

**Effect of Cryo Application on
The Corneal Endothelium in
Normal & Herpetic Corneal Ulcer**

Thesis

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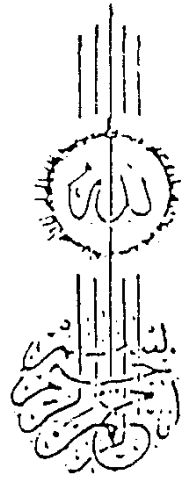
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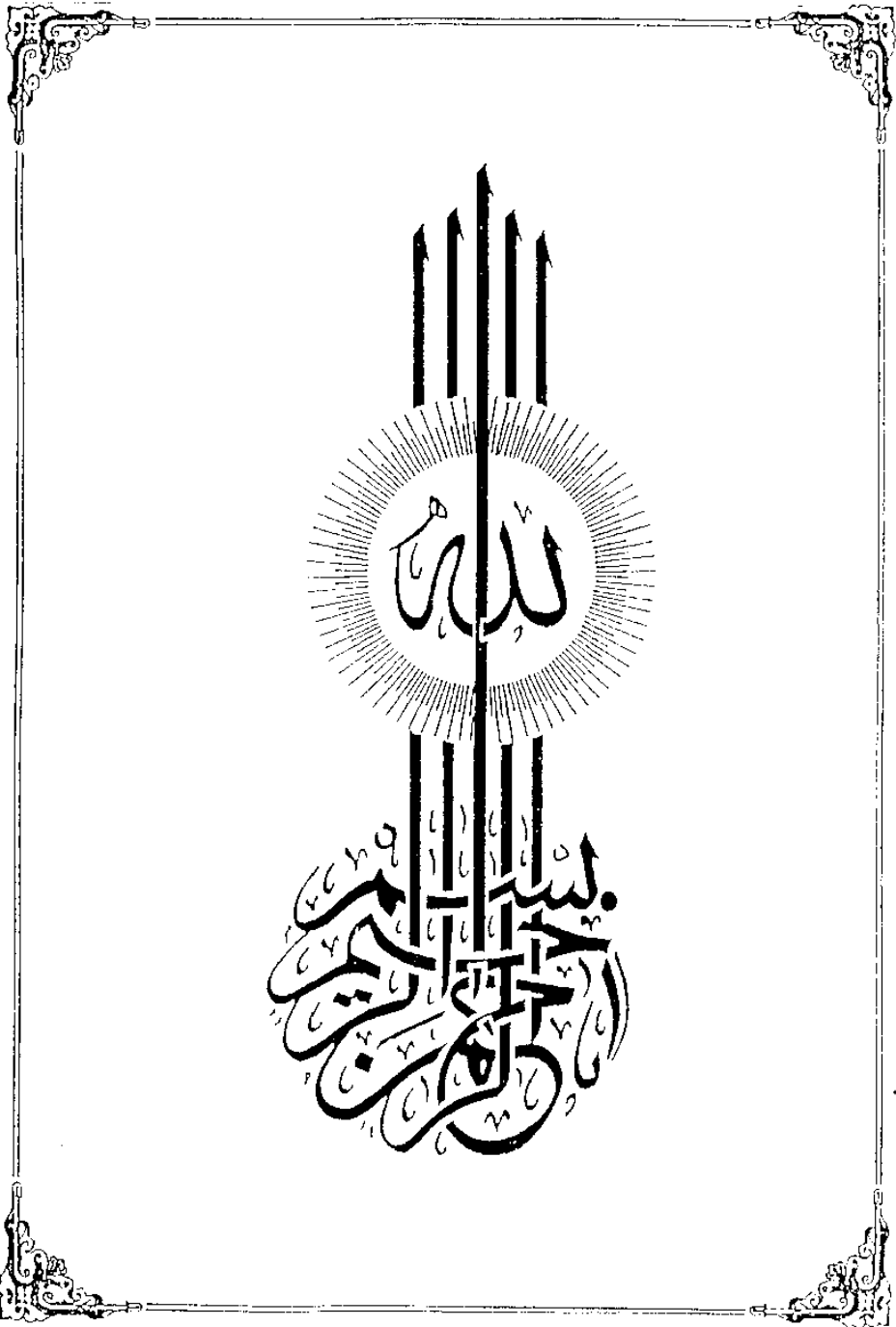
(CAIRO)

1985



سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا بِمَا عَلَّمْتَنَا
إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ

صدق الله العظيم



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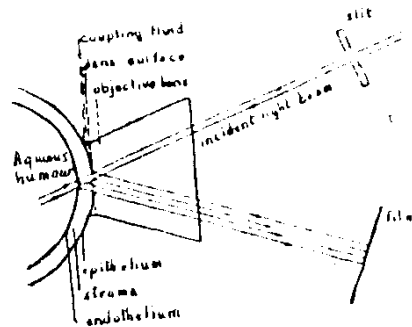


Fig. (1) Diagram of incident light rays in specular reflection . There is scatter of light from the anterior corneal surface as well as the stroma . However , over 99% of the light is transmitted through the stroma into the aqueous humour. After Laing et al (1979) .

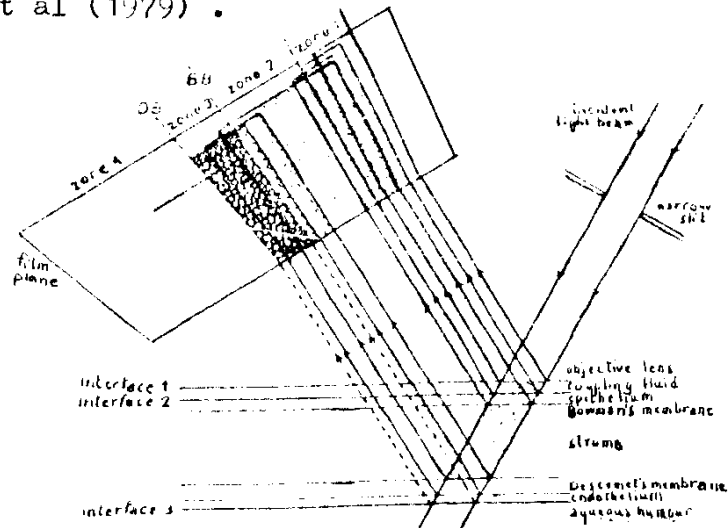
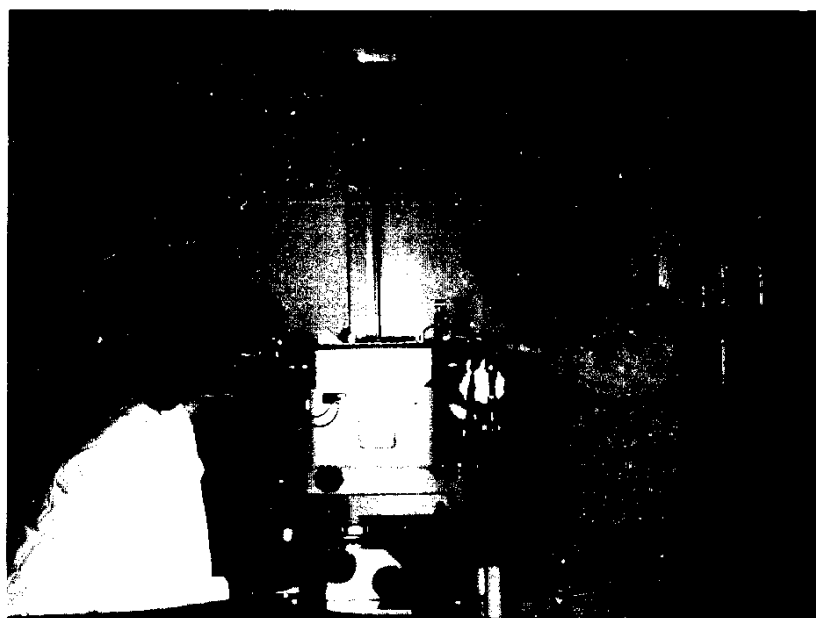


Fig (2) Diagram of the different zones of reflection encountered by light passing through the cornea . The specular micrograph is a composite of all these overlapping zones .

After Laing et al (1979) .



(A)

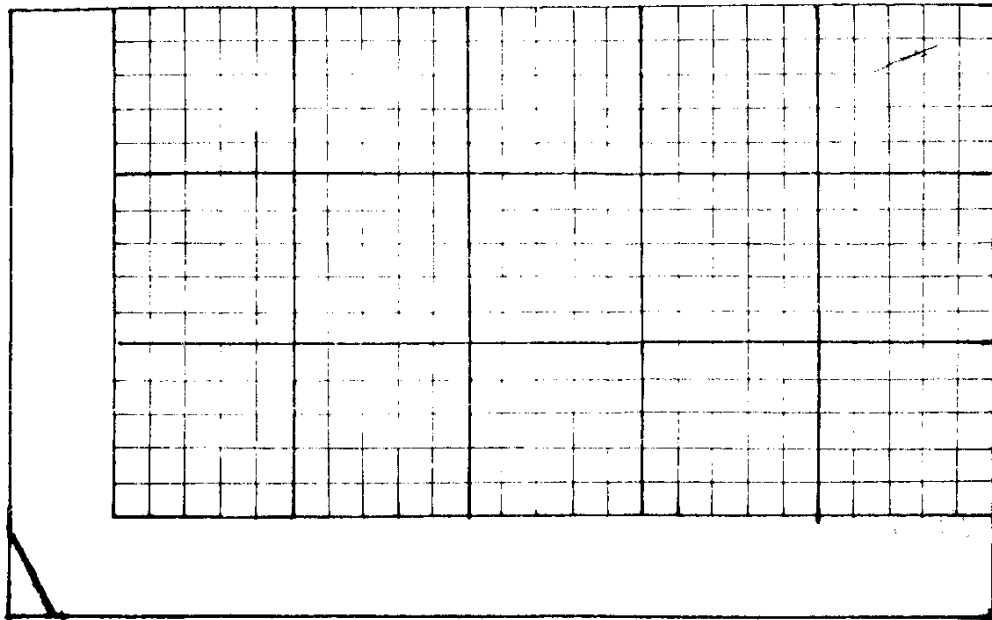


(B)

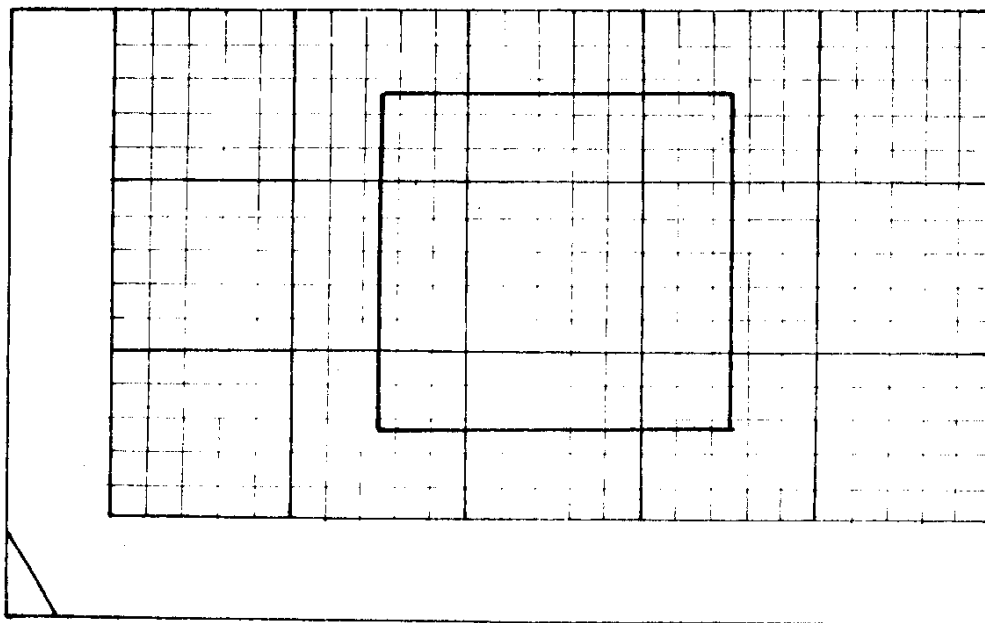
Fig. (3) The Pocklington Specular microscope .

A. Used in the human cases .

B. Used in the rabbits.



The cell counting grid inside the envelope .



Select and mark the area of cells to be counted on the outside of the envelope with flat tipped pen .

Fig. (4) The cell counting grid .

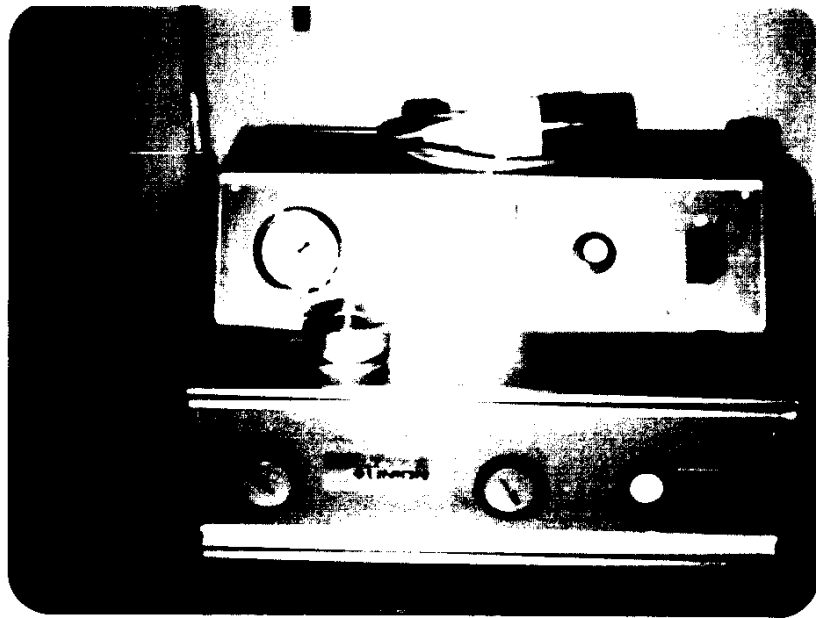


Fig. (5) The Blazer Union Co_2 Critical Point Drying Machine .

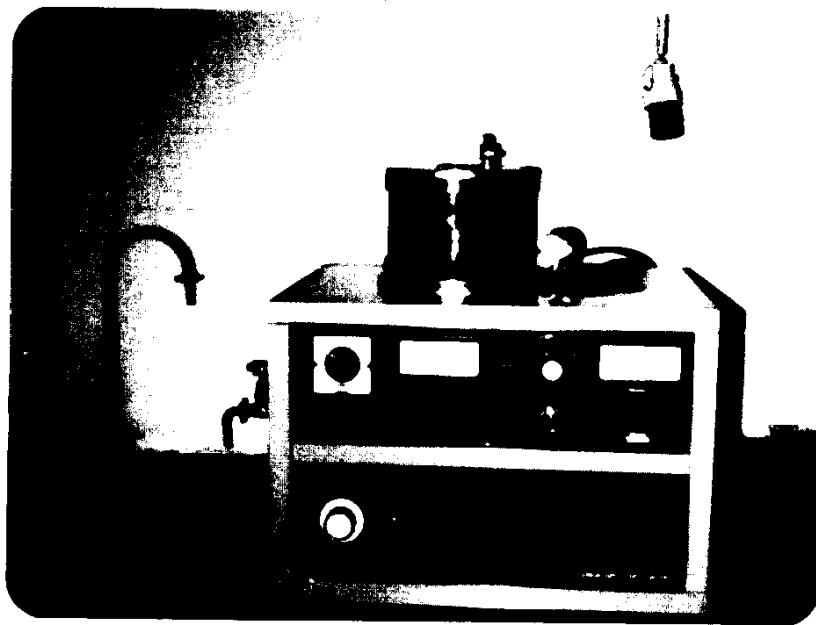


Fig. (6) The Sputler Coater Edwards coating machine .



Fig. (7) The S.E.M.C.O. Nanolab 7 scanning electron microscope.



Fig. (8) The Riechert Ultratome .

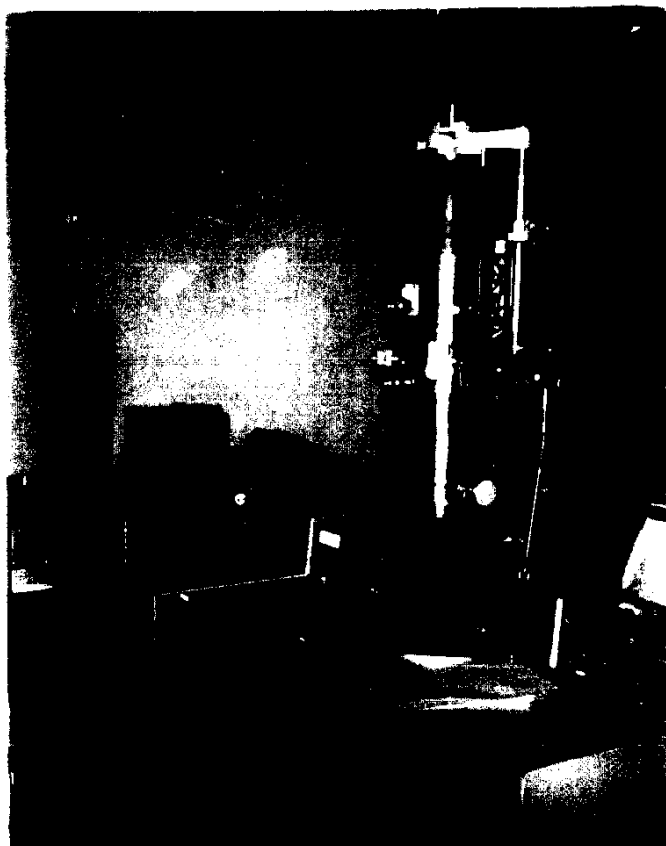


Fig. (9) The Zeiss CR-10 Transmission electron microscope.

NORMAL RABBIT'S CORNEAL ENDOTHELIUM



Fig. (10) Normal rabbit's corneal endothelium .
X 300 .

EFFECT OF -40°C FOR 10 SECONDS ON RABBIT'S ENDOTHELIUM



Fig. (11) Rabbit's corneal endothelium , one hour after cryo - 40° C for 10 seconds showing mild cellular affection , with small cell free areas having the size of one or two cells (arrow) .

X 300 .

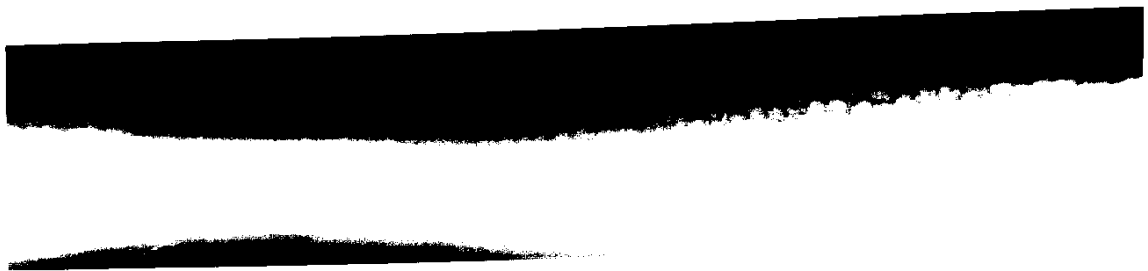


Fig. (12) Rabbit's corneal endothelium , three days after cryo - 40° C for 10 seconds , showing mild to moderate cellular affection at (1) with cell free areas inbetween the affected cells being small and irregular at (2) .

X 300 .



Fig. (13) rabbit's corneal endothelium , three days after
cryo - 40°C for 10 seconds showing the edge of the lesion
where pleomorphism and giant cells (arrows) are seen .

X 300 .



Fig. (14) Rabbit's corneal endothelium , one week after
cryo - 40°C for 10 seconds showing mild cellular affection
(arrow) .

X 300 .