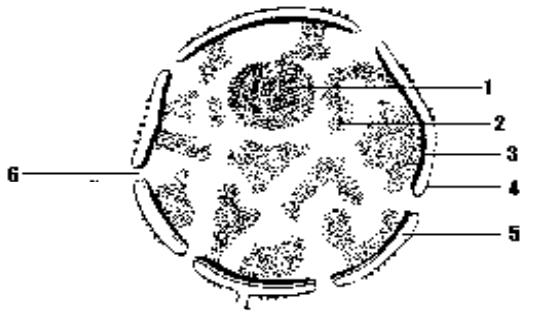
CYTOLOGY

Nucleus, nucleolus
Organelles
Inclusions
Cytoskeleton

Cell surfaces
Intercellular junctions

p. 2 - nucleus

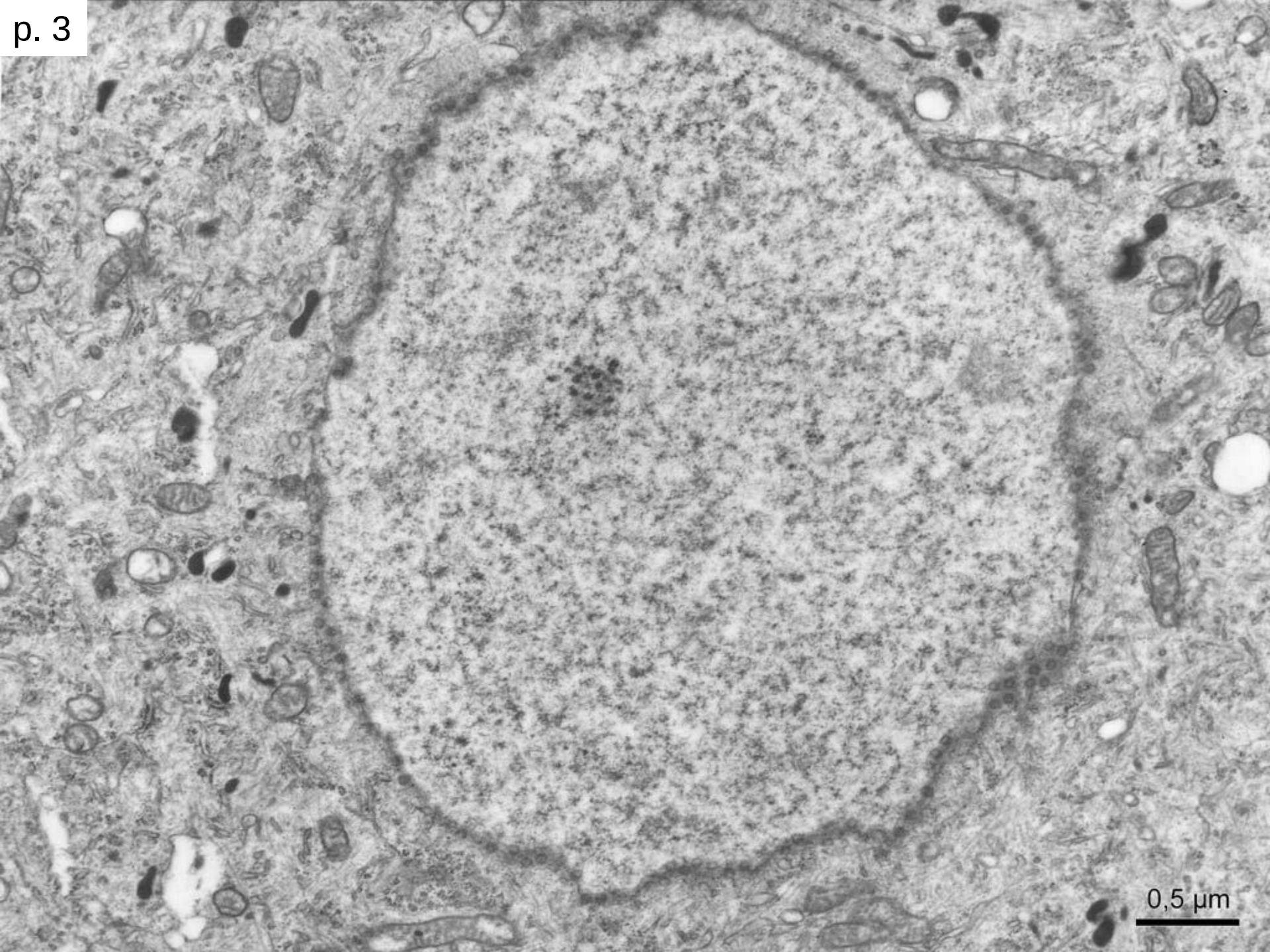


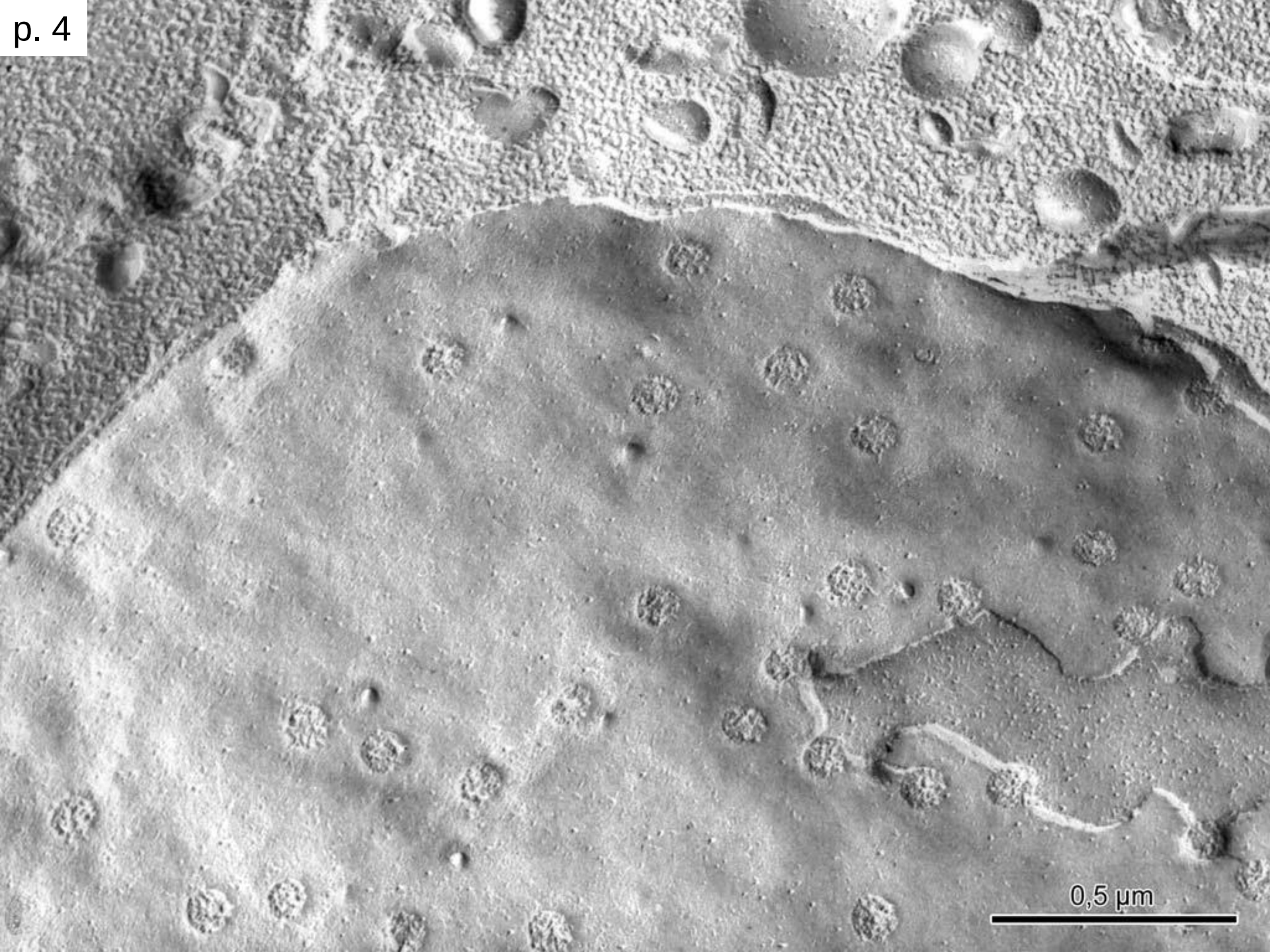
Nuclear envelope:
-outer membrane
-inner membrane
-nuclear pores
-perinuclear space

Chromatin:
-hetrochromatin
-euchromatin

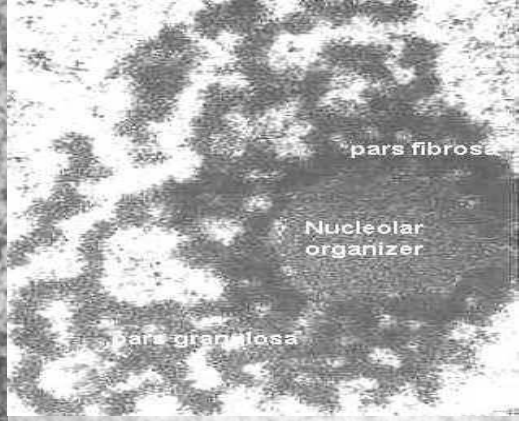
Nucleolus

1 µm


0,5 µm


0,5 µm

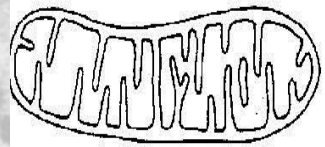
p. 5 - nucleolus



Nuclear organizer
Pars fibrosa
Pars granulosa

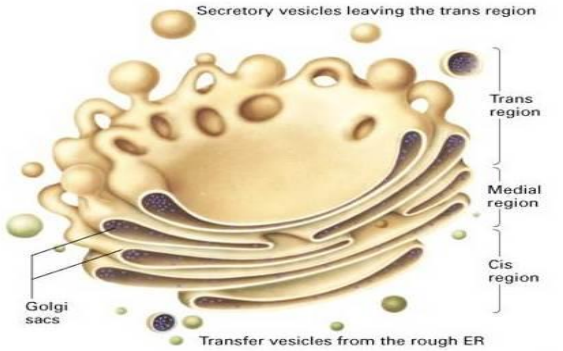
0,5 µm

p. 8 - mitochondrion



Membranes:
-outer
-inner + cristae
Matrix
Mitochondrial bodies
Mitochondrial ribosomes

p.9 – Golgi apparatus

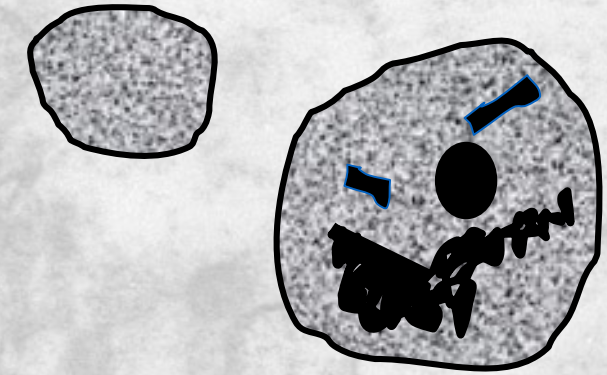


Cisternae
Vesicles
Vacuoles

Cis face
Trans face

0,5 µm

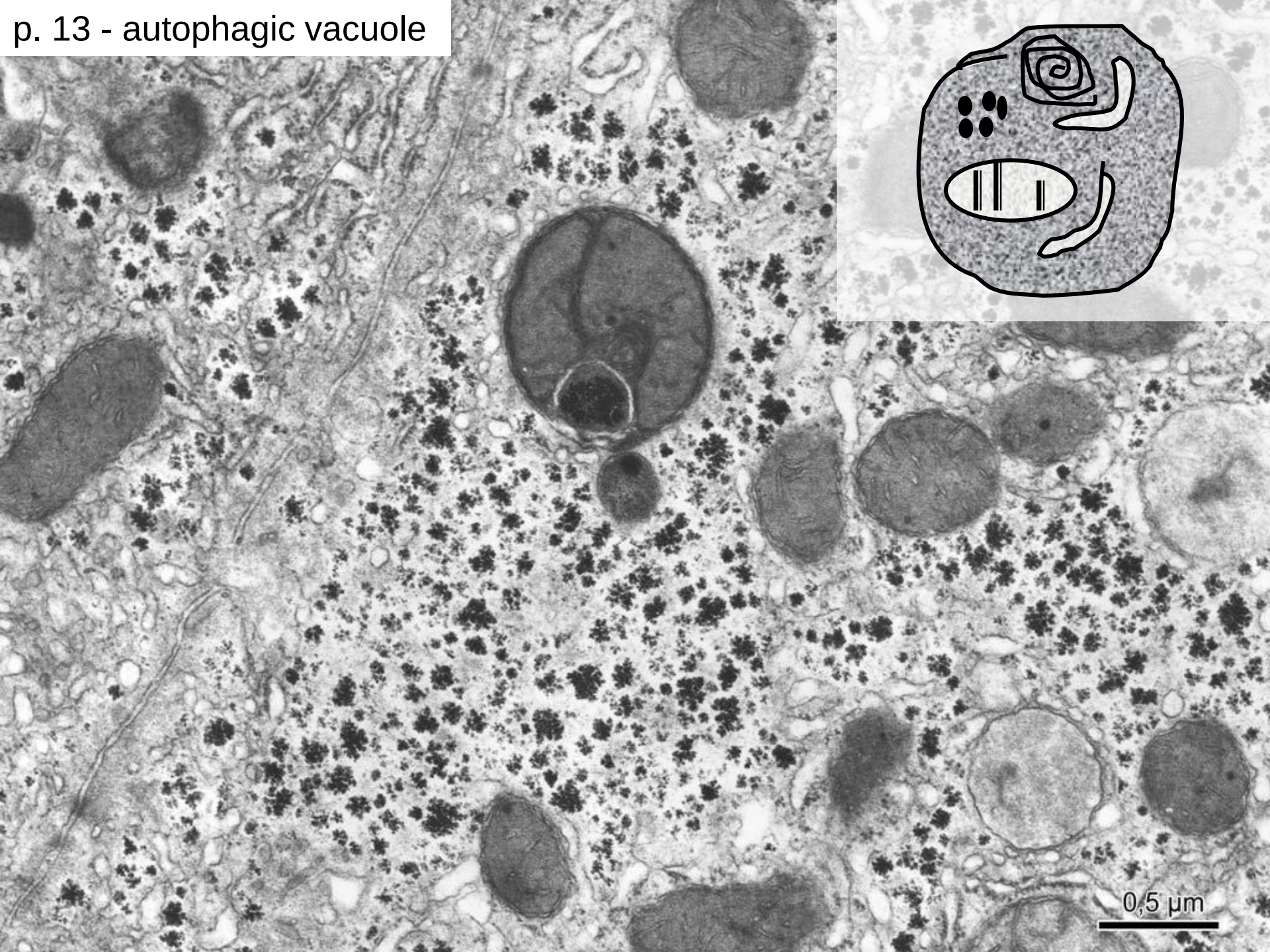
p. 12 - secondar lysosome



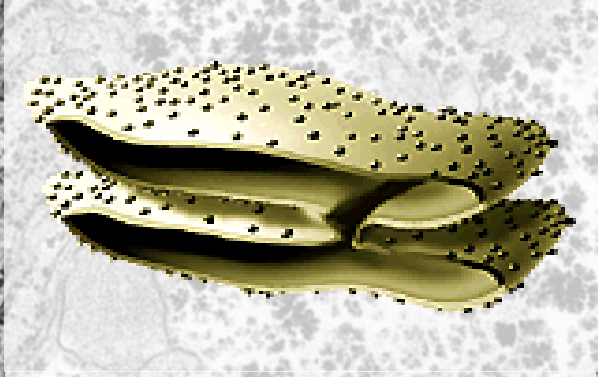
Lysosomes
-primary
-secondary – phagosomes
– autophagic vacuoles
-residual bodies

0,5 µm

p. 13 - autophagic vacuole



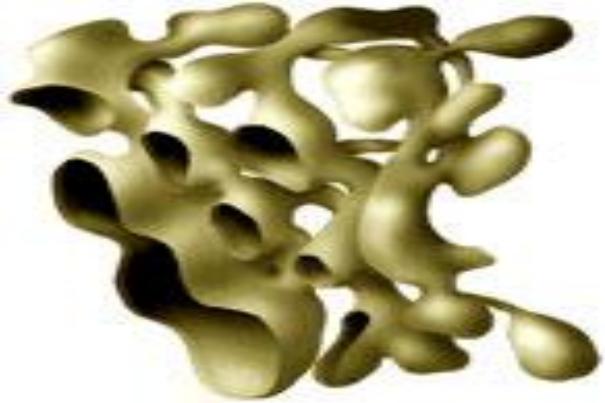
p.14 - rough endoplasmic reticulum



Cisternae of RER

0,5 µm

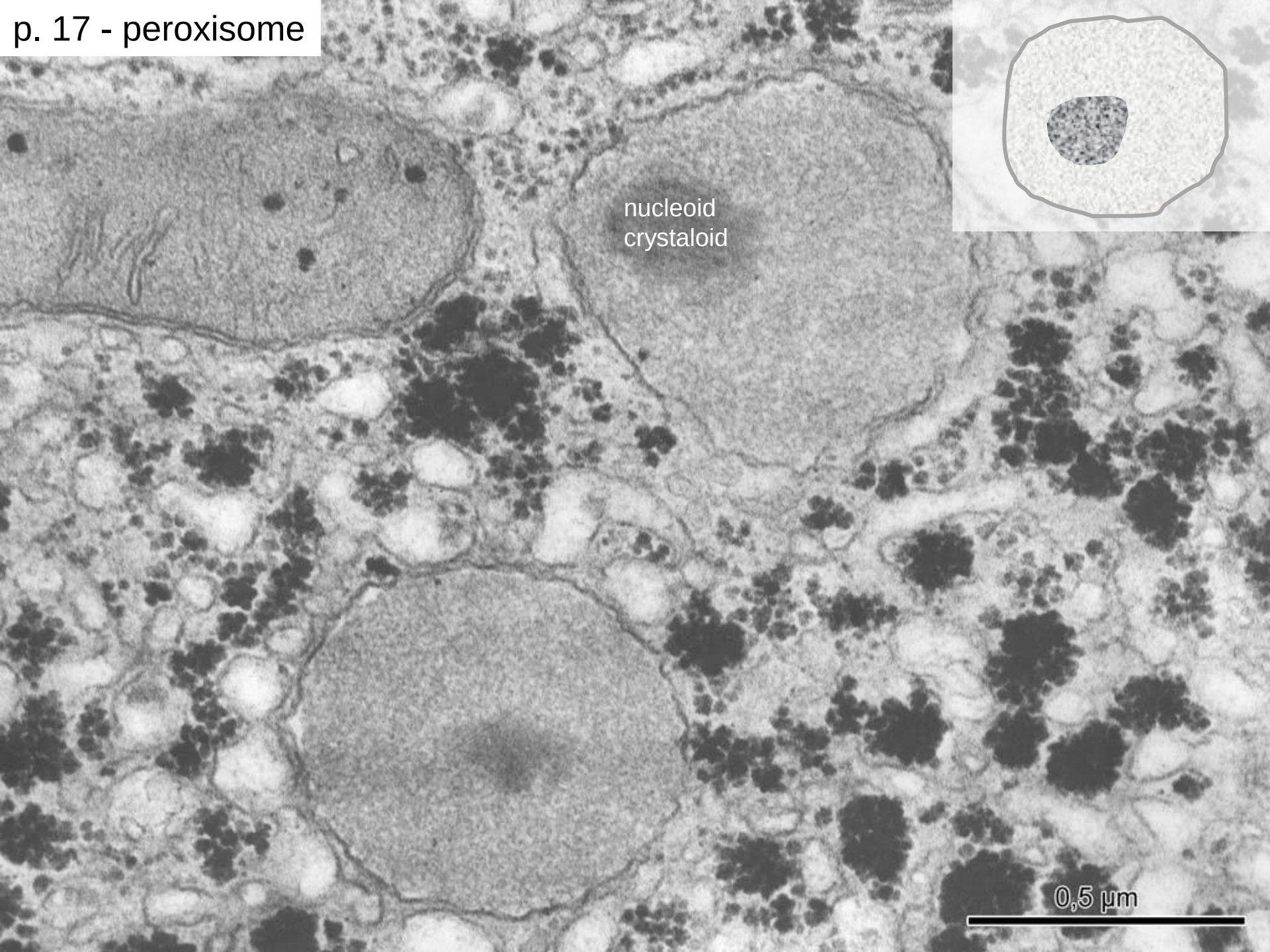
p.23 - smooth endoplasmic reticulum



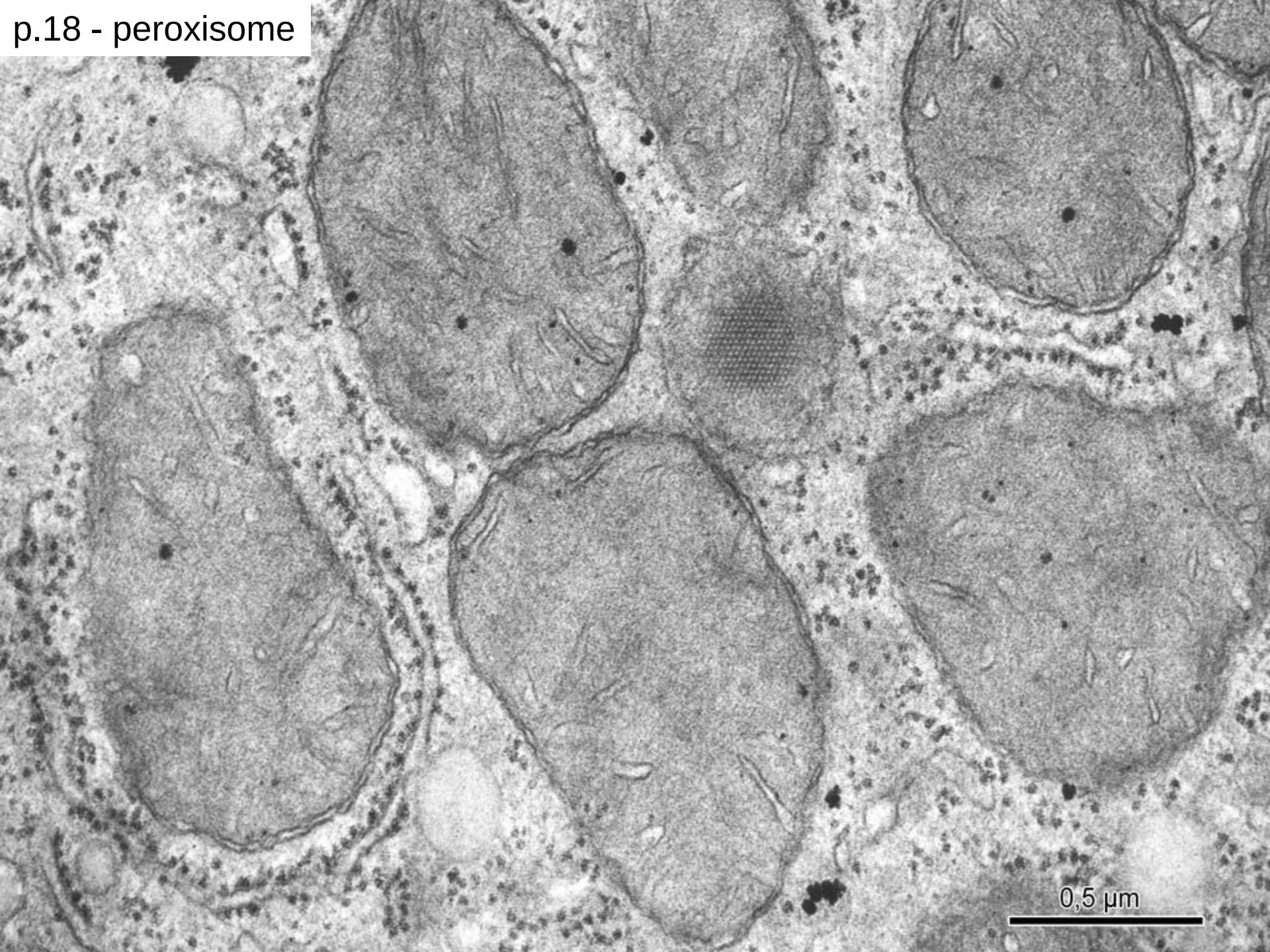
Tubules and vesicles of SER

0,5 µm

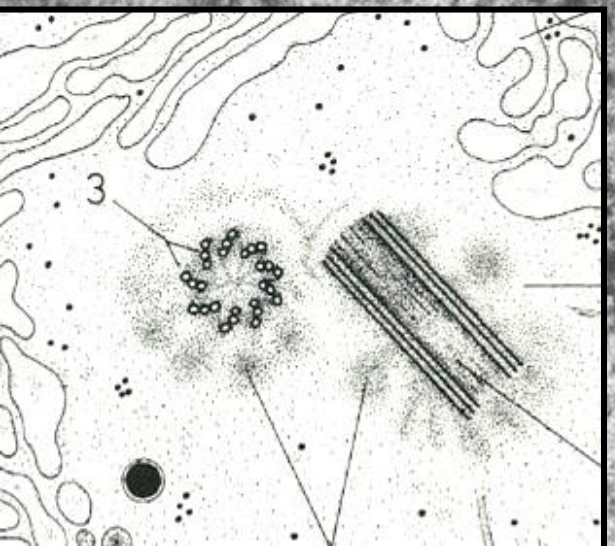
p. 17 - peroxisome

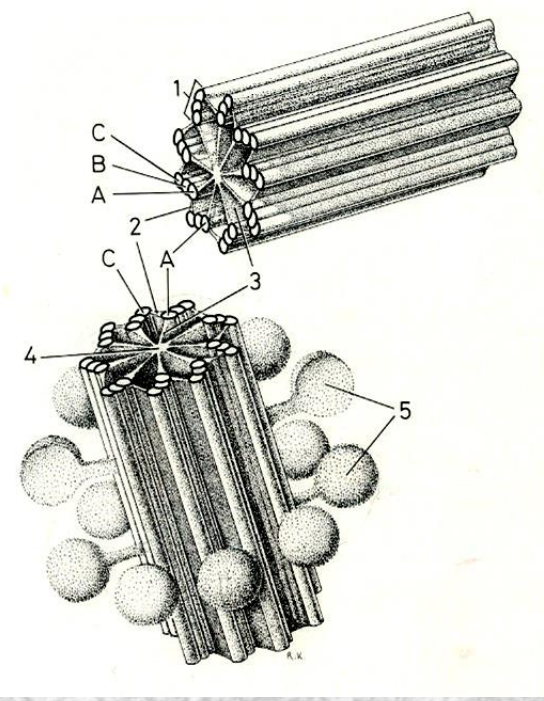


p.18 - peroxisome



p.20 – centriole *(cross section)*

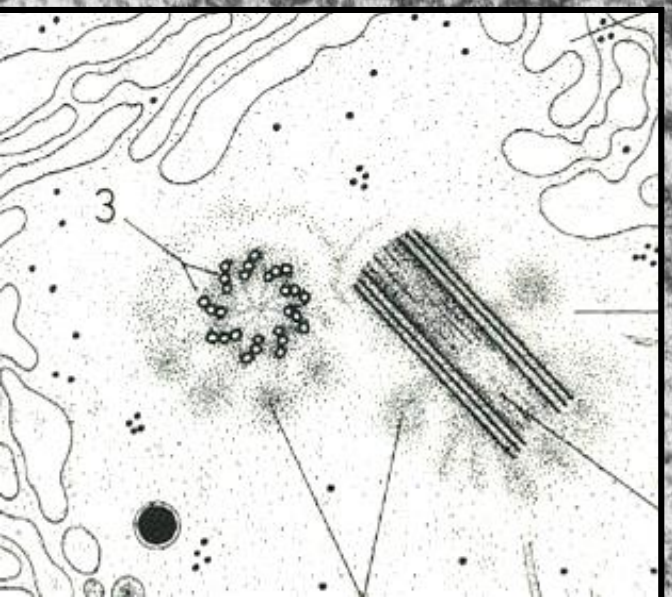




9 triplets of microtubules

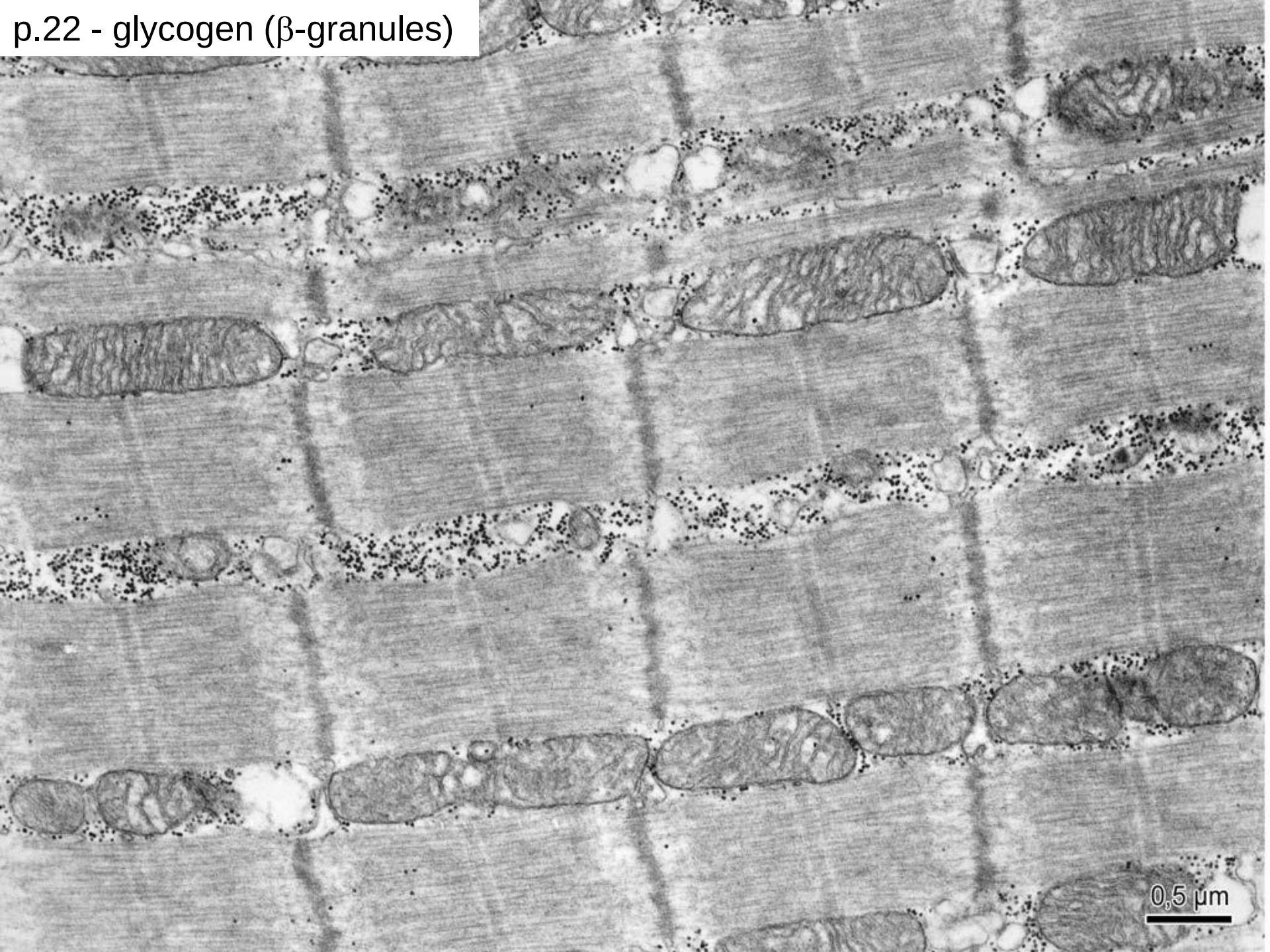
0,5 µm

p.21 – centriole *(longit. section)*

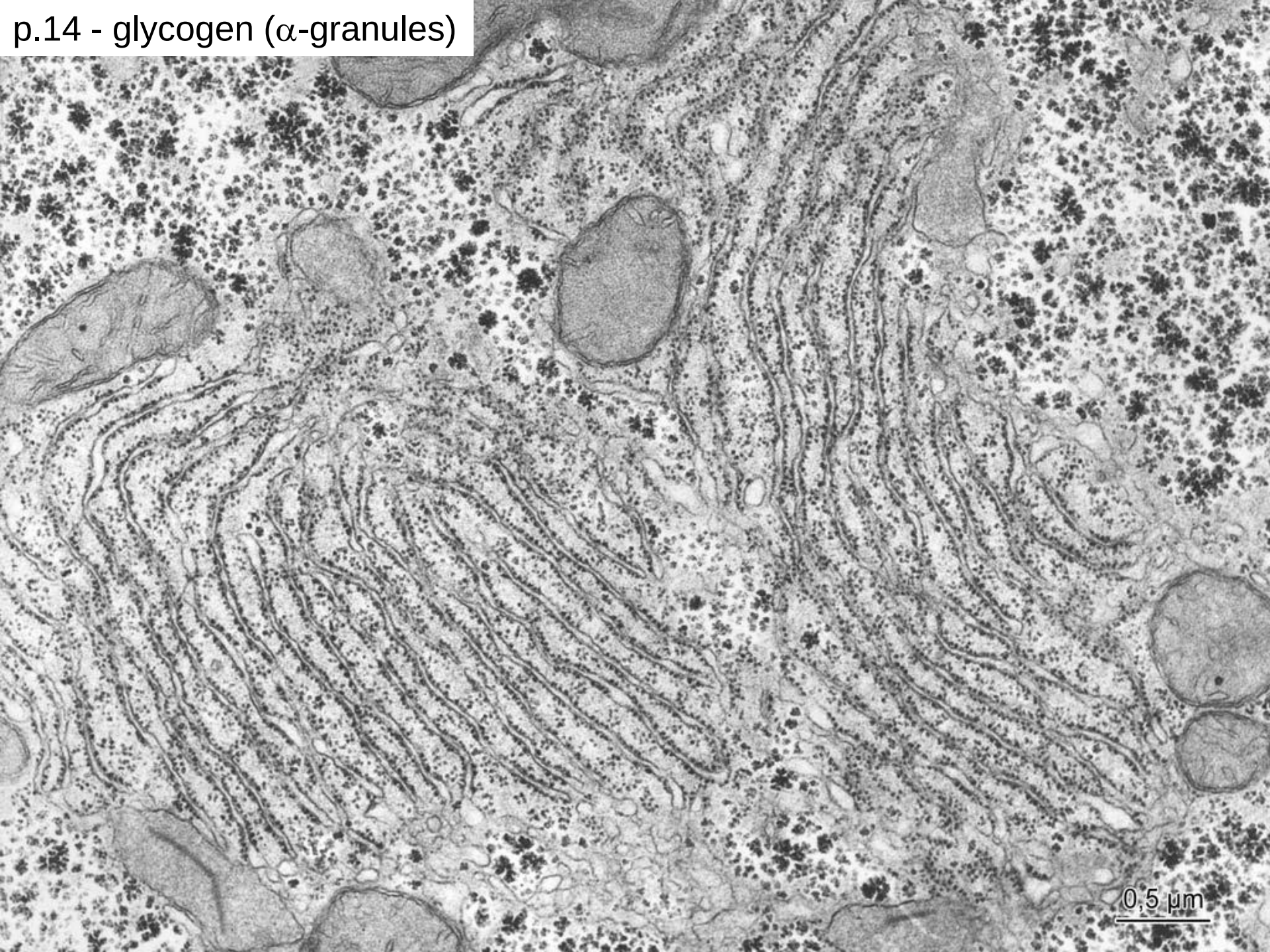


0,5 µm

p.22 - glycogen (β-granules)

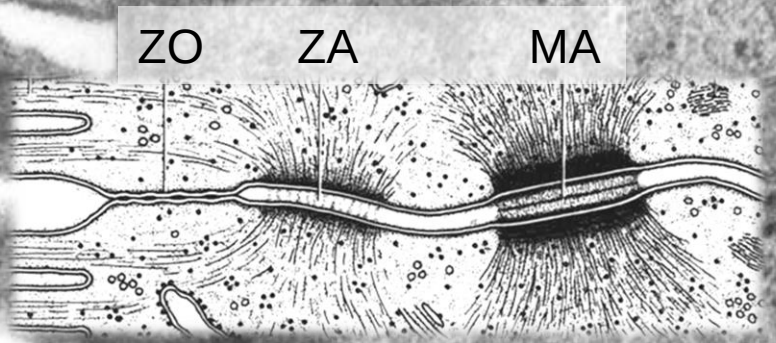


p.14 - glycogen (α-granules)



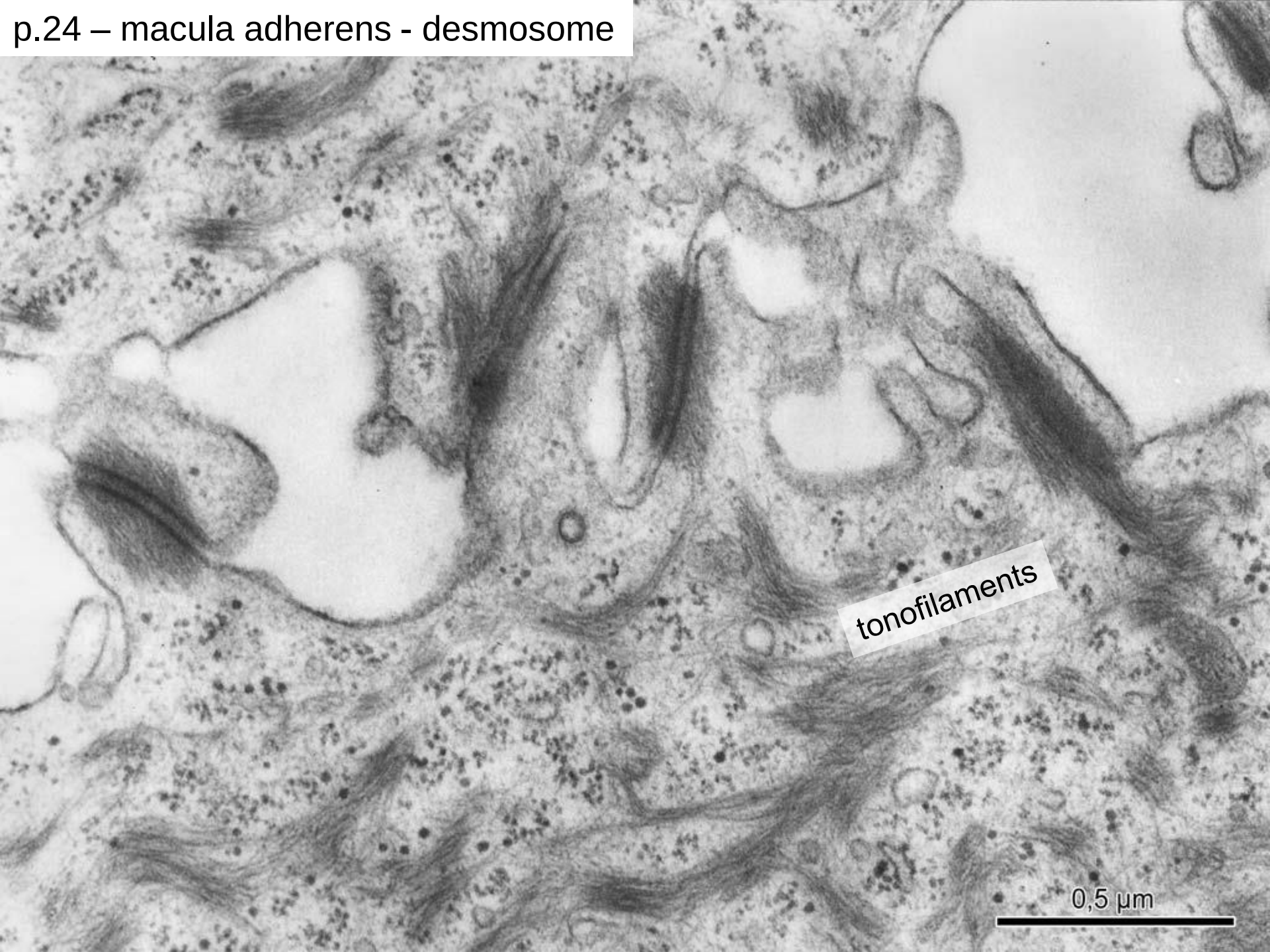
p.23 - lipid droplets

p.26 - intercellular junctions

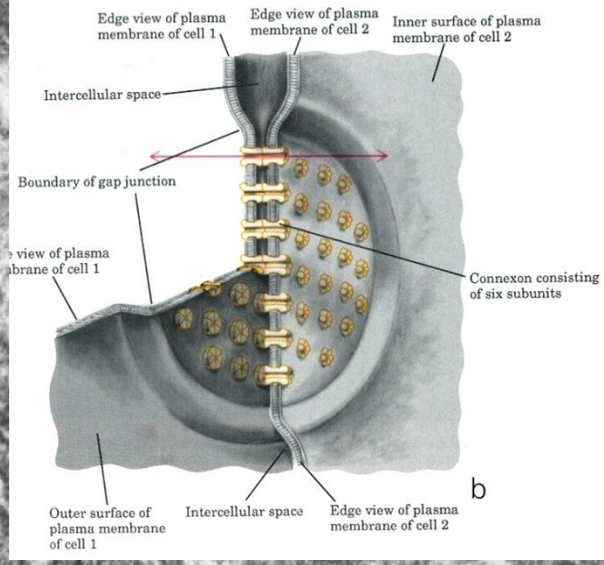


0,5 µm

p.24 – macula adherens - desmosome

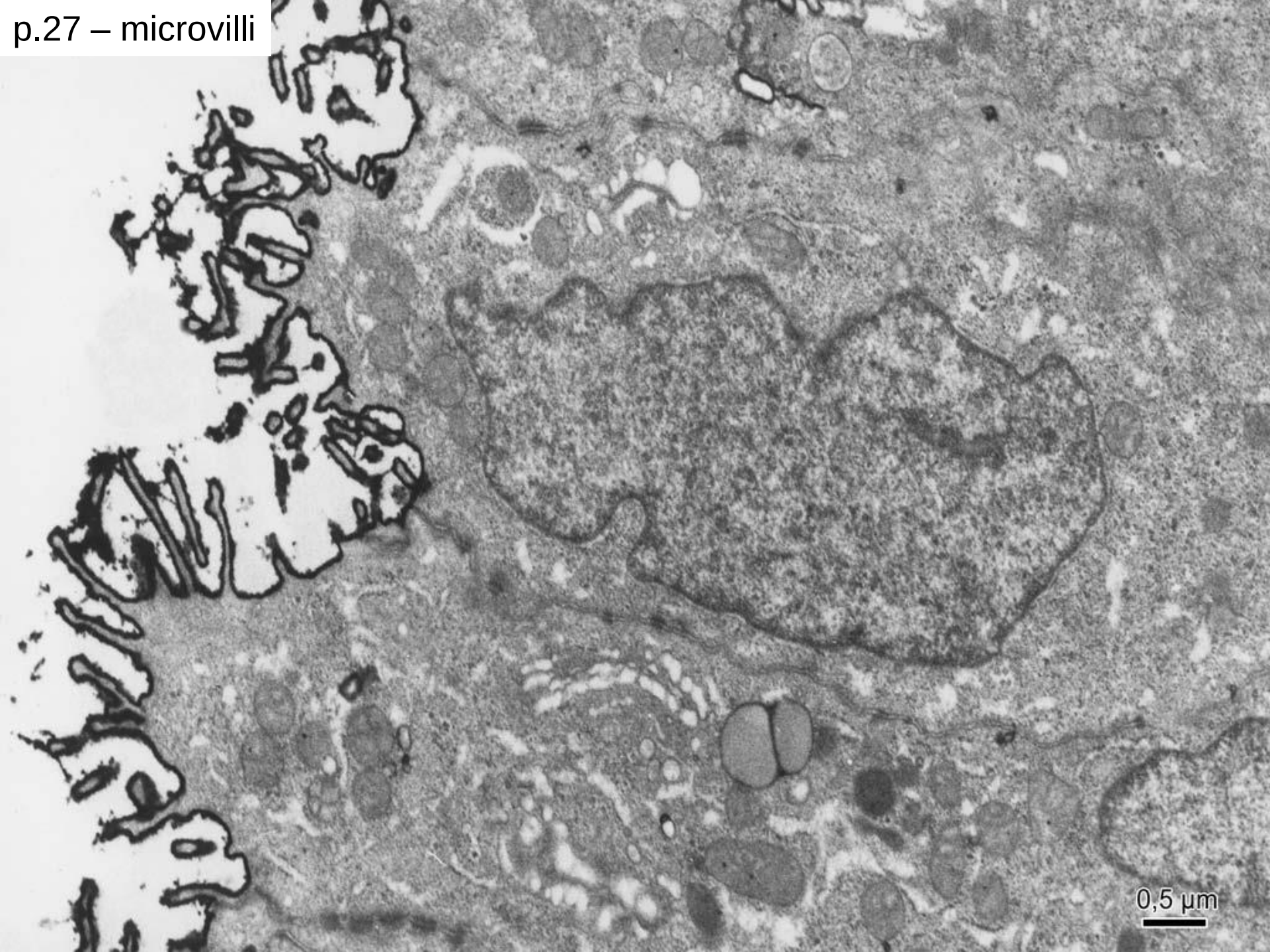


p.25 - nexus

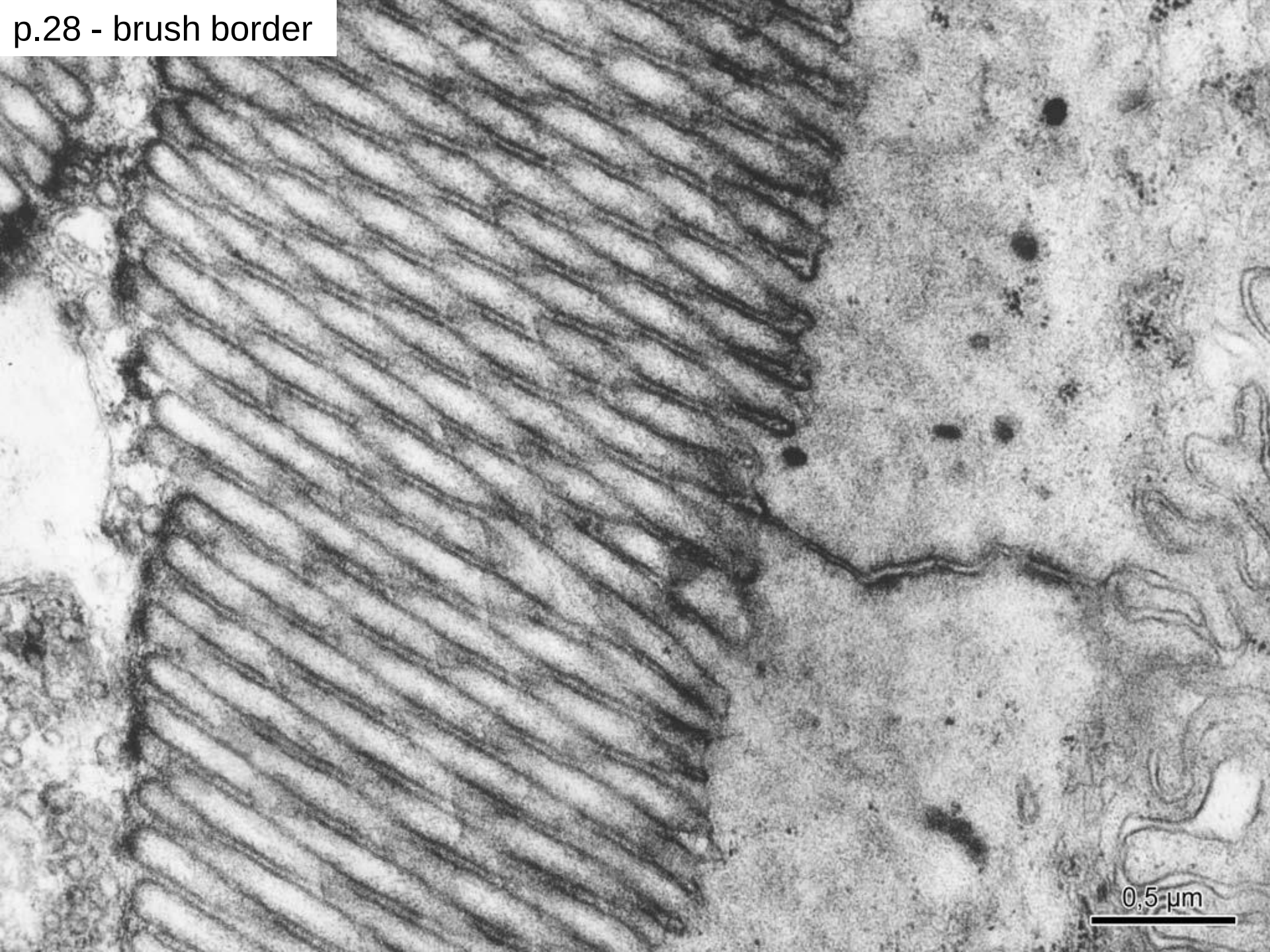


0,25 µm

p.27 – microvilli

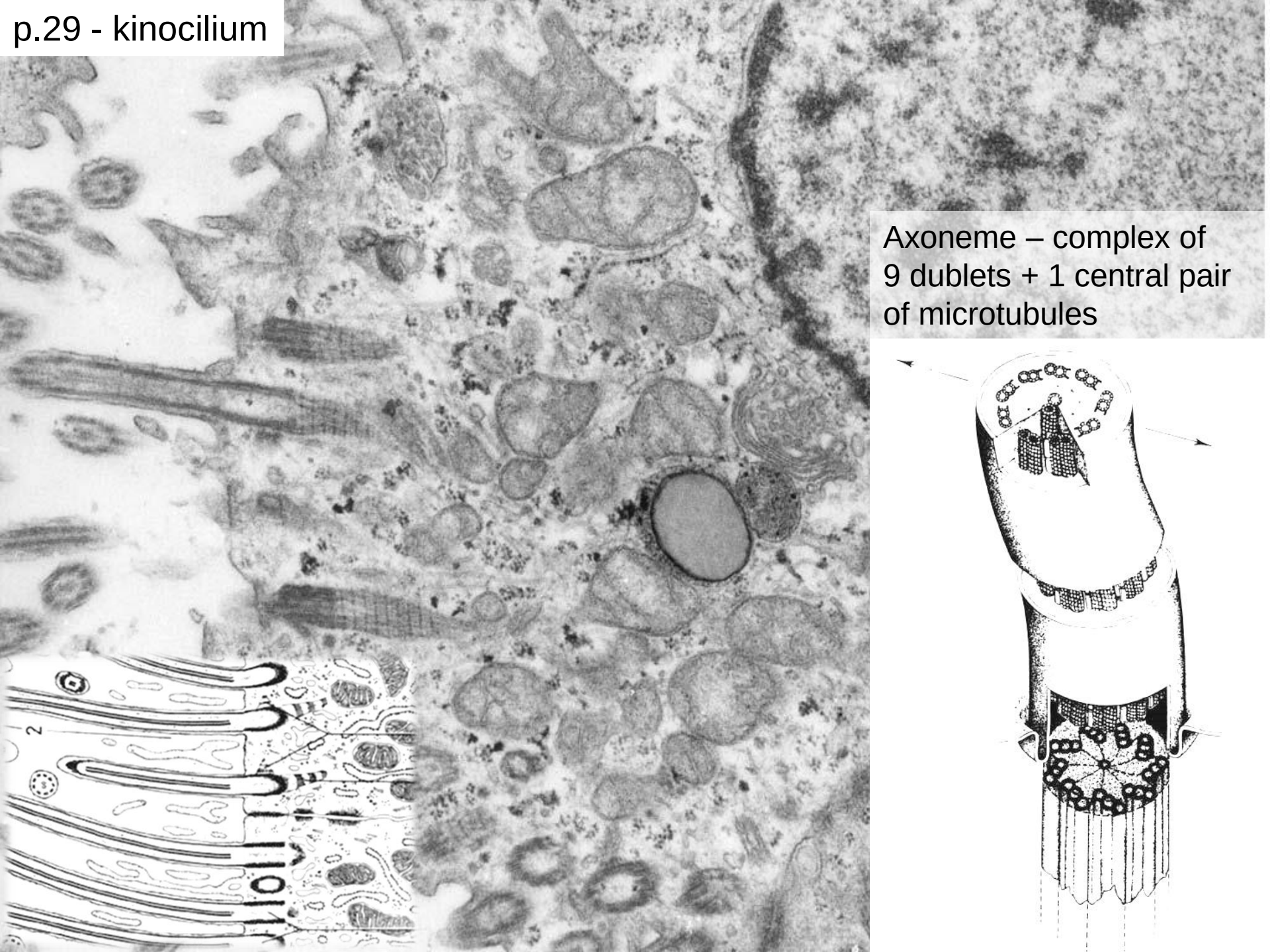


p.28 - brush border

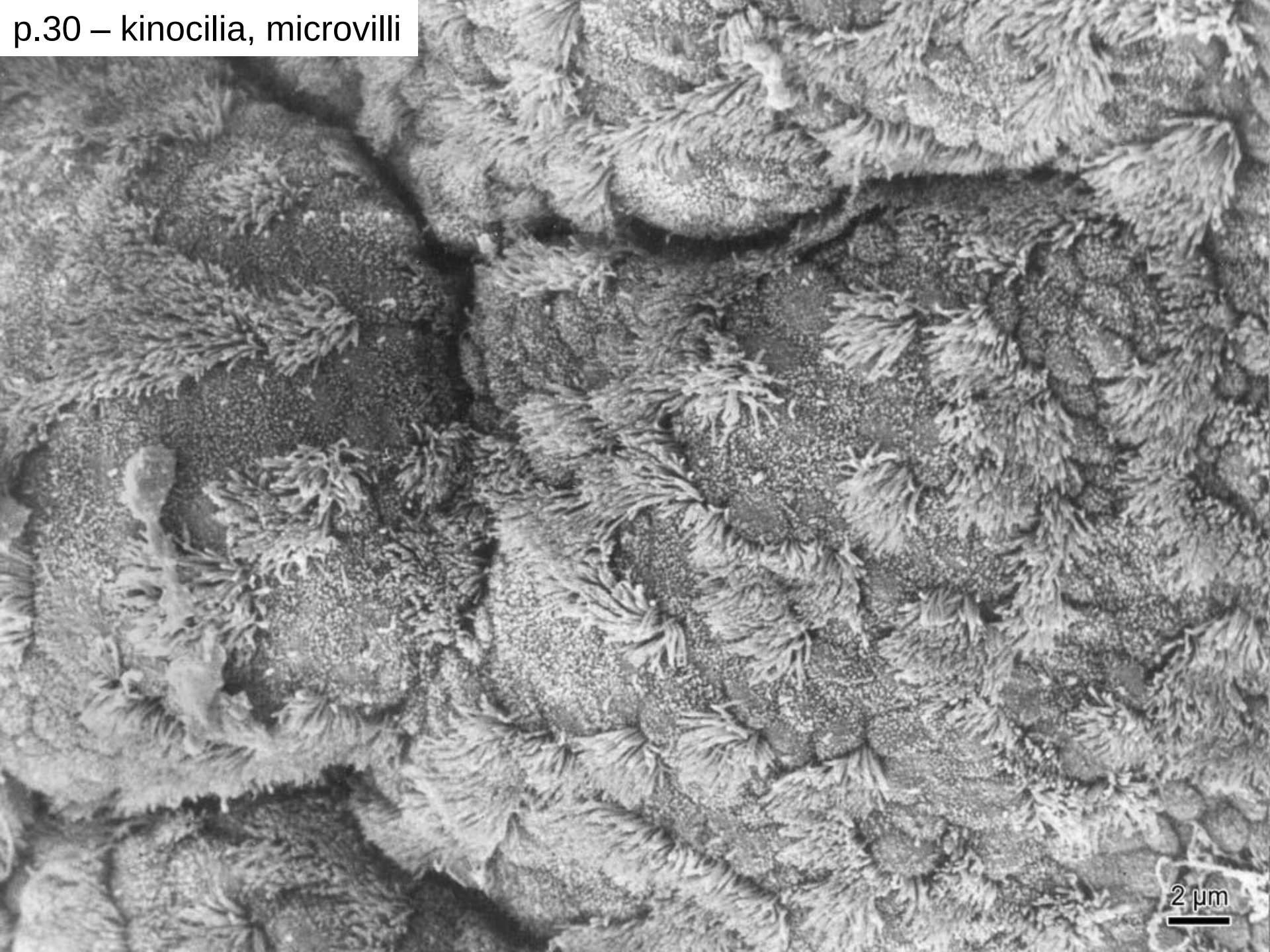


p.29 - kinocilium

Axoneme – complex of
9 dublets + 1 central pair
of microtubules

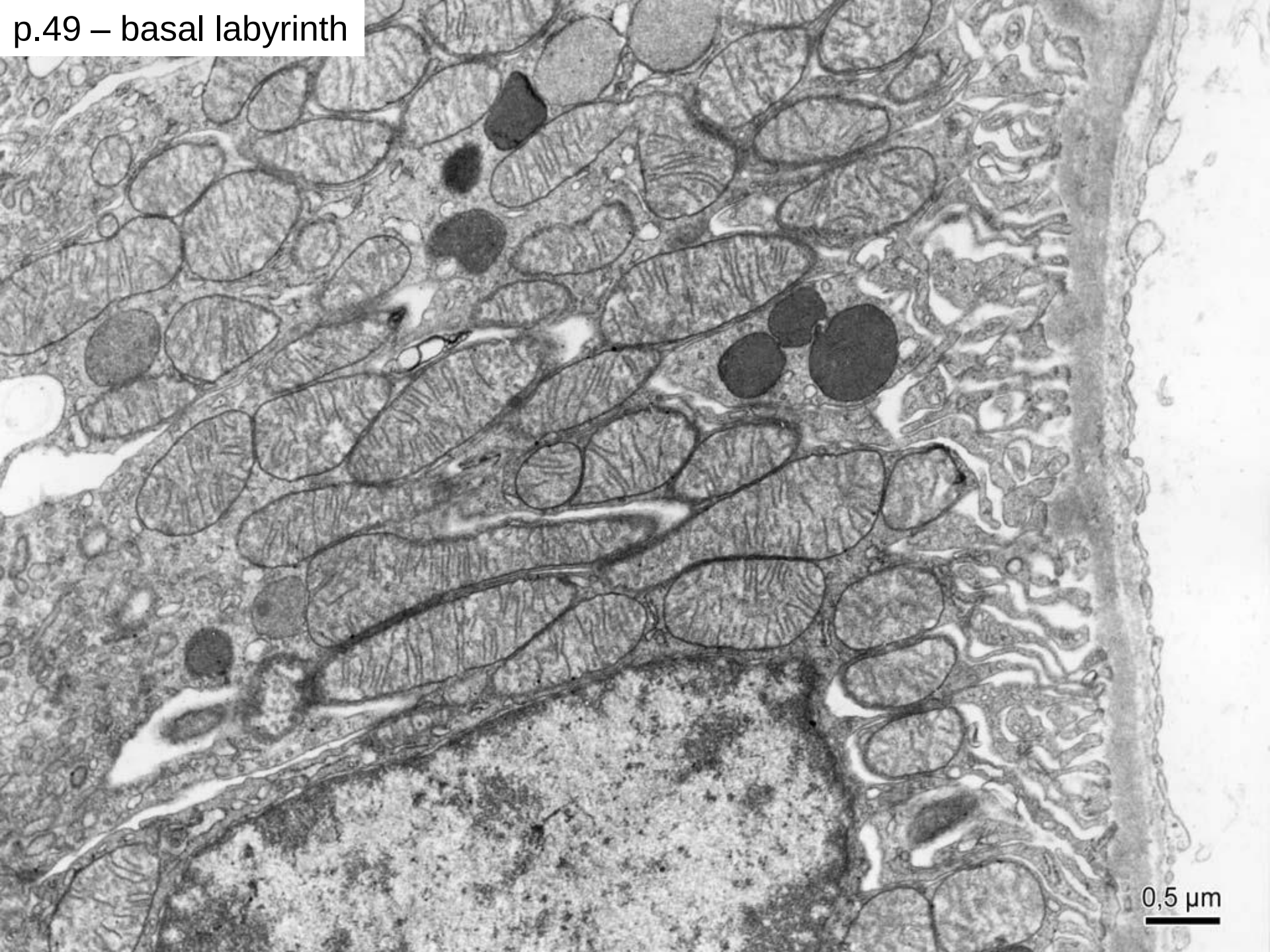


p.30 – kinocilia, microvilli



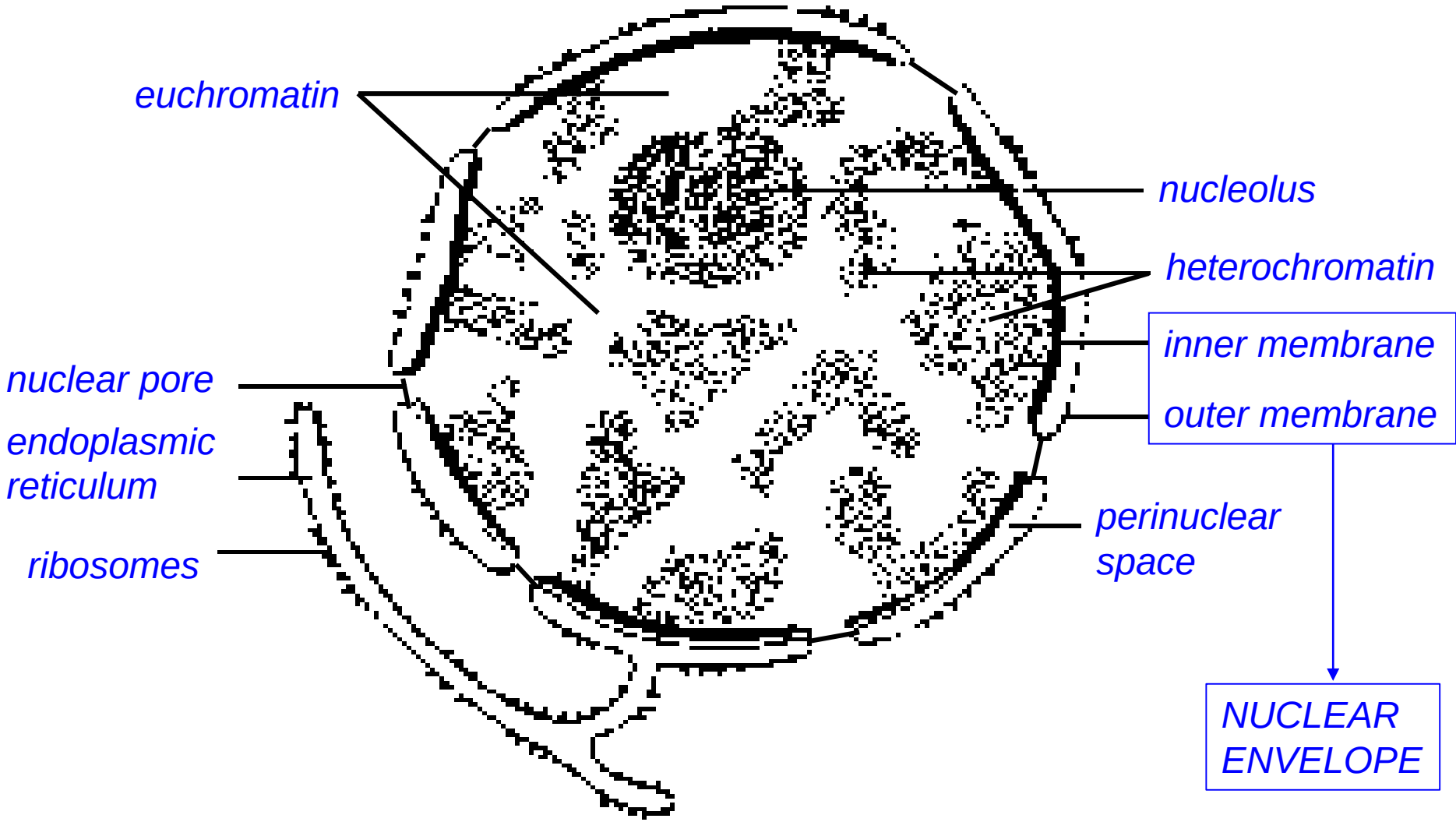
p.31 - flagellum

p.49 – basal labyrinth

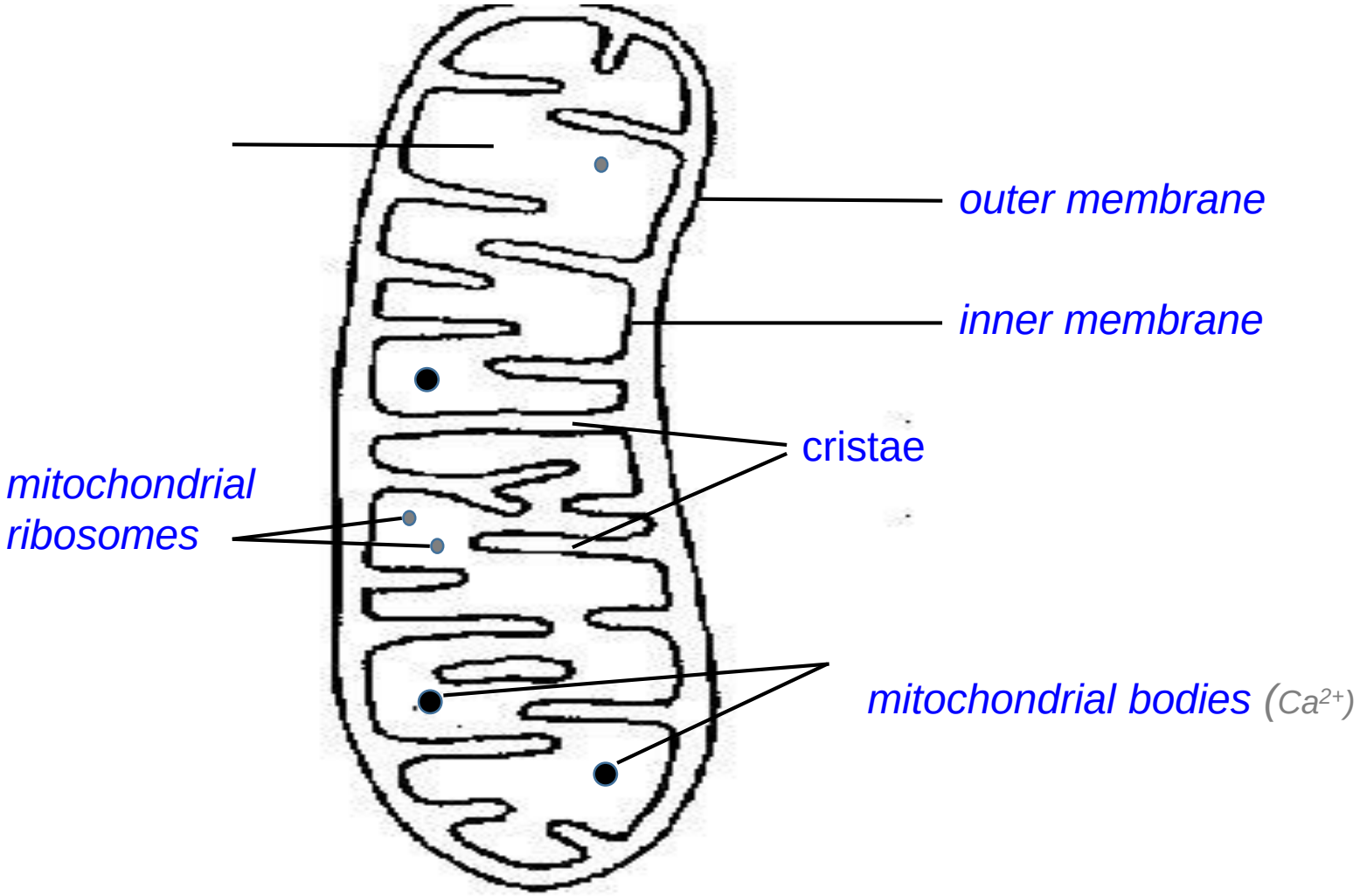


How to draw pictures from EM atlas?

NUCLEUS (Atlas EM: pp. 1, 2, 3, 4, 21, 33, 40, 50)



Mitochondrion (Atlas EM: pp. 8, 10, 18, 22, 23, 49)



Endoplasmic Reticulum

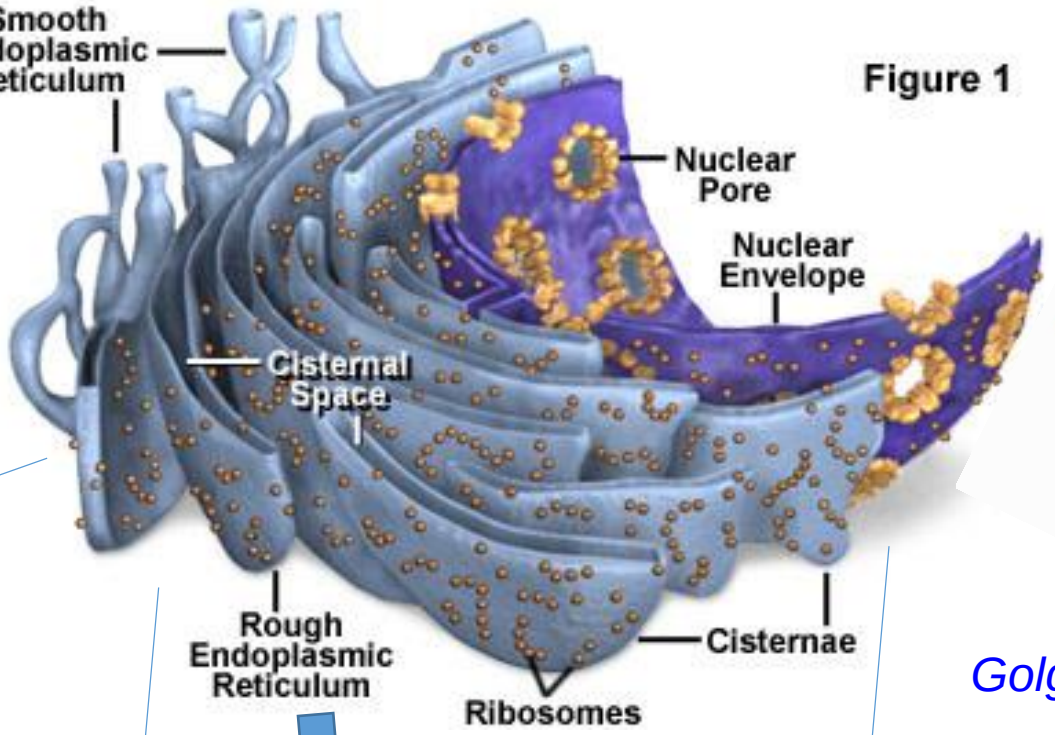
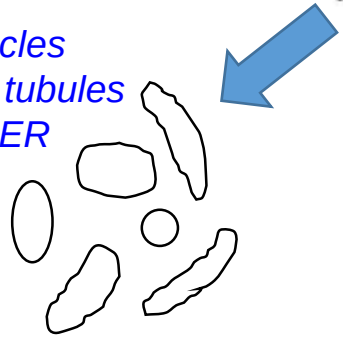
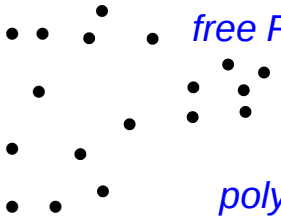


Figure 1



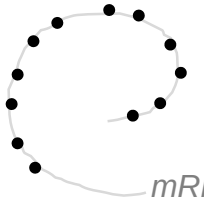
vesicles and tubules of SER

Ribosomes (Ri)

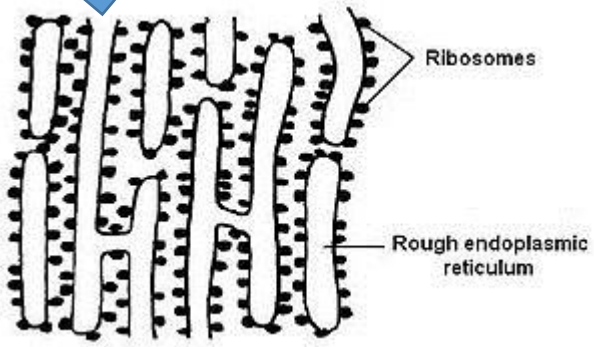


free Ri

poly(ribo)some



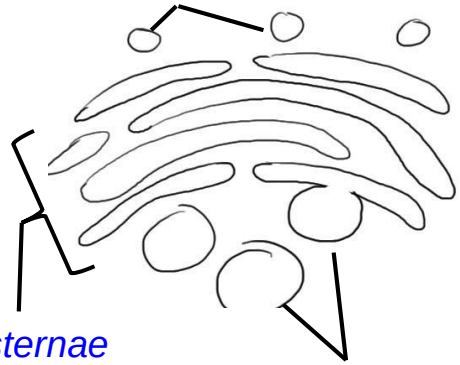
ribosomes attached to fiber of mRNA



cisternae of RER with ribosomes

Golgi apparatus (GA)

vesicles



cisternae

vacuoles