which go very far to prove the secretory functions of the glomeruli. After ligaturing the renal arteries in the frog, or after cutting off the arterial circulation still more surely by cauterising and so dividing the (three to five) renal arteries, the blood-supply of the kidney is of a venous nature, and is confined to that reaching it from the lower limbs and coming through the renal portal vein. And although M. Nussbaum[1] has pointed out that there is a possible collateral arterial circulation, it is difficult to see how this can supply more than the glomeruli of the lower extremity of the organ. Nothwithstanding this, by injecting "laky blood" (or defibrinised blood containing hæmoglobin in solution), I found it possible to obtain evidence of the passage of hæmoglobin through the walls of the glomeruli of the kidneys generally within four hours after the injection, and this in cases where there had been no demonstrable excretion of urine.[2] On killing the animal and placing the kidneys momentarily in boiling water, the hæmoglobin was coagulated, and could be seen as a brownish, granular, but otherwise homogeneous crescent, in the "capsule chamber" of many of the Malpighian bodies. In other words, although the blood-pressure had been very greatly reduced, and the direct arterial supply to the glomeruli cut off, the glomerular epithelium allowed the passage of hæmoglobin even when apparently there was no excretion of water beyond the minimum amount necessary to keep the hæmoglobin in solution.

Here then it would seem evident that the glomeruli had excreted hæmoglobin under greatly lowered pressure, and without any corresponding watery excretion—a condition only explicable on the assumption that the glomerular epithelium possesses a definite selective secretory activity, as Heidenhain

[1] M. Nussbaum, *Pflüger's Archiv* vol. xli. (1887).
[2] Adami, *Journ. of Physiol.* vol. vi. p. 382 (1886).