
Unterlagen zum Teil Anatomie der Vorlesung

Anatomie und Physiologie II

ETH 557-0152-00, UZH 2982 / BIO144

D.P. Wolfer, L. Slomianka, A. Rhyner, M. Müntener

Bei den Zeichenvorlagen handelt es sich zum Teil um modifizierte Abbildungen aus verschiedenen Lehrbüchern. Sie dürfen deshalb nur zur Mitarbeit in der Vorlesung verwendet werden. Es ist nicht gestattet, die Vorlagen zu vervielfältigen.

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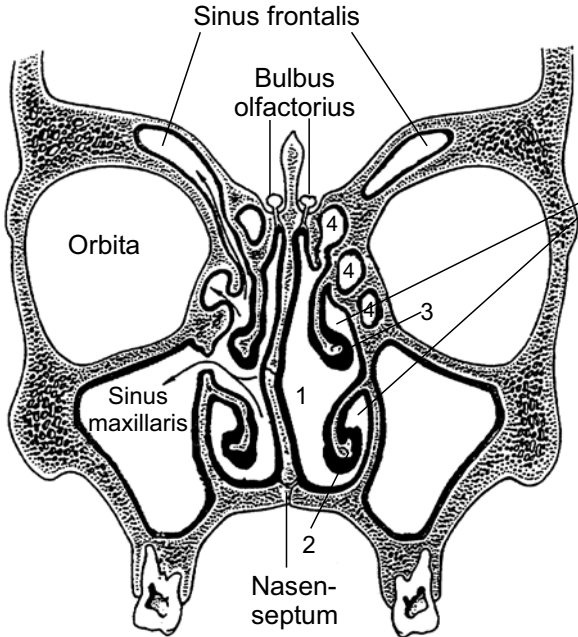
K. Sinnesorgane

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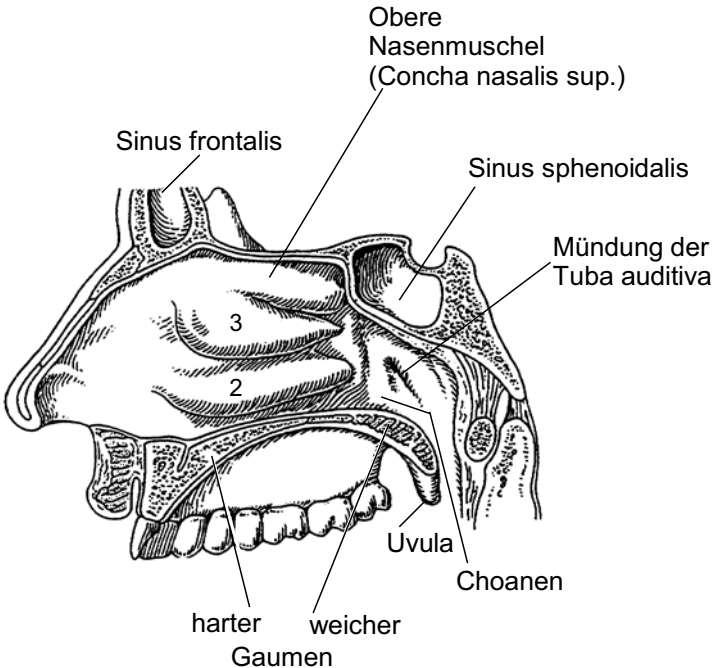
Nasenhöhle und Nasennebenhöhlen



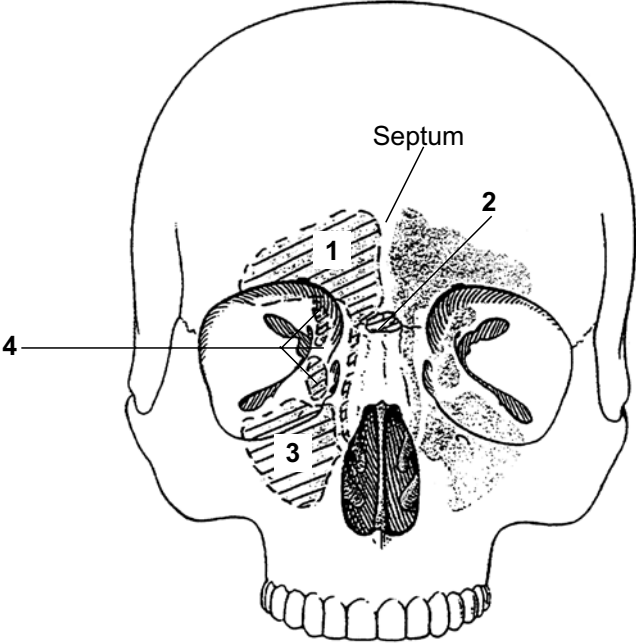
- 1 Nasenhöhle
- 2 Untere Nasenmuschel (Concha nasalis inferior)
- 3 Mittlere Nasenmuschel (Concha nasalis media)
- 4 Cellulae ethmoidales

Riechschleimhaut (Regio olfactoria)

Nasenschleimhaut (Regio respiratoria)

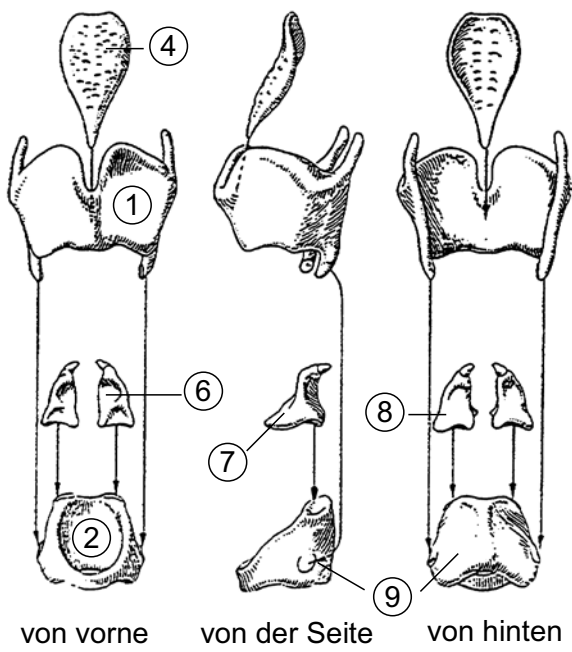
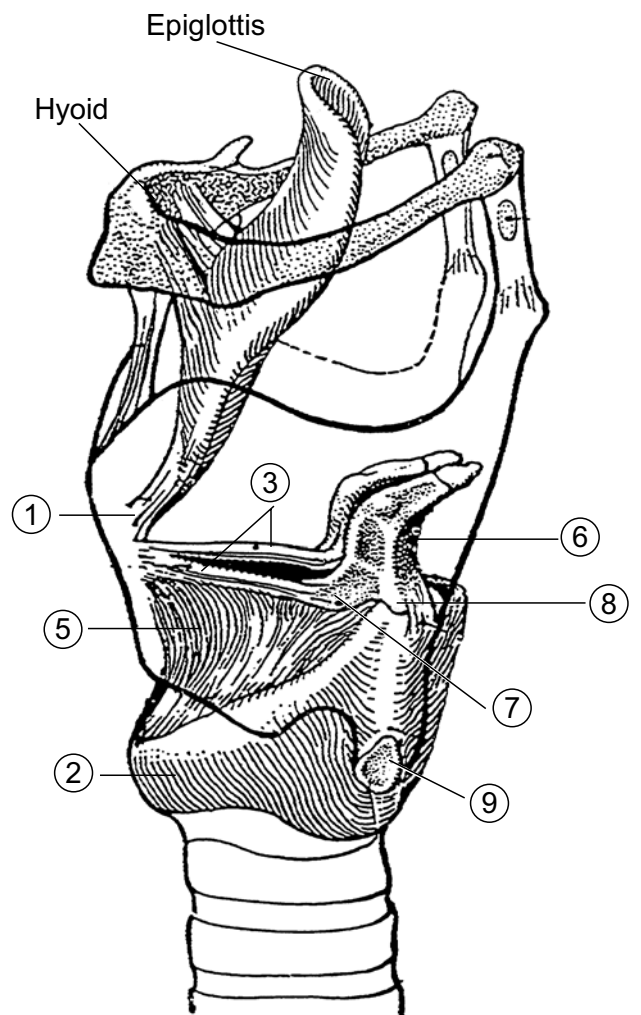
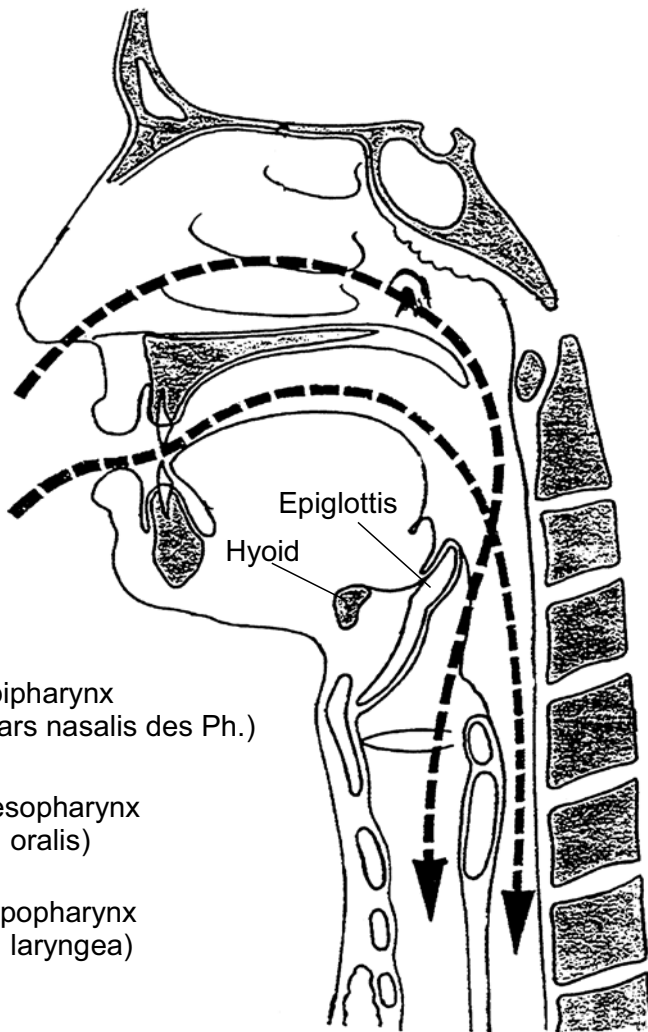


Obere Nasenmuschel (Concha nasalis sup.)



- 1 Sinus frontalis
- 2 Sinus sphenoidalis
- 3 Sinus maxillaris
- 4 Sinus ethmoidalis

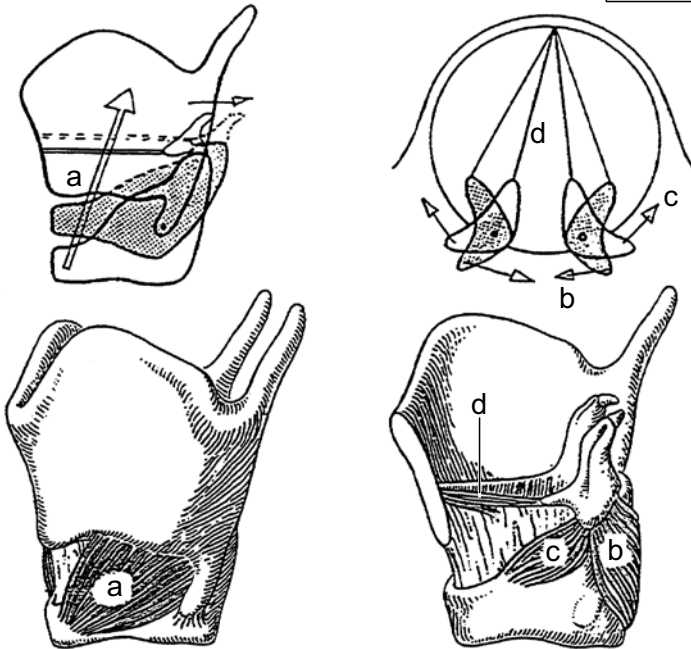
Kehlkopf (Larynx) 1



- 1 Schildknorpel (Cartilago thyroidea)
- 2 Ringknorpel (Cartilago cricoidea)
- 3 Lig. vocale (Stimmband)
- 4 Epiglottis
- 5 Conus elasticus
- 6 Stellknorpel (Cartilago arytenoidea)
- 7 Processus vocalis
- 8 Processus muscularis
- 9 Gelenk zwischen Schild- und Ringknorpel

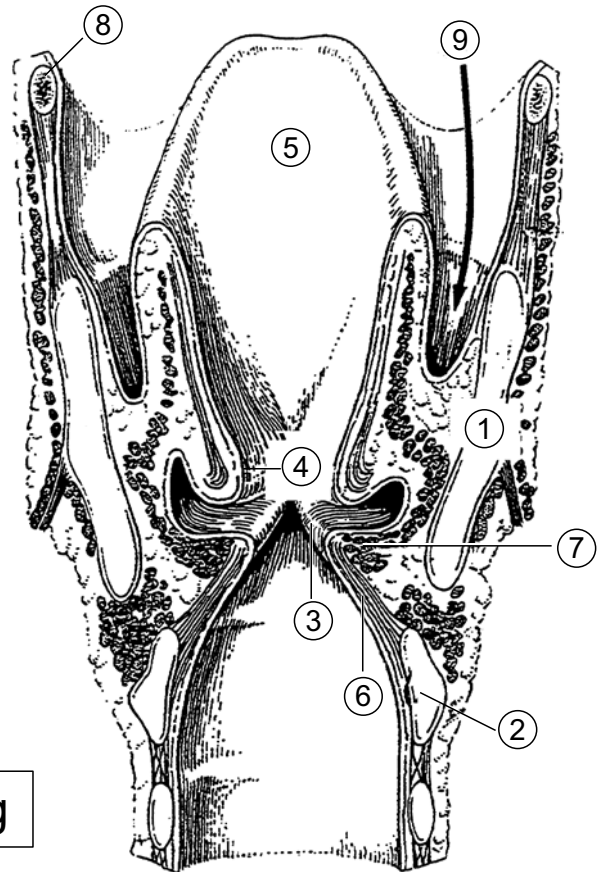
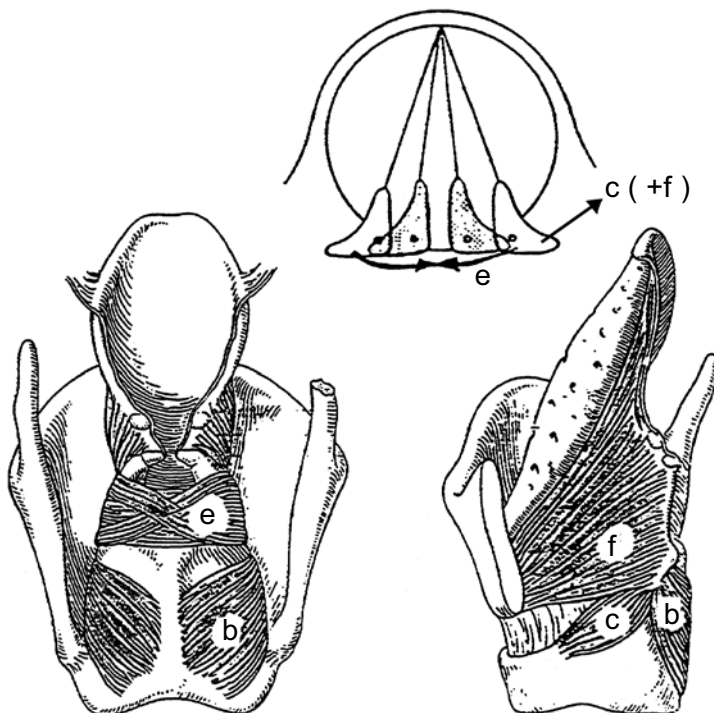
Kehlkopf (Larynx) 2

Drehung



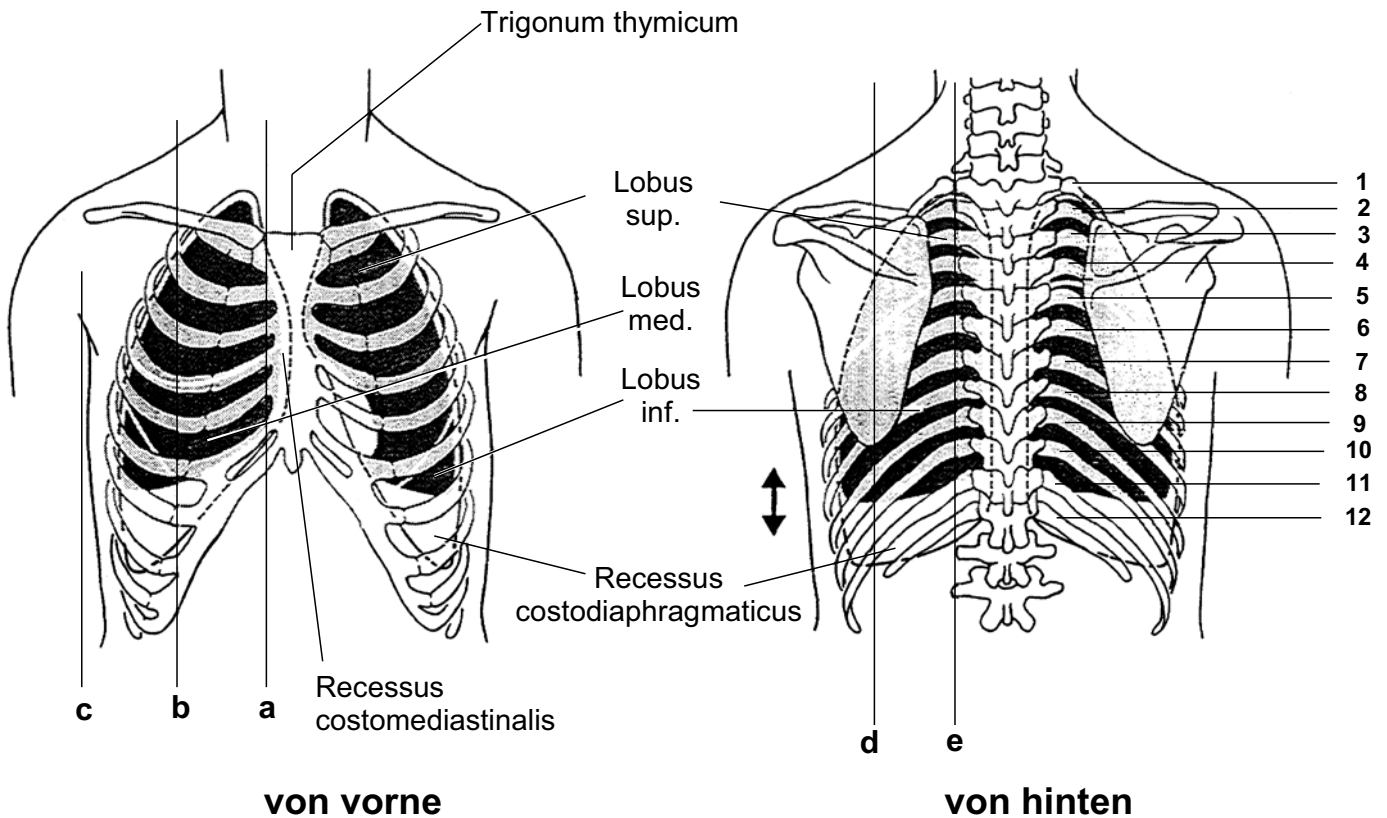
- M. cricothyroideus (a)
- M. cricoarytaenoideus posterior (b)
- M. cricoarytaenoideus lateralis (c)
- M. vocalis (d)

Verschiebung

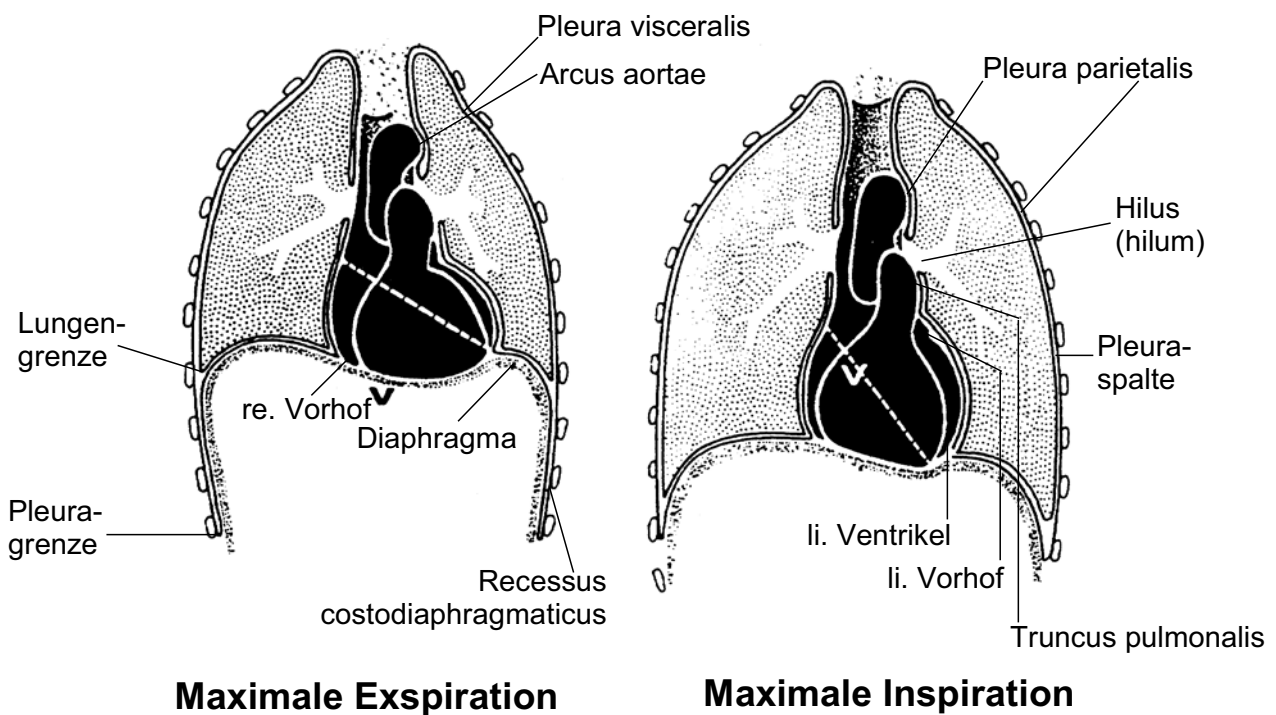


- 1 Schildknorpel
(Cartilago thyroidea)
- 2 Ringknorpel
(Cartilago cricoidea)
- 3 Plica vocalis
(Stimmfalte)
- 4 Plica vestibularis
- 5 Epiglottis
- 6 Conus elasticus
- 7 M. vocalis
- 8 Hyoid
- 9 Pfeil im Recessus
piriformis

Lunge und Pleura

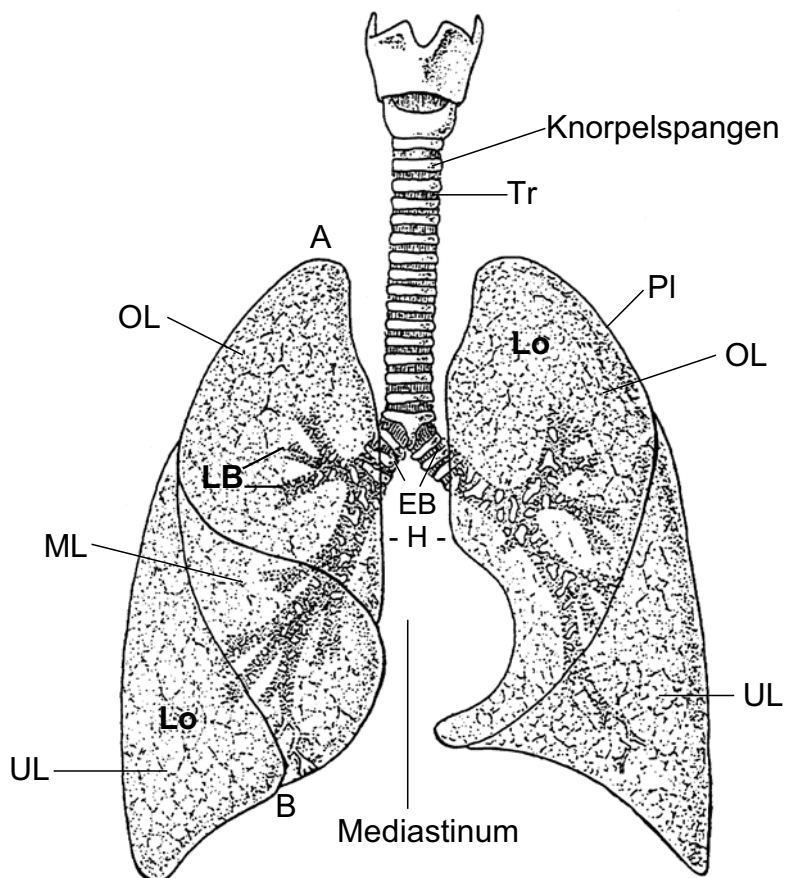


--- Pleuragrenzen Referenzlinien: Parasternal- (a), Medioklavikular- (b), Axillar- (c), Skapular- (d), Paravertebrallinie (e)

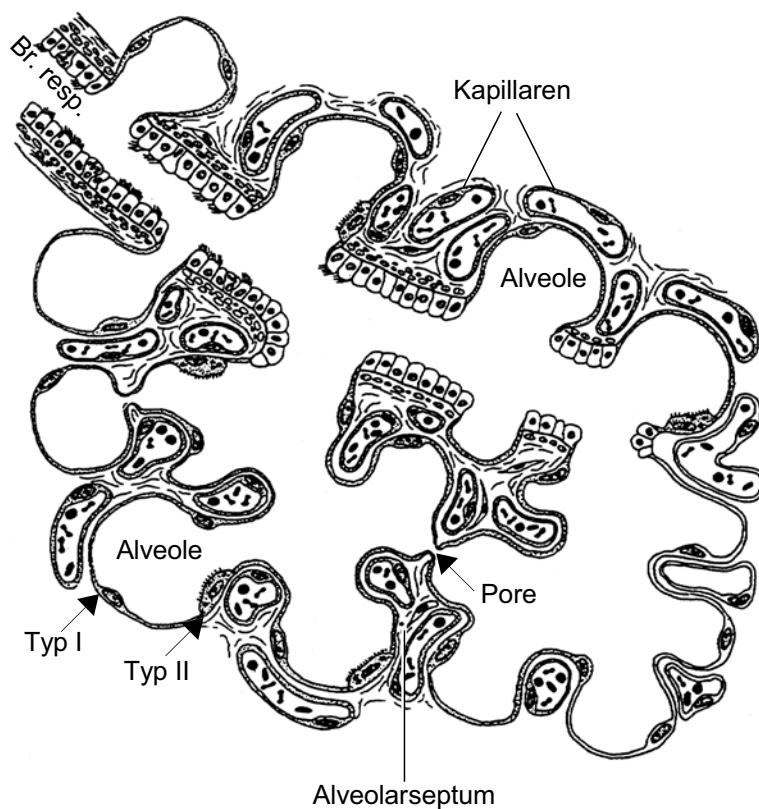
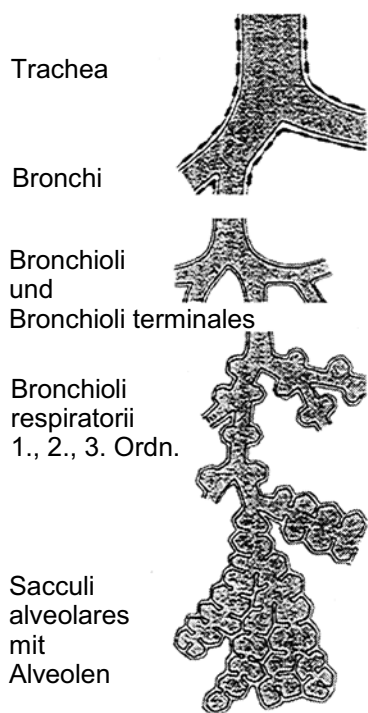


Trachea / Bronchien / Lungen

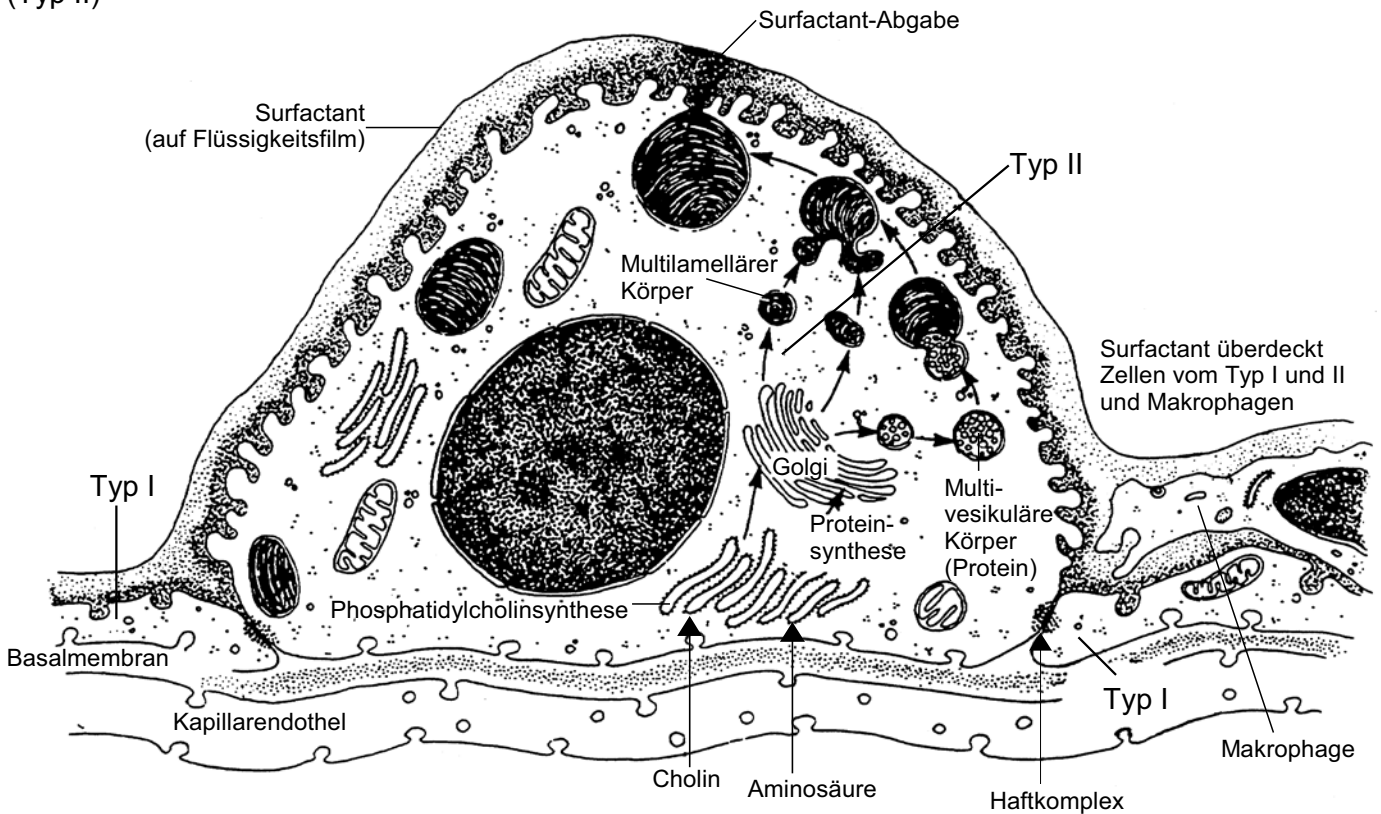
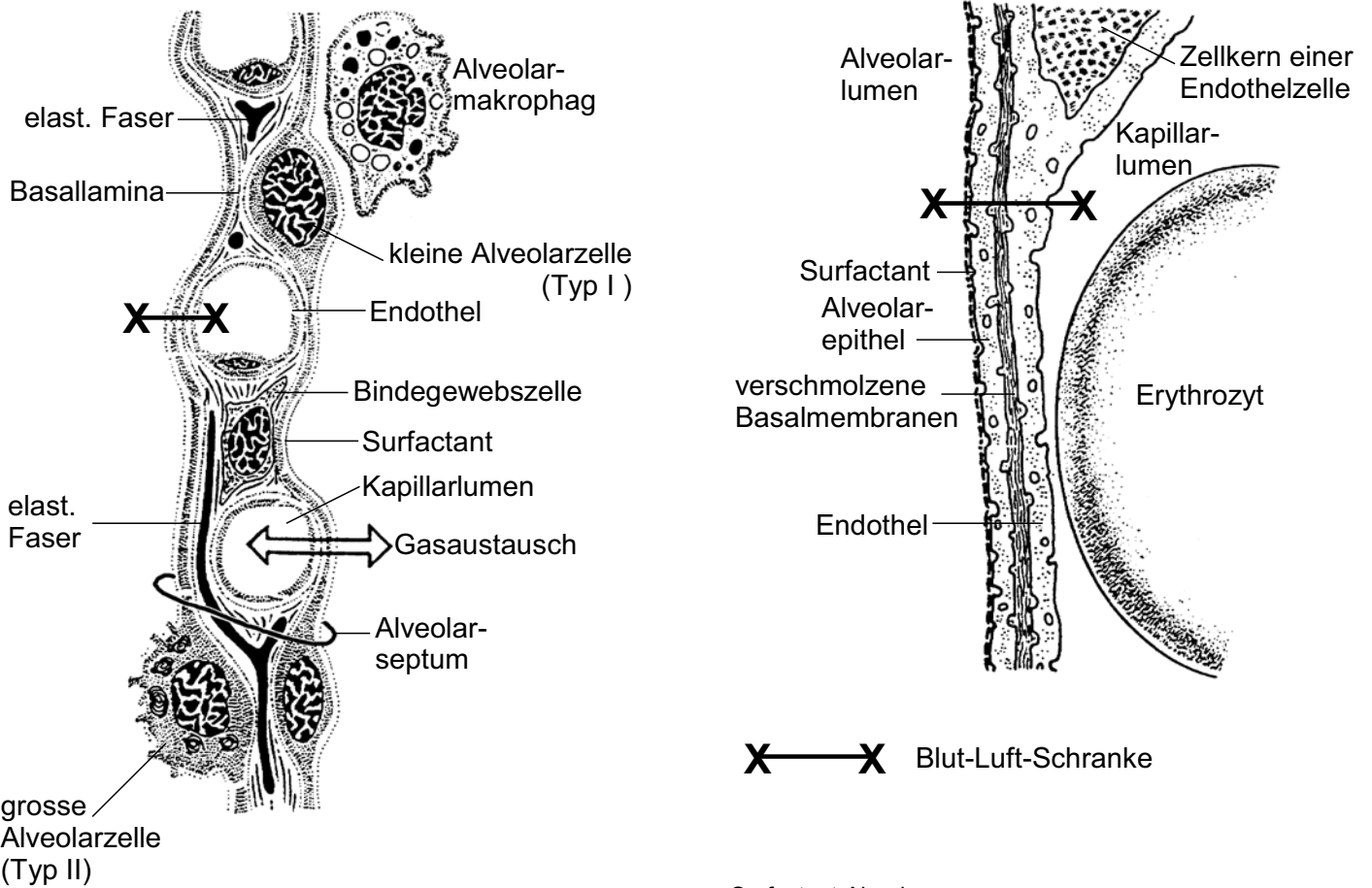
- A Apex
- B Basis
- EB Hauptbronchien
- H Hilus (Hilum)
- LB Lappen- und Segmentbronchien
- Lo Lungenlappen
- PI Pleura visceralis (Serosa)
- Tr Trachea



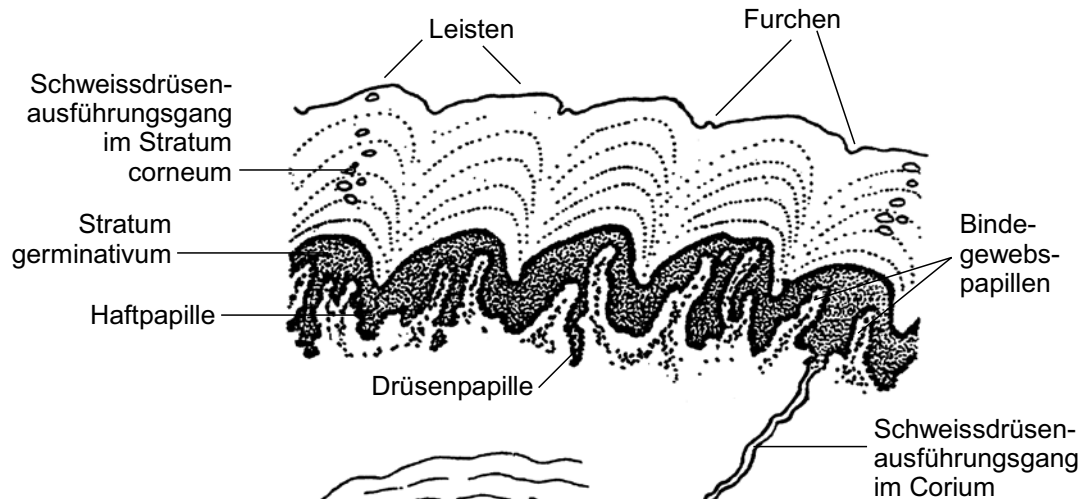
Luftleitende Abschnitte
 Respiratorische Abschnitte



Alveolarepithel



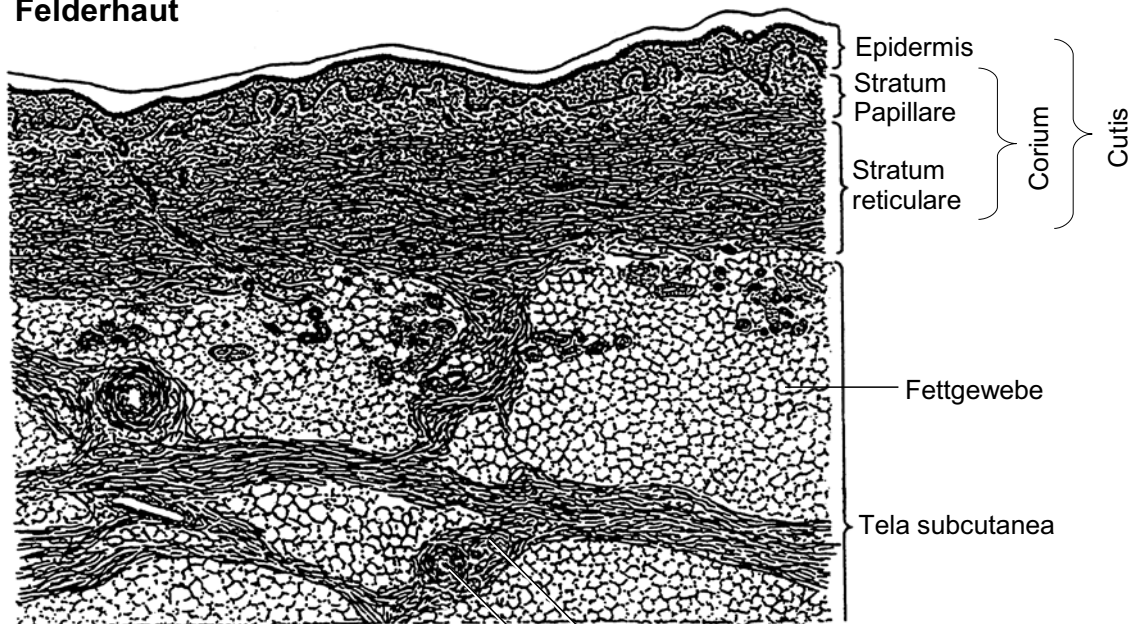
Haut



Leistenhaut

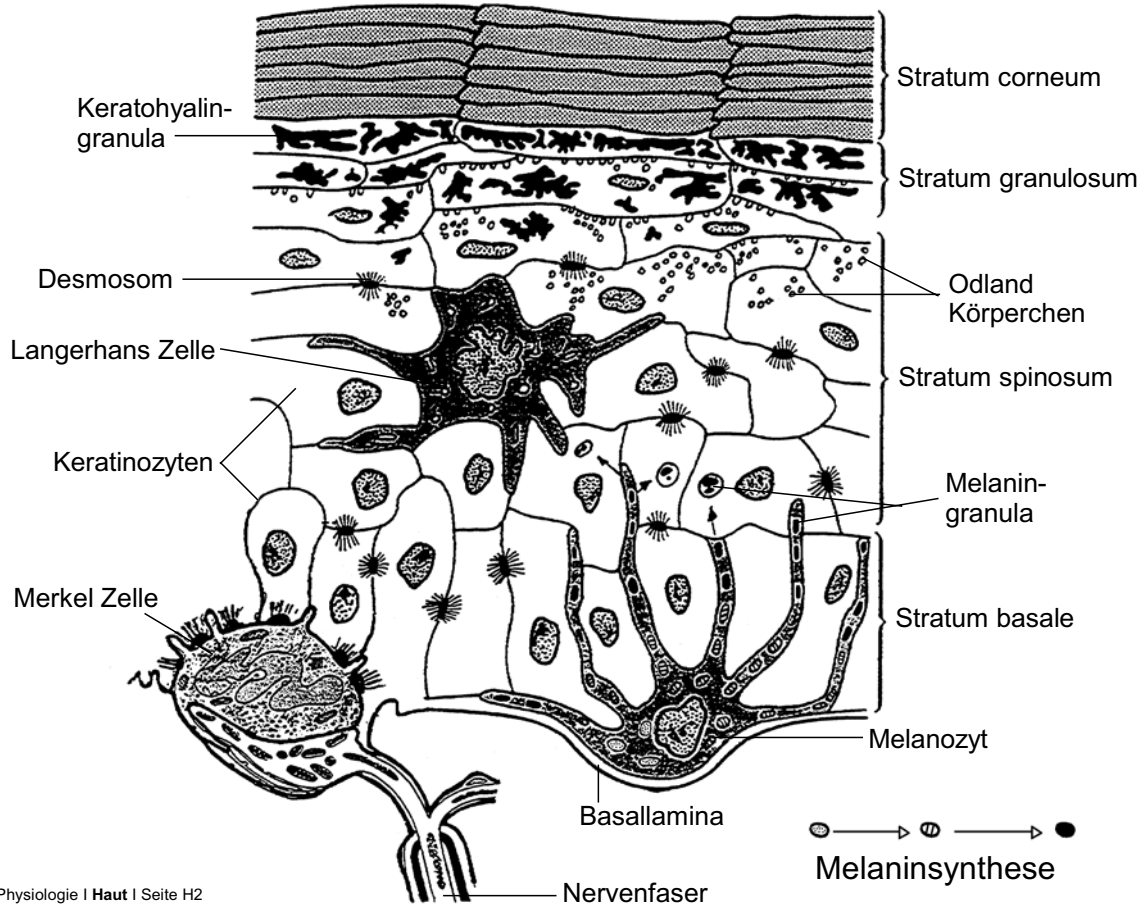
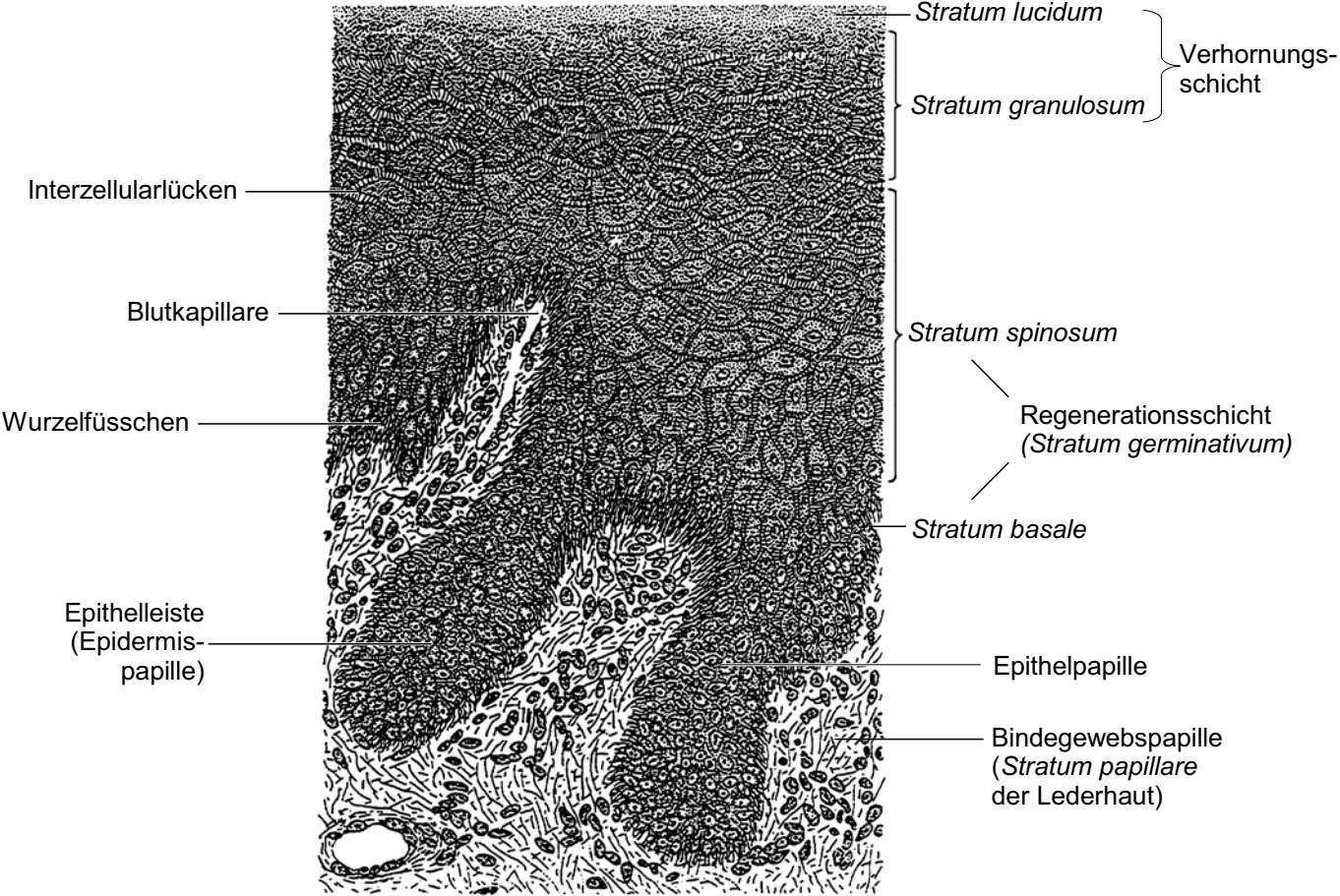


Felderhaut



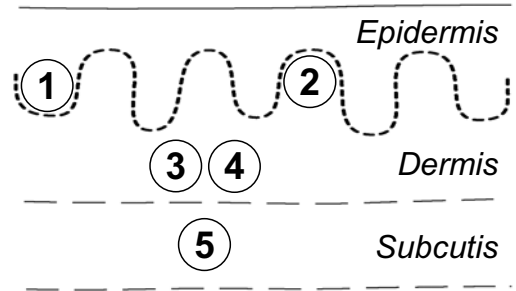
Arterie Nervenfaserbündel

Epidermis

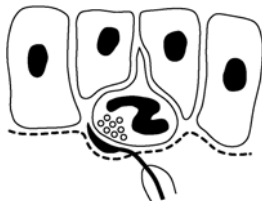


Hautrezeptoren

Axon
 myelinisierende Schwann-Zelle
 nicht-myelinisierende Schwann-Zellen
 kollagene Fibrillen
 Perineuralzellen
 Basallamina

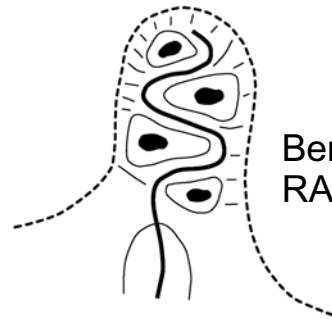


1 Merkel-Zelle



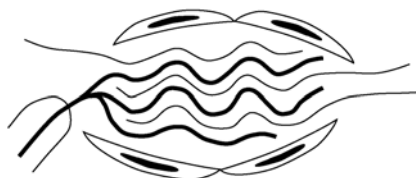
Druck / Zug
 SA (slowly adapting)

2 Meissner-Körperchen



Berührung
 RA (rapidly adapting)

3 Ruffini-Körperchen

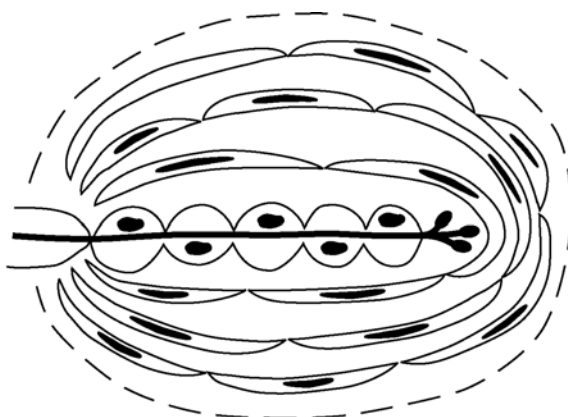


Druck / Zug
 SA (slowly adapting)

4 Freie Endigungen



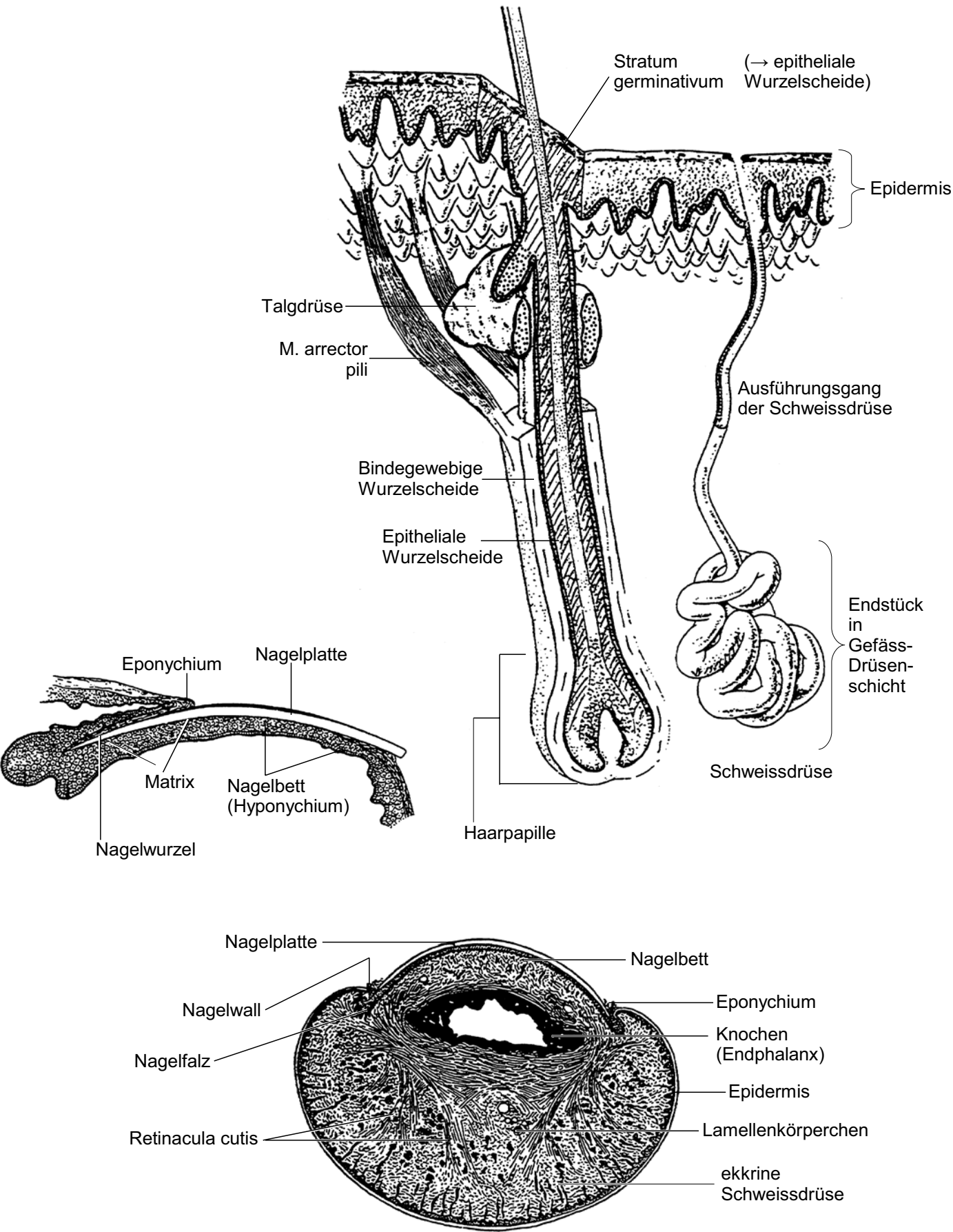
Temperaturänderung
 (Kalt- und Wärmepunkte)
 Schmerz



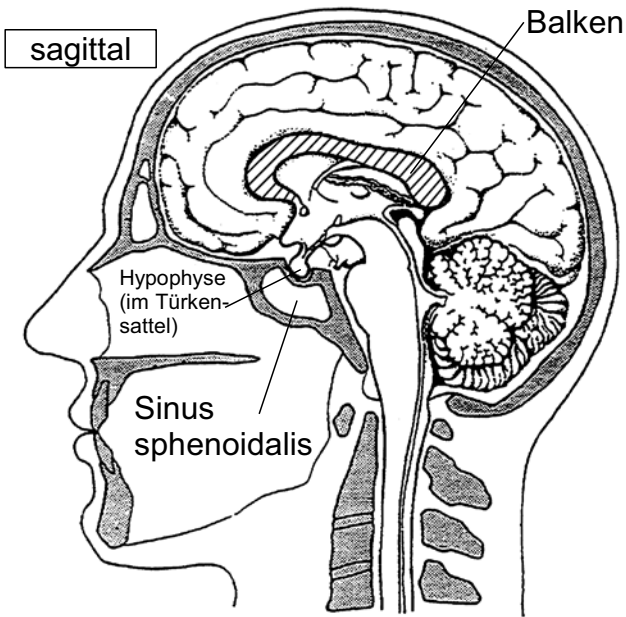
5 Vater-Pacini-Körperchen

Vibration
 (Beschleunigung)

Hautanhangsgebilde



Hypothalamus und Hypophyse I



Hirnbasis

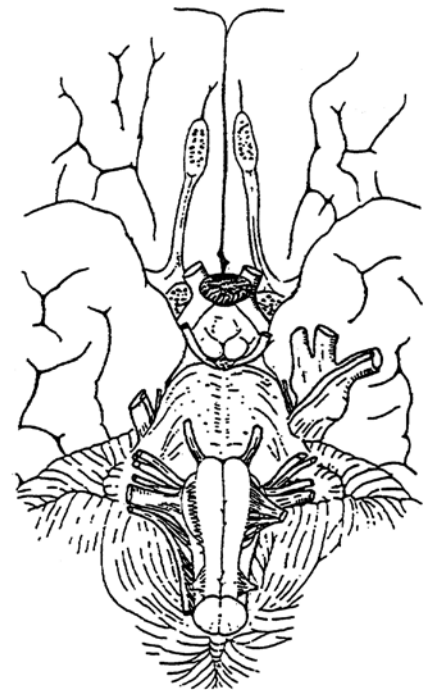
Riechnerv (N. olfactorius, I)

Sehnerv (N. opticus, II)

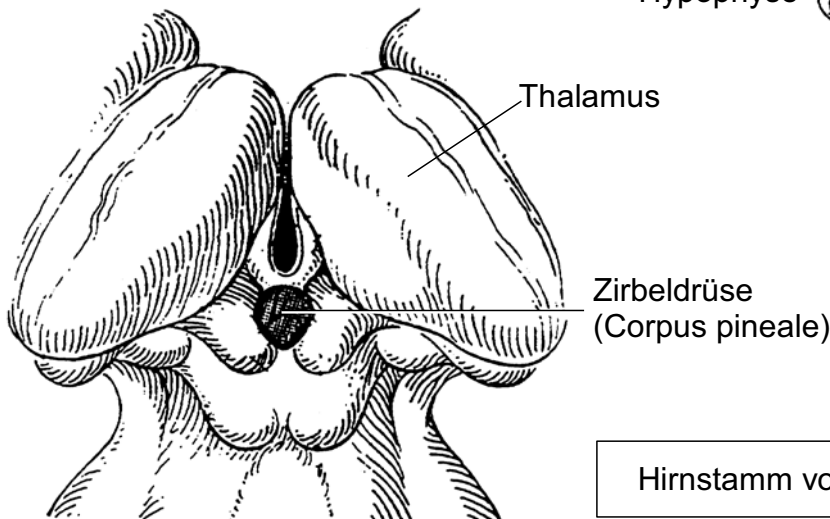
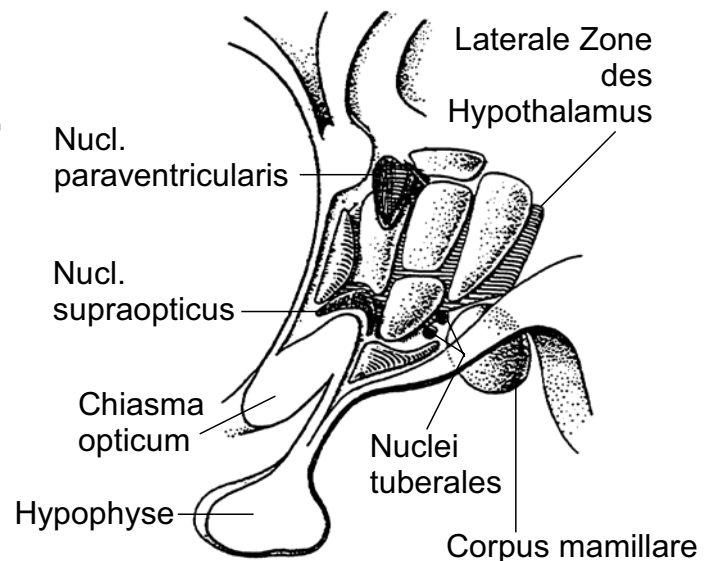
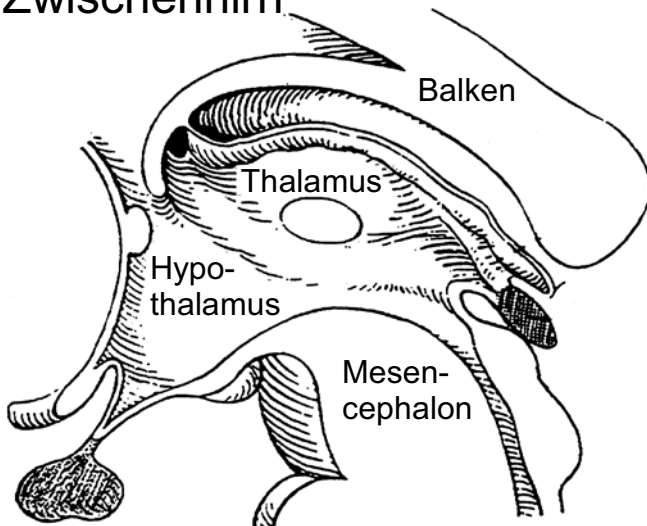
Mittelhirn (Mesencephalon)

Pons

Medulla oblongata



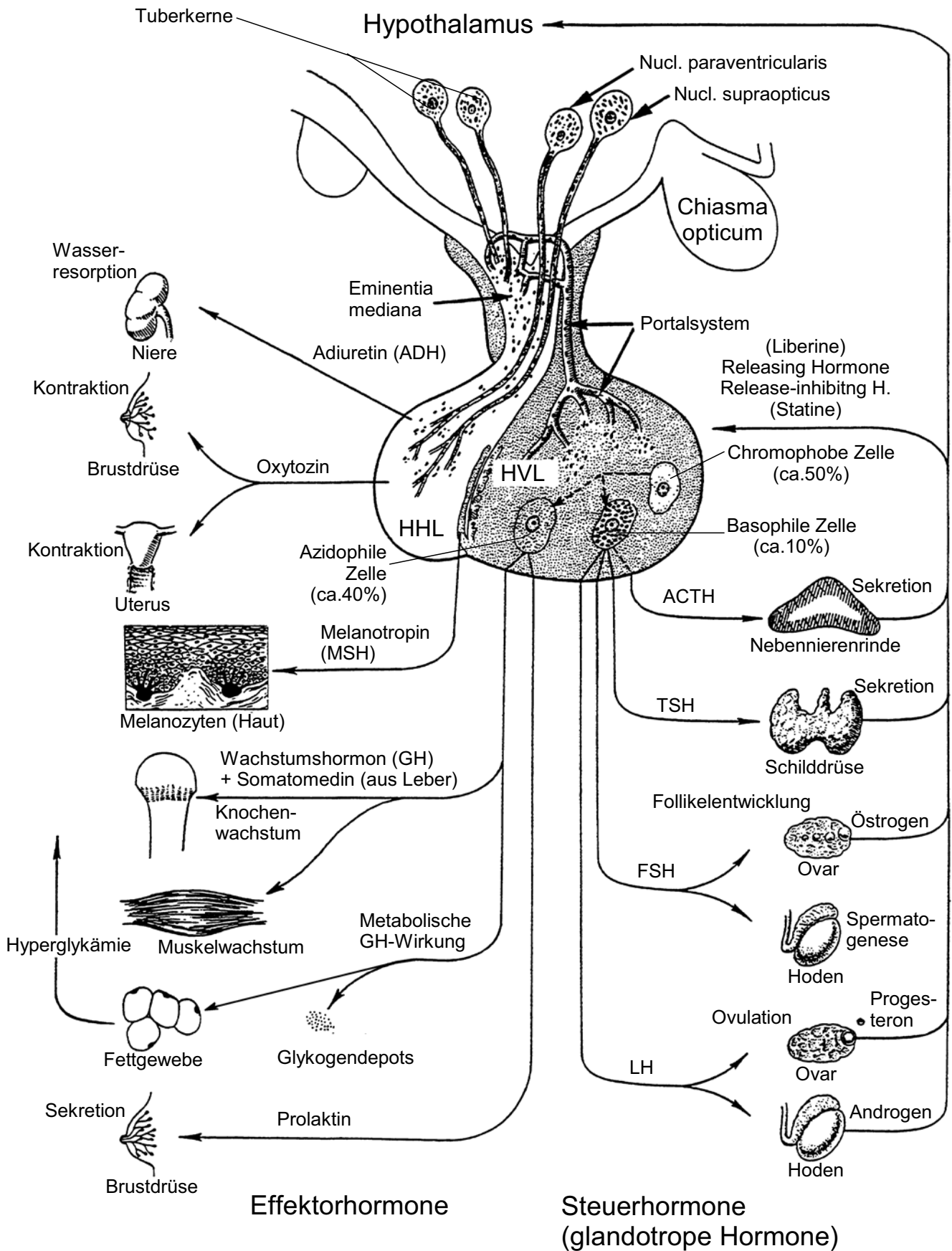
Zwischenhirn



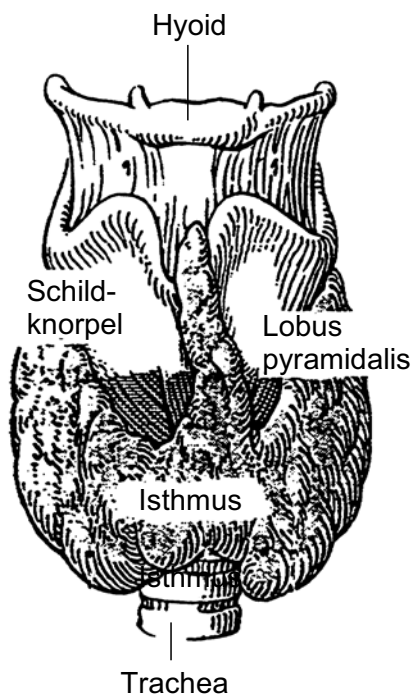
Hypophysäre Zellgruppen

Hirnstamm von oben

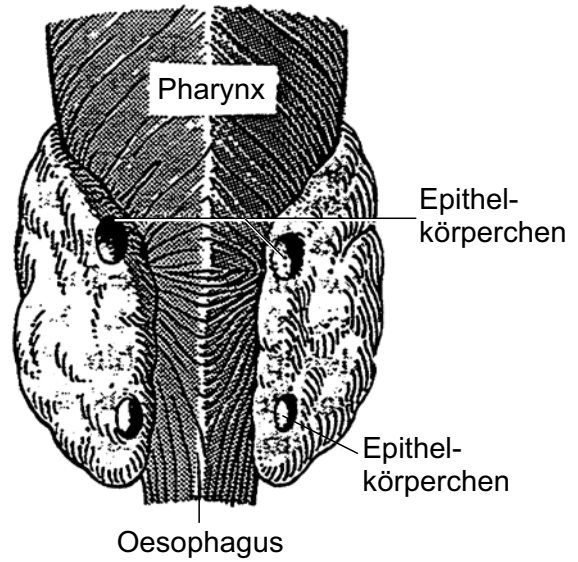
Hypothalamus und Hypophyse II



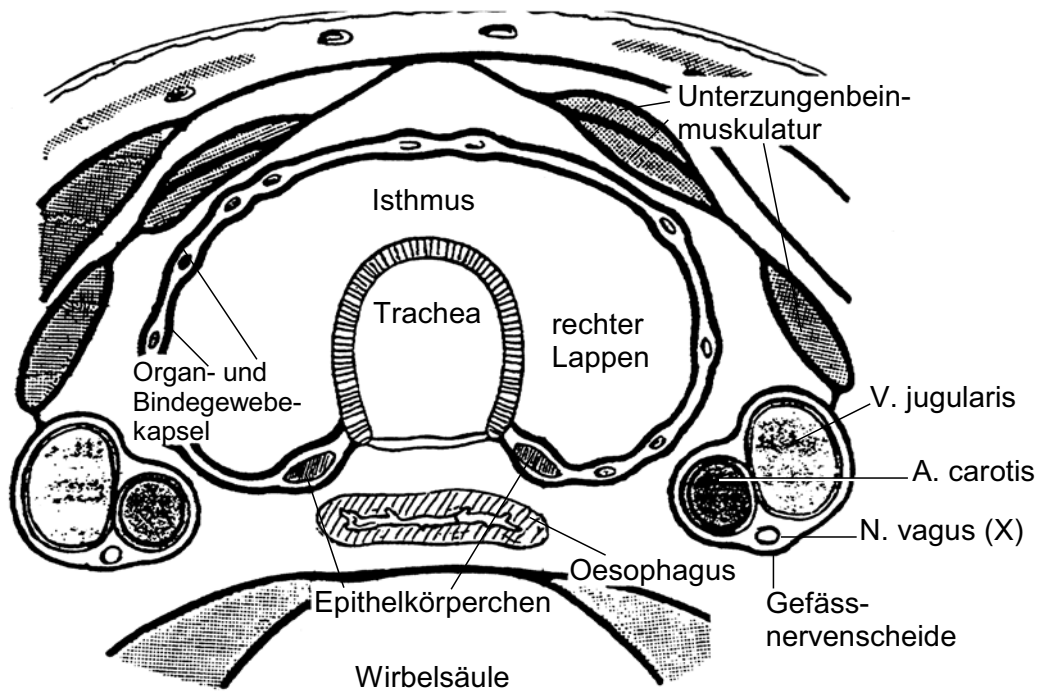
Schilddrüse I



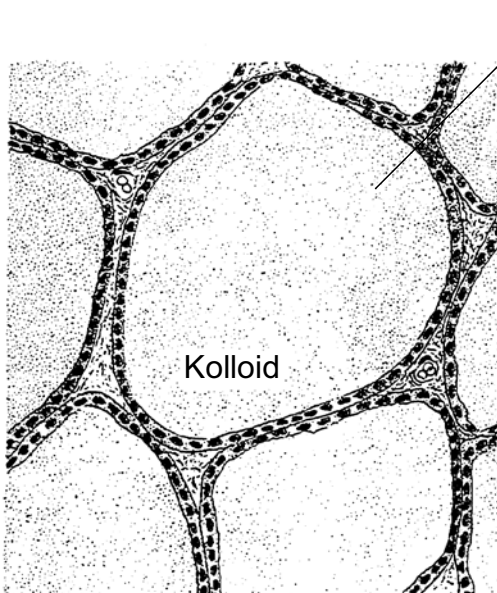
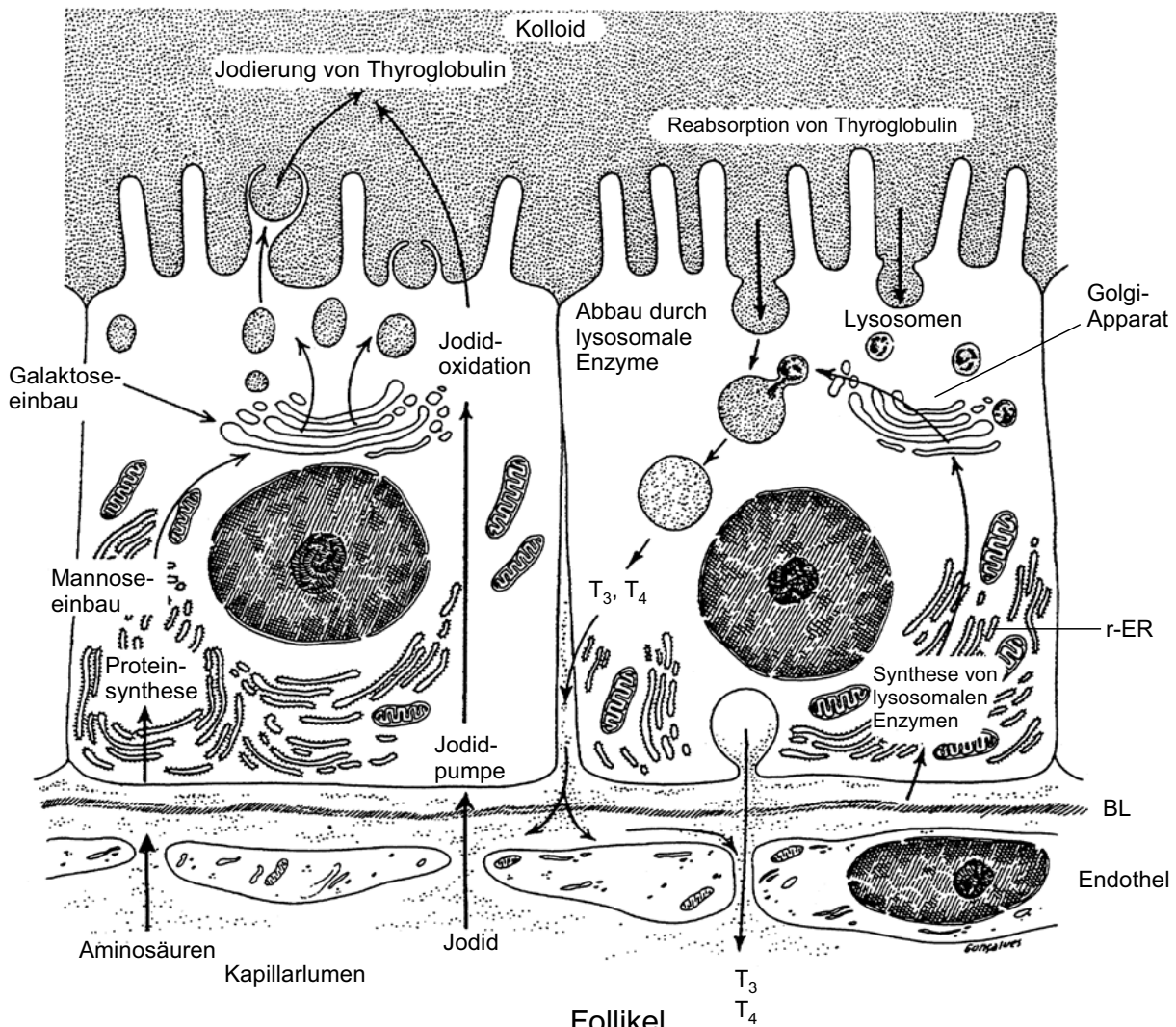
von ventral



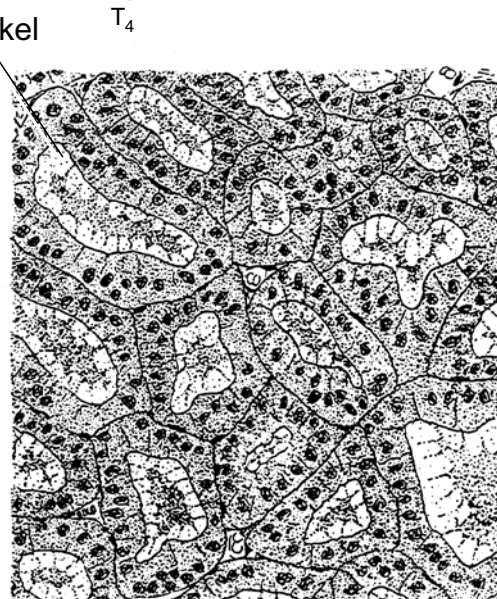
von dorsal



Schilddrüse II

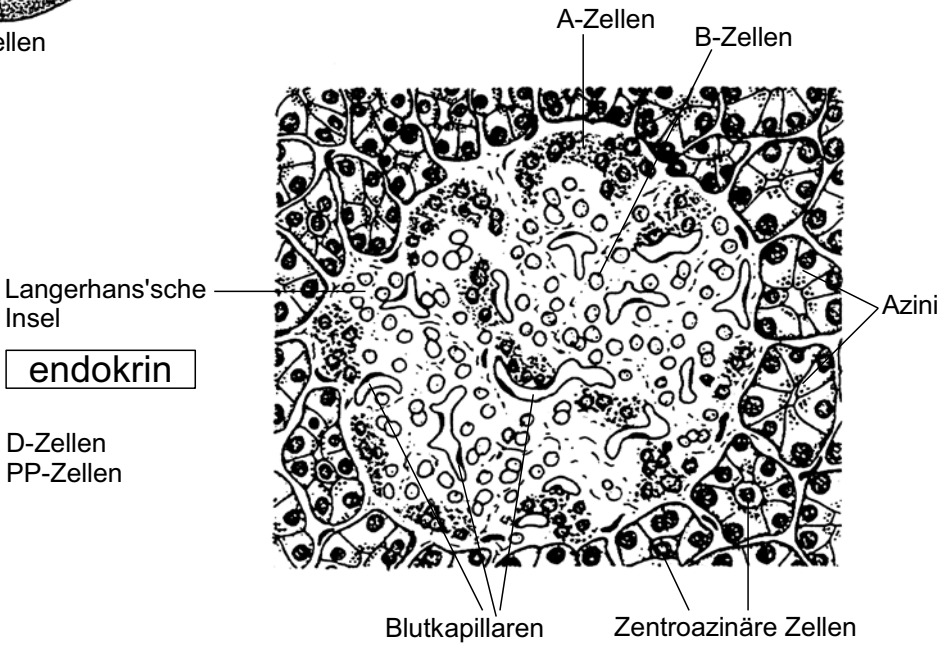
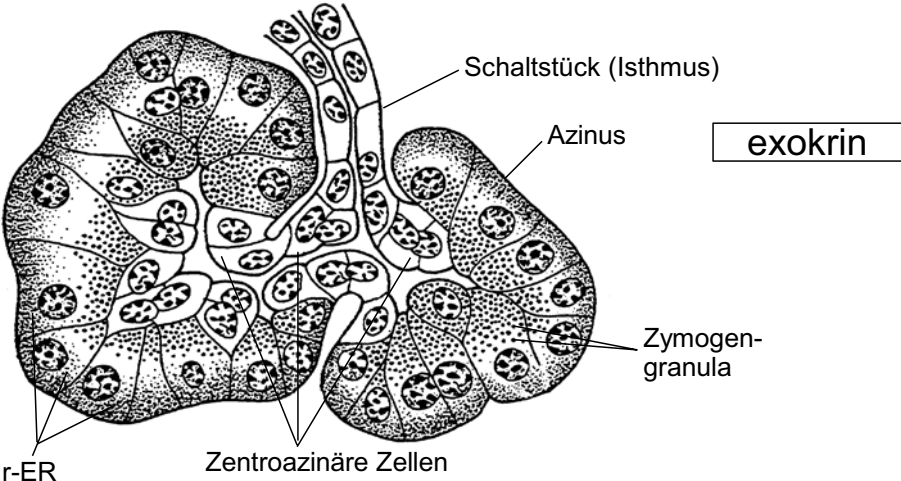
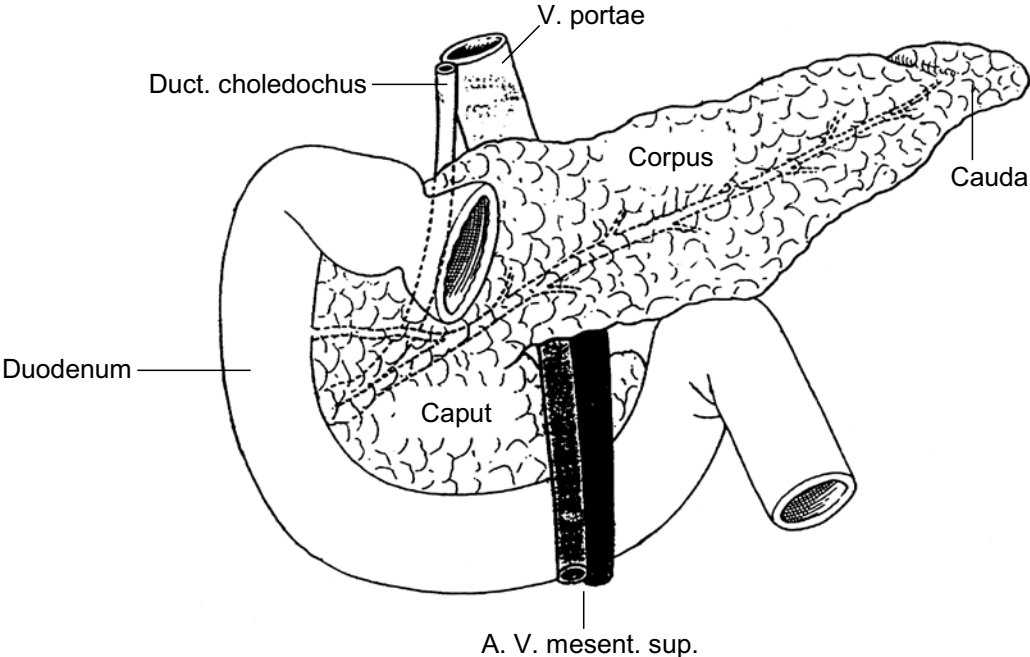


inaktiv

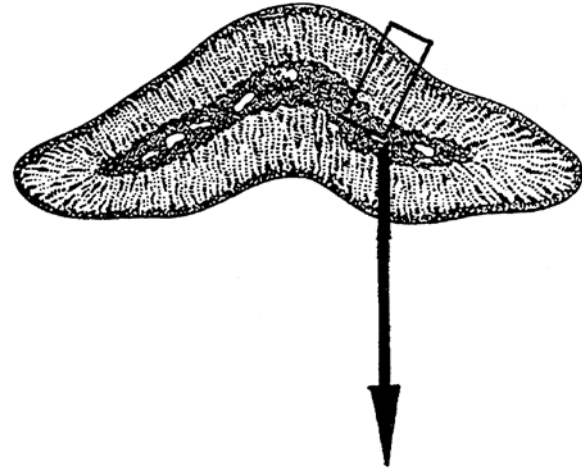
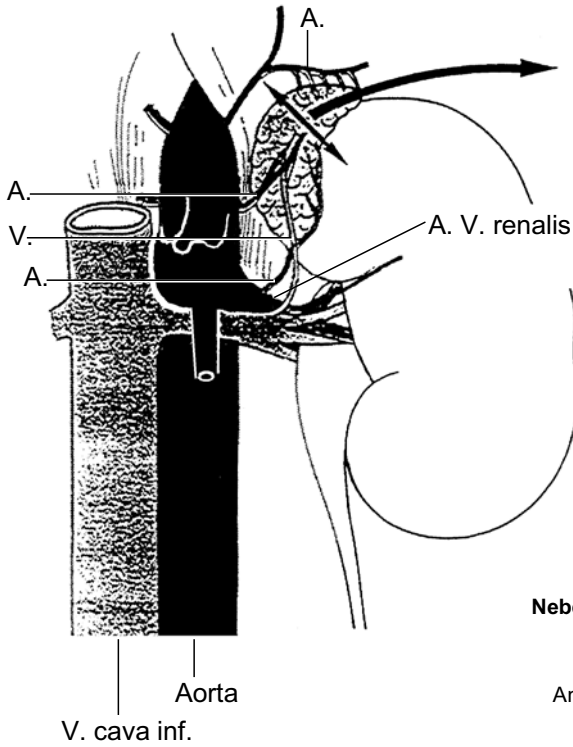


aktiv

Endokrines Pankreas



Nebenniere

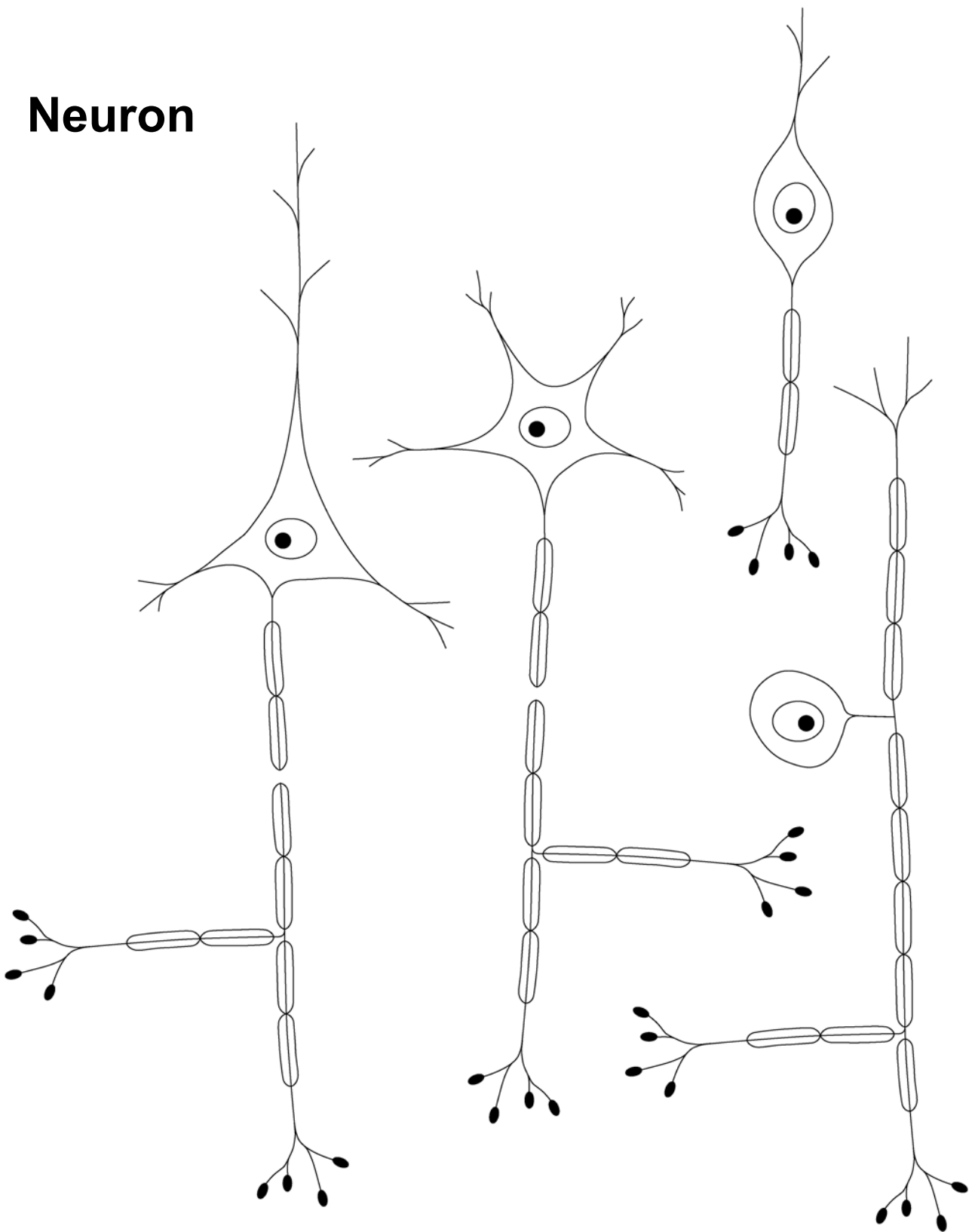


<p>was auf die Nebenniere wirkt</p>	<p>Zona glomerulosa Sinusoide</p>	<p>Hormone der Nebenniere</p>	
<p>Angiotensin (und ACTH) stimulieren die Synthese von</p>	<p>Zona fasciculata</p>	<p>Aldosteron Glukokortikoide Deoxykortikosteroide 17-Ketosteroide (Geschlechtshormone)</p>	
<h2>Rinde</h2>	<p>ACTH stimuliert die Synthese von</p>	<p>Zona reticularis</p>	<p>Glukokortikoide? 17-Ketosteroide (Geschlechtshormone)</p>
<h2>Mark</h2>	<p>Präganglionäre Fasern veranlassen die Freisetzung von</p>	<p>Mark Kapillare Chromaffine Zellen Nervenzelle</p>	<p>Adrenalin Noradrenalin</p>

Nervengewebe

	ZNS	PNS
Vorkommen	Gehirn Rückenmark Retina	Hirnnerven Spinalnerven Plexus symp. Grenzstrang enterisches NS
Zellen	Neurone	
	Gliazellen Astrozyten Oligodendrozyten Mikrogliazellen Ependymzellen Plexusepithel Schwann-Zellen Mantelzellen	
Organisation	Graue Substanz (Rinde, Kerne)	Ganglien
	Formatio reticularis	
	Weisse Substanz (Bahnen, Mark)	Nerven, Plexus symp. Grenzstrang Nervenfaserbündel

Neuron



Soma
 Dendriten
 Axon
 Hüllzellen
 initiales Segment
 Axonkollaterale
 axonaler Endbaum
 Boutons

multipolare Neurone
 - Pyramidenzellen
 - Sternzellen

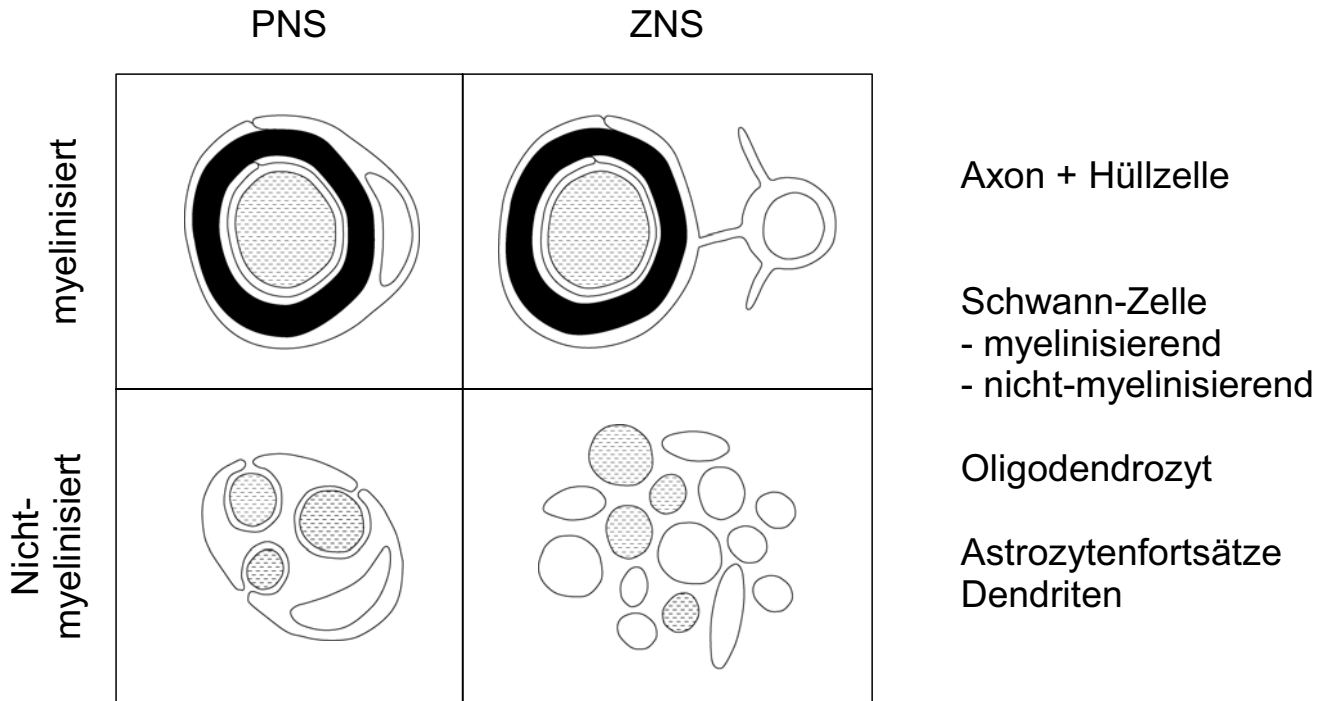
bipolare Neurone
 pseudounipolare Neurone

Interneurone
 Projektionsneurone

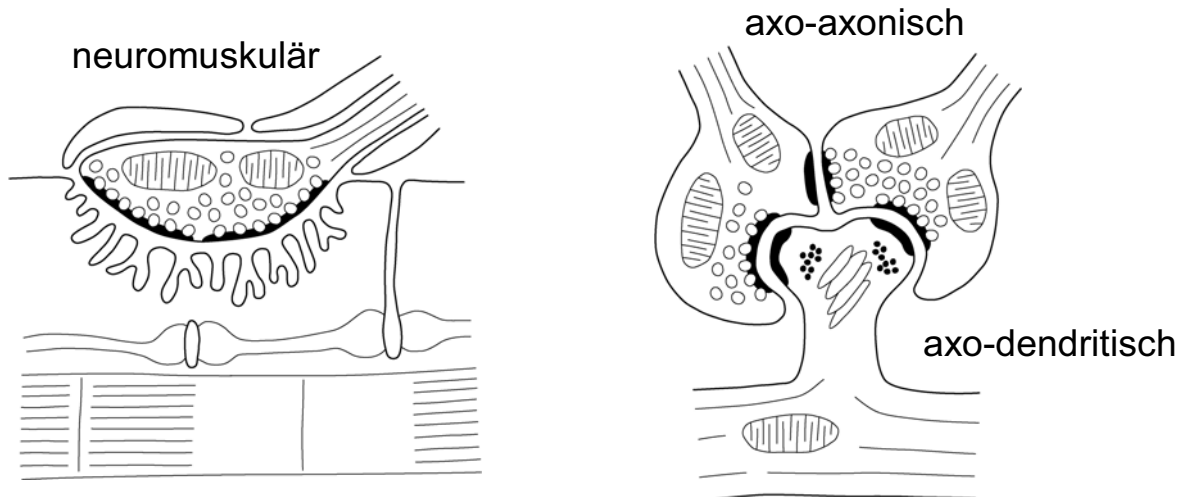
Synapsen:
 - Input
 - Output
 - erregend
 - hemmend

Nervenfaser und Synapse

Nervenfasern



Synapsen



Motoneuron
Schwann-Zellen
Basallamina
Muskefaser
T-Tubuli
Sarkoplasmat. Retikulum

Axon + Bouton
synaptische Vesikel
aktive Zone
präsynaptische Membran
synaptischer Spalt
postsynaptische Membran
Mitochondrien

Dendrit
Spine

Nervensystem Übersicht

Gehirn

Telencephalon

Diencephalon

Mesencephalon

Metencephalon

Myelencephalon

Tectum

Tegmentum (Haube)

Basis

Grosshirn

Riechhirn

Auge

Cerebellum

Rückenmark

Seitenventrikel

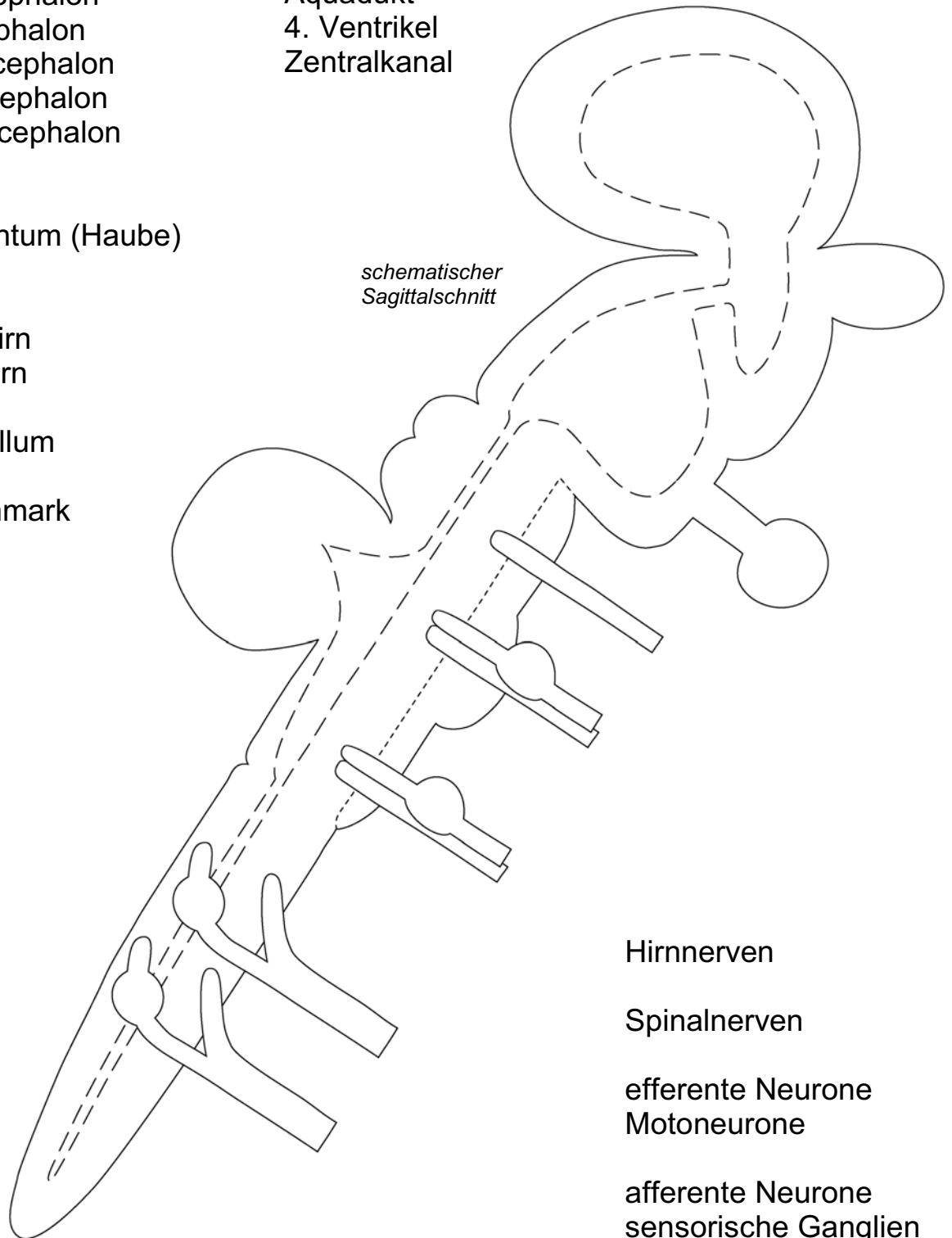
3. Ventrikel

Aquädukt

4. Ventrikel

Zentralkanal

*schematischer
Sagittalschnitt*



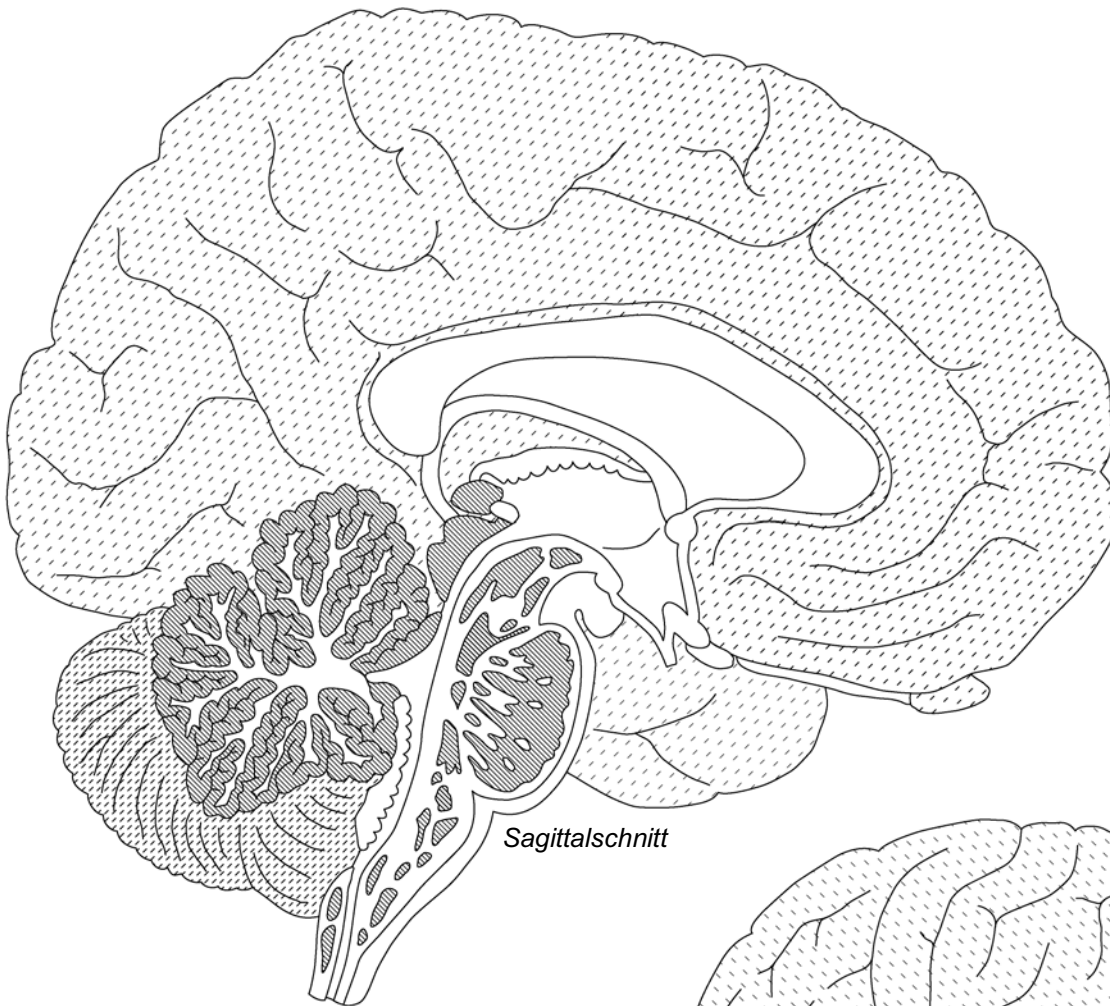
Hirnnerven

Spinalnerven

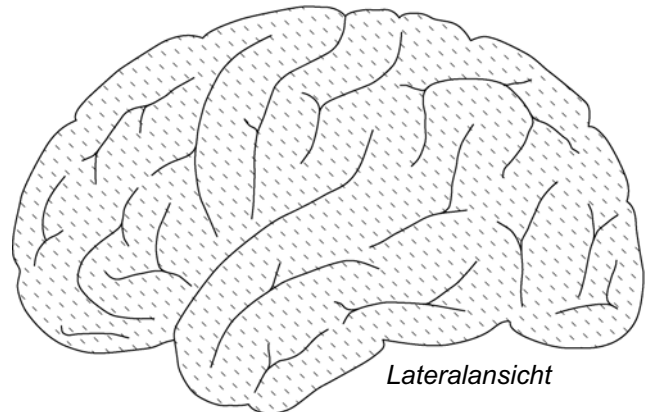
efferente Neurone
Motoneurone

afferente Neurone
sensorische Ganglien
Spinalganglien:

ZNS Gliederung I



Sagittalschnitt



Lateralansicht

Medulla oblongata

4. Ventrikel

Pons

Cerebellum

Mesencephalon

Aquädukt

Thalamus

Hypothalamus

3. Ventrikel

Sehnervenkreuzung

Balken

Grosshirn

Riechkolben

Primäre Rindenfelder:

- motorisch
- somatosensorisch
- visuell
- akustisch
- gustatorisch
- olfaktorisch

Sprachregionen:

- Wernicke
- Broca

Windungen = Gyri

Furchen = Sulci

Sulcus lateralis

Sulcus centralis

Frontallappen

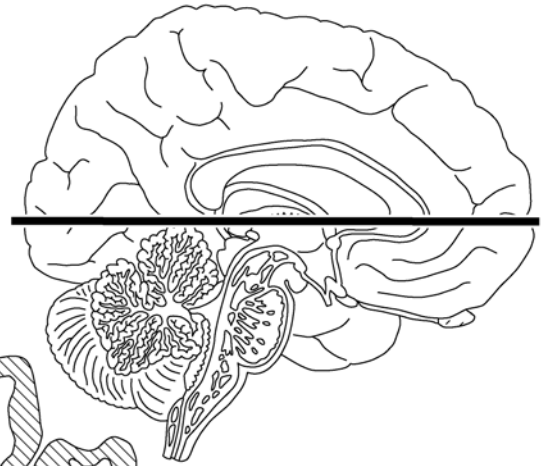
Parietallappen

Temporallappen

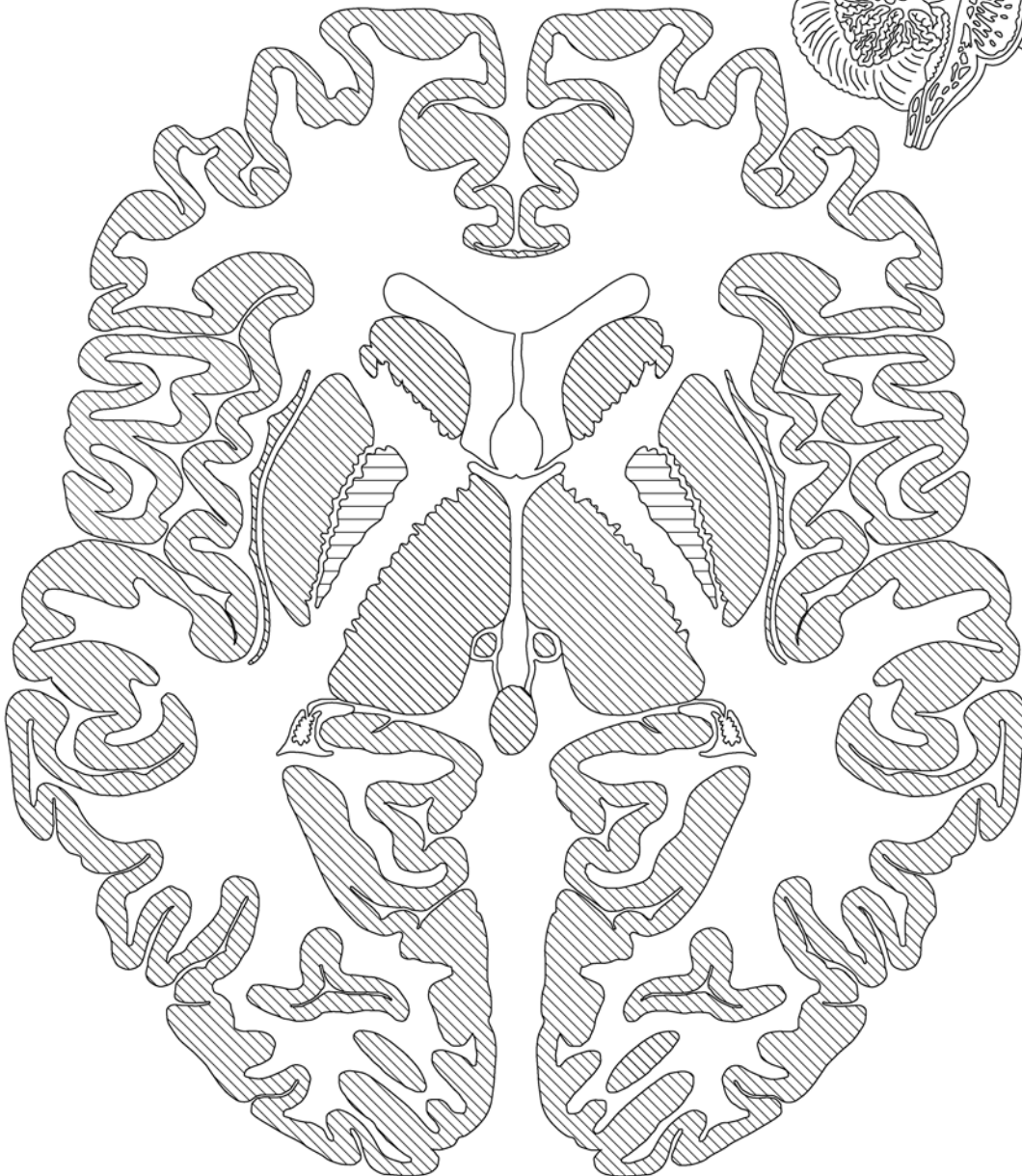
Okzipitallappen

limbischer Lappen

ZNS Gliederung II



Horizontalschnitt

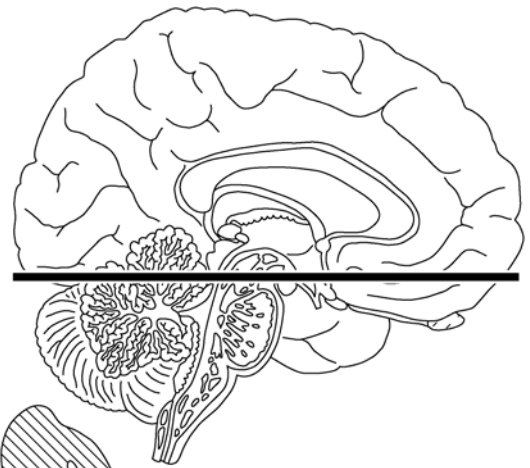


Thalamus
Epithalamus
Epiphyse
3. Ventrikel

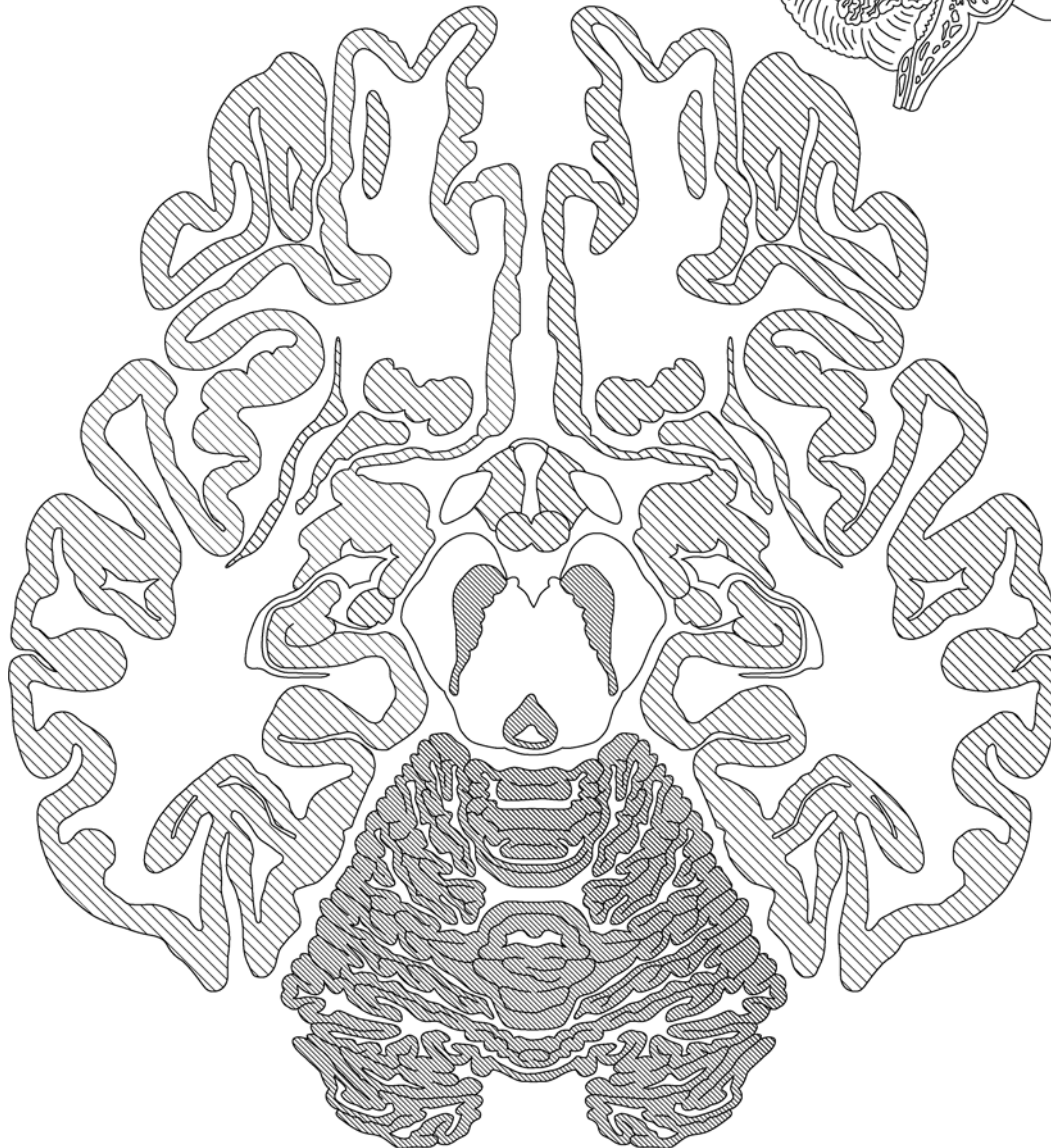
Corpus striatum
Globus pallidus
Capsula interna
Seitenventrikel

Corpus callosum
Frontallappen
Parietallappen
Temporallappen
Insel
Okzipitallappen
Sehrinde
limbischer Lappen
Hippocampus

ZNS Gliederung III



Horizontalschnitt



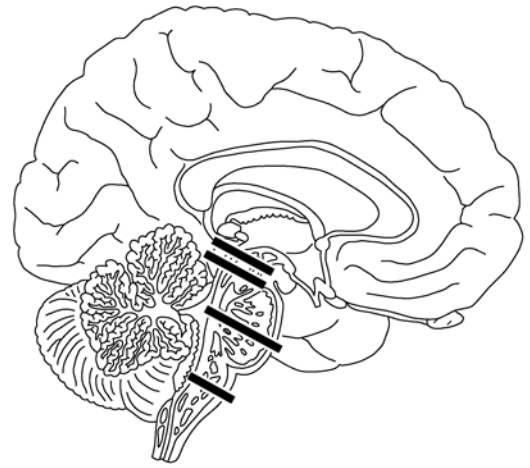
Hypothalamus
Tractus opticus
3. Ventrikel

Mesencephalon
Aquädukt
Cerebellum

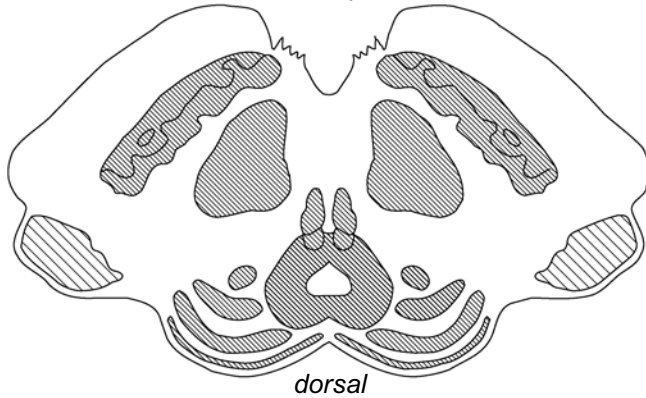
Nucleus accumbens
Nucleus basalis
Clastrum
Amygdala
Seitenventrikel

Frontallappen
Insel
Temporallappen
Okzipitallappen
limbischer Lappen
Hippocampus
olfaktorische Felder

ZNS Gliederung IV



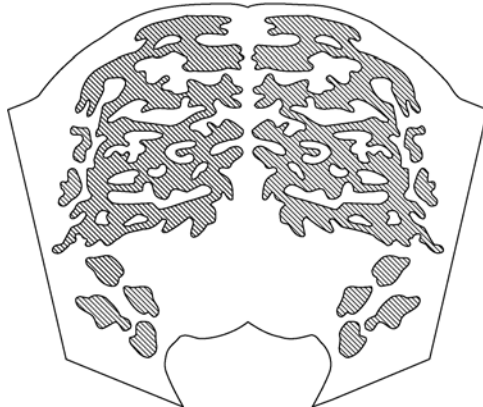
Mesencephalon



Mesencephalon



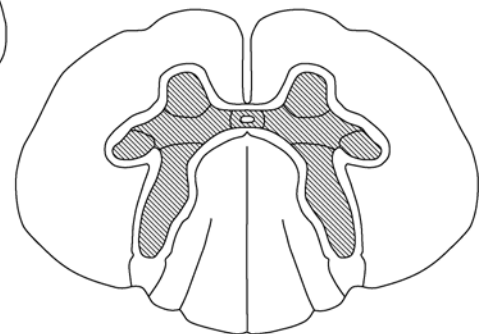
Pons



Medulla oblongata



Thorakales
Rückenmark



Basis
Tegmentum
Tectum
Formatio reticularis

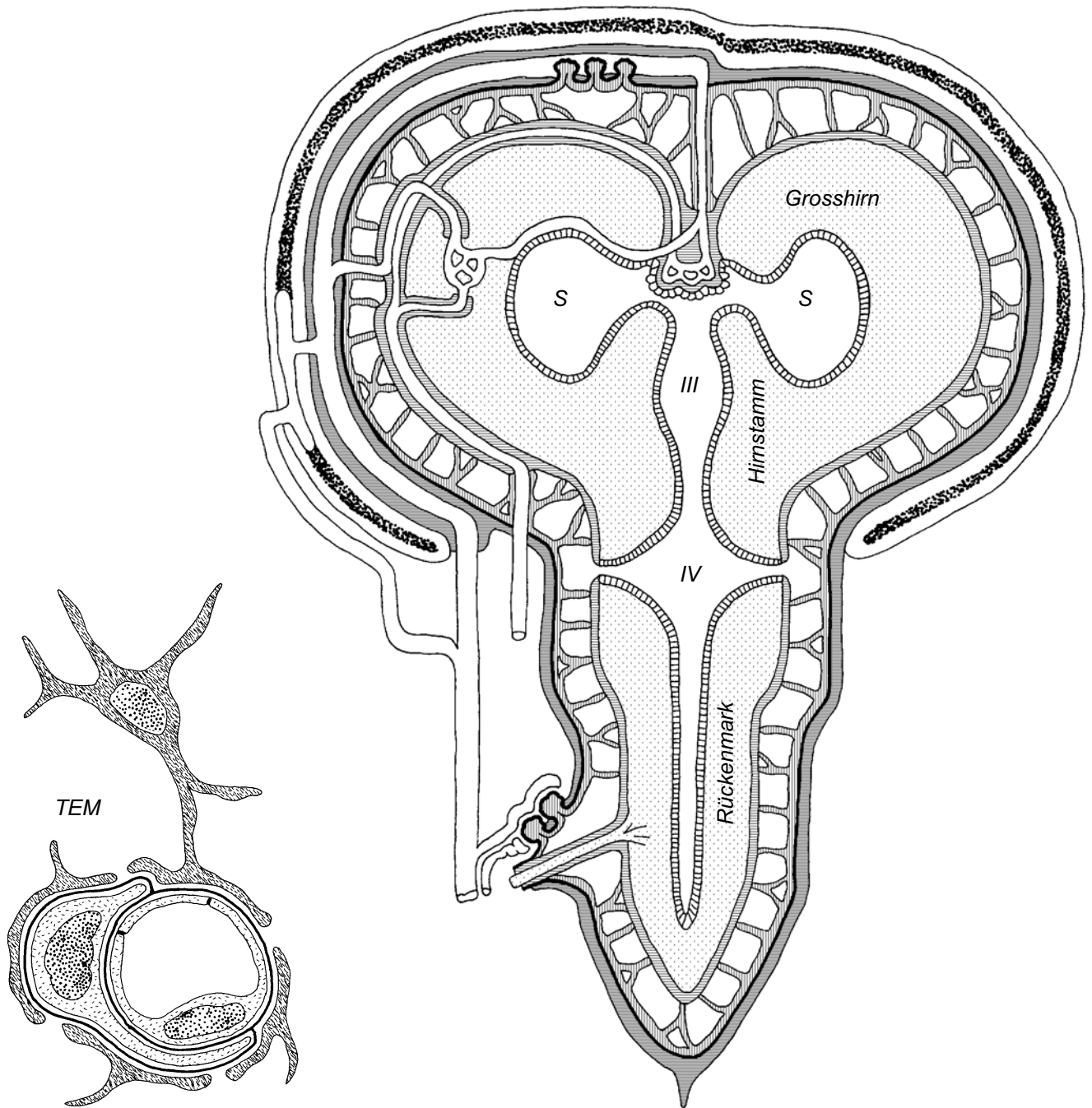
Hirnschenkel
Substantia nigra
Nucleus ruber
motorische Kerne
sensorische Kerne
Colliculus superior
Colliculus inferior
zentrales Grau
Aquädukt

Ponskerne
Pyramidenbahn
motorische Kerne
sensorische Kerne
4. Ventrikel

Pyramidenbahn
Olivenkern
motorische Kerne
sensorische Kerne
4. Ventrikel

Vorderstrang
Seitenstrang
Hinterstrang
Vorderhorn
Seitenhorn
Hinterhorn
Zentralteil
Zentralkanal

ZNS Hüllen und Gefäße



Arterien
tiefe Venen
oberflächliche Venen
Durasinus

Bluthirnschranke
Astrozyt
tight capillary

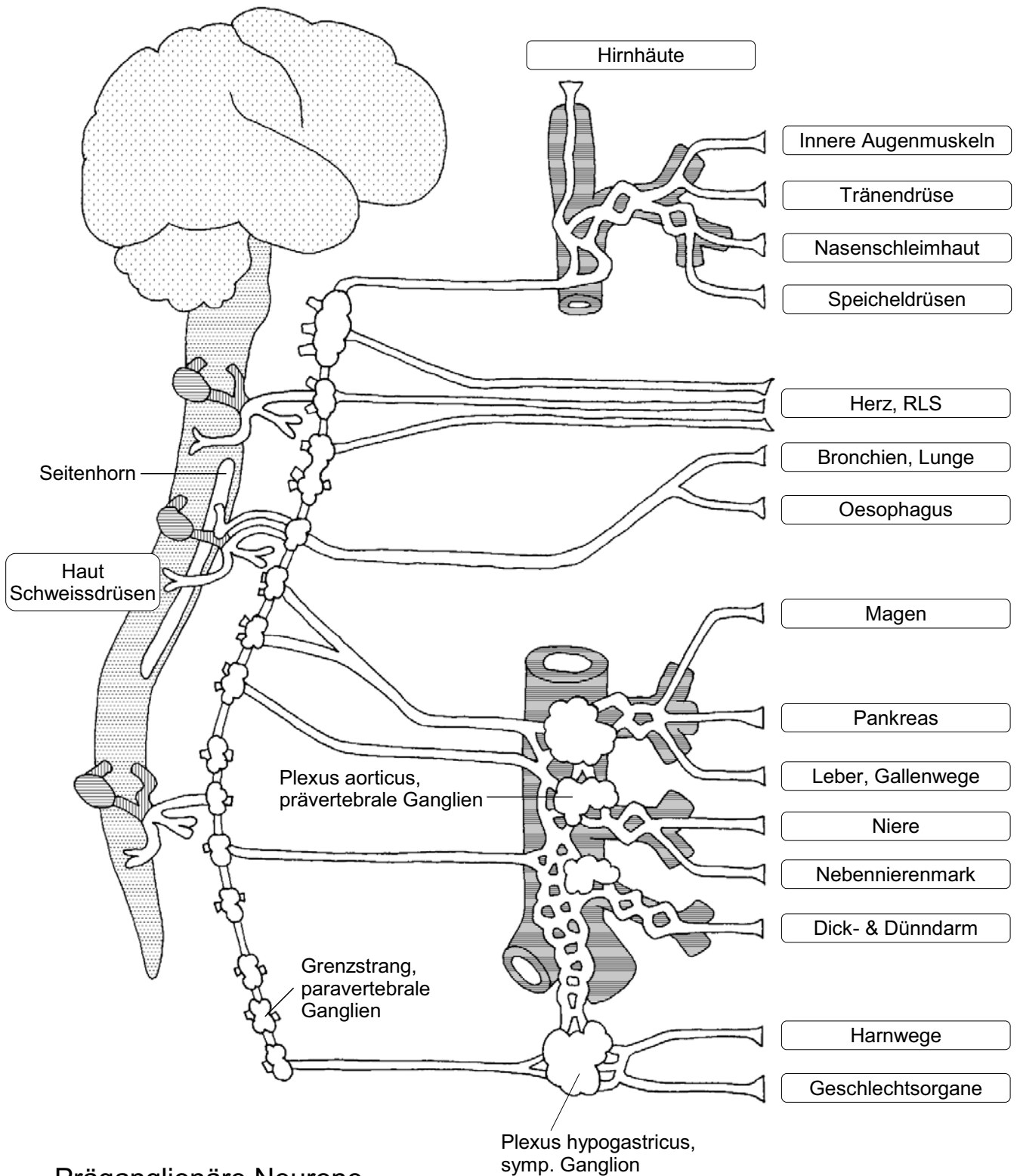
Harte Hirnhaut
- Dura mater

Weiche Hirnhaut
- Arachnoidea
- Pia mater

Liquor cerebrospinalis
Subarachoidalraum
Ventrikel, Aquädukt

Plexus choroideus
Arachnoidalzotten

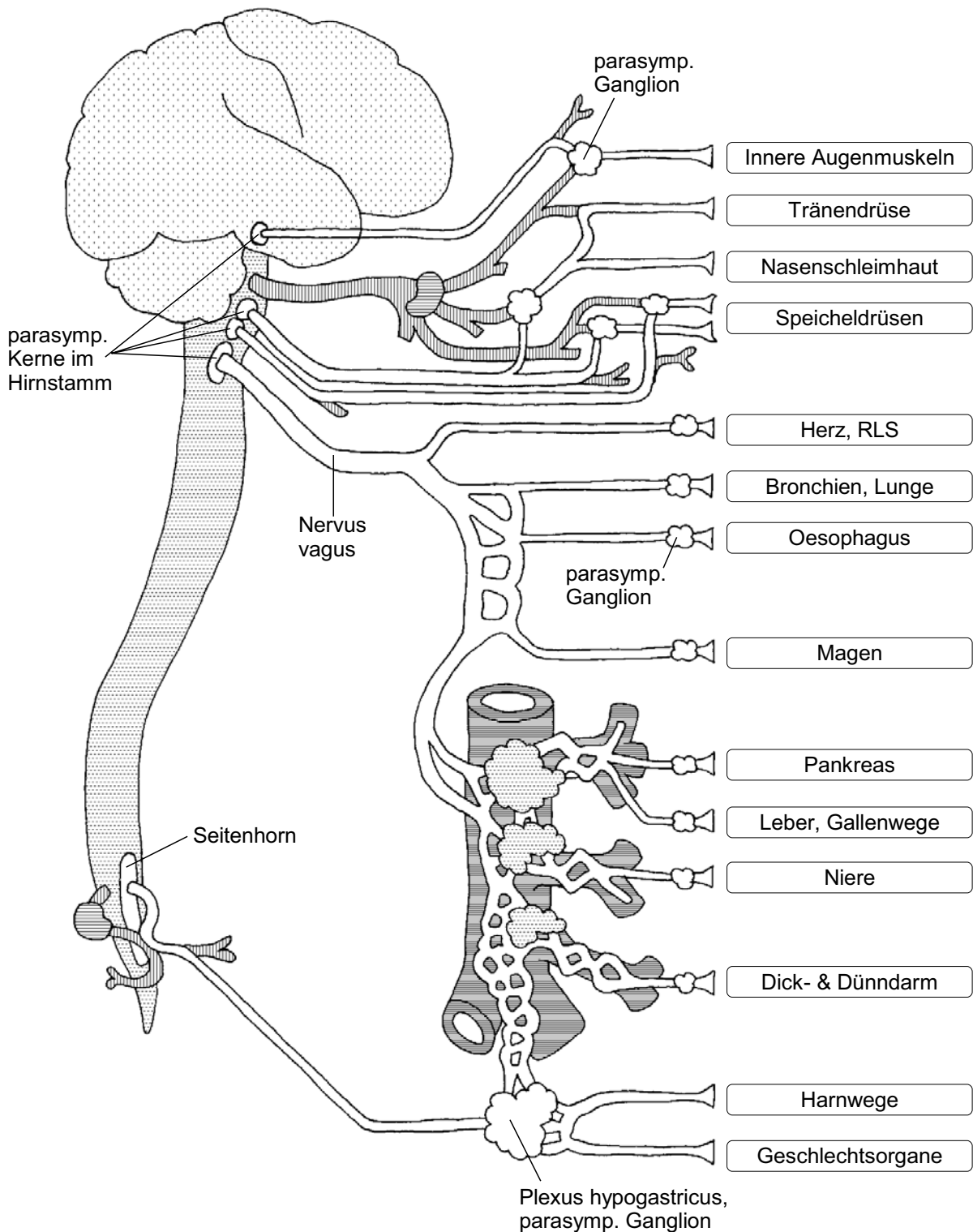
VNS, Sympathicus



Präganglionäre Neurone
+ Fasern

Postganglionäre Neurone
+ Fasern

VNS, Parasympathicus

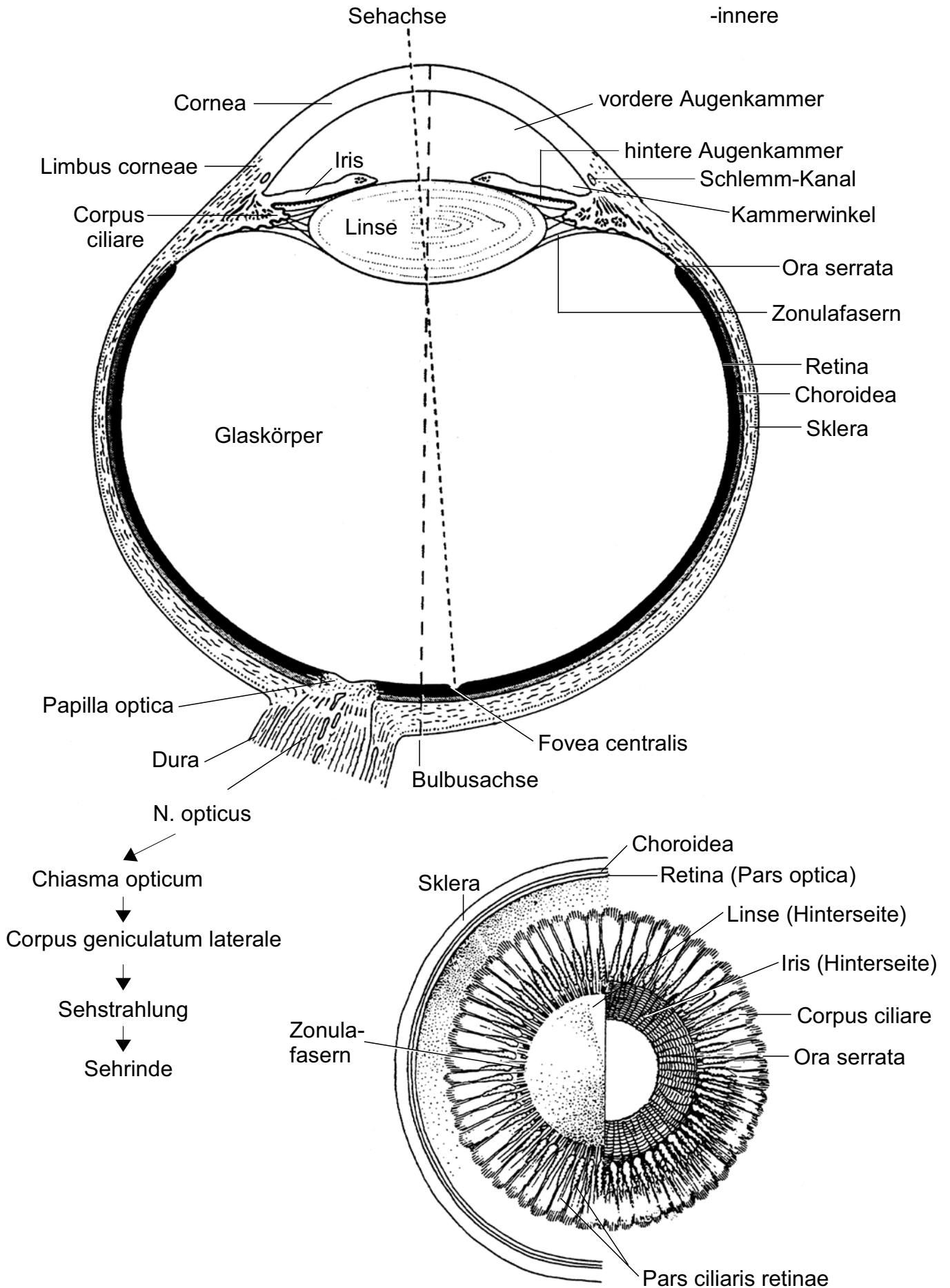


Präganglionäre Neurone
+ Fasern

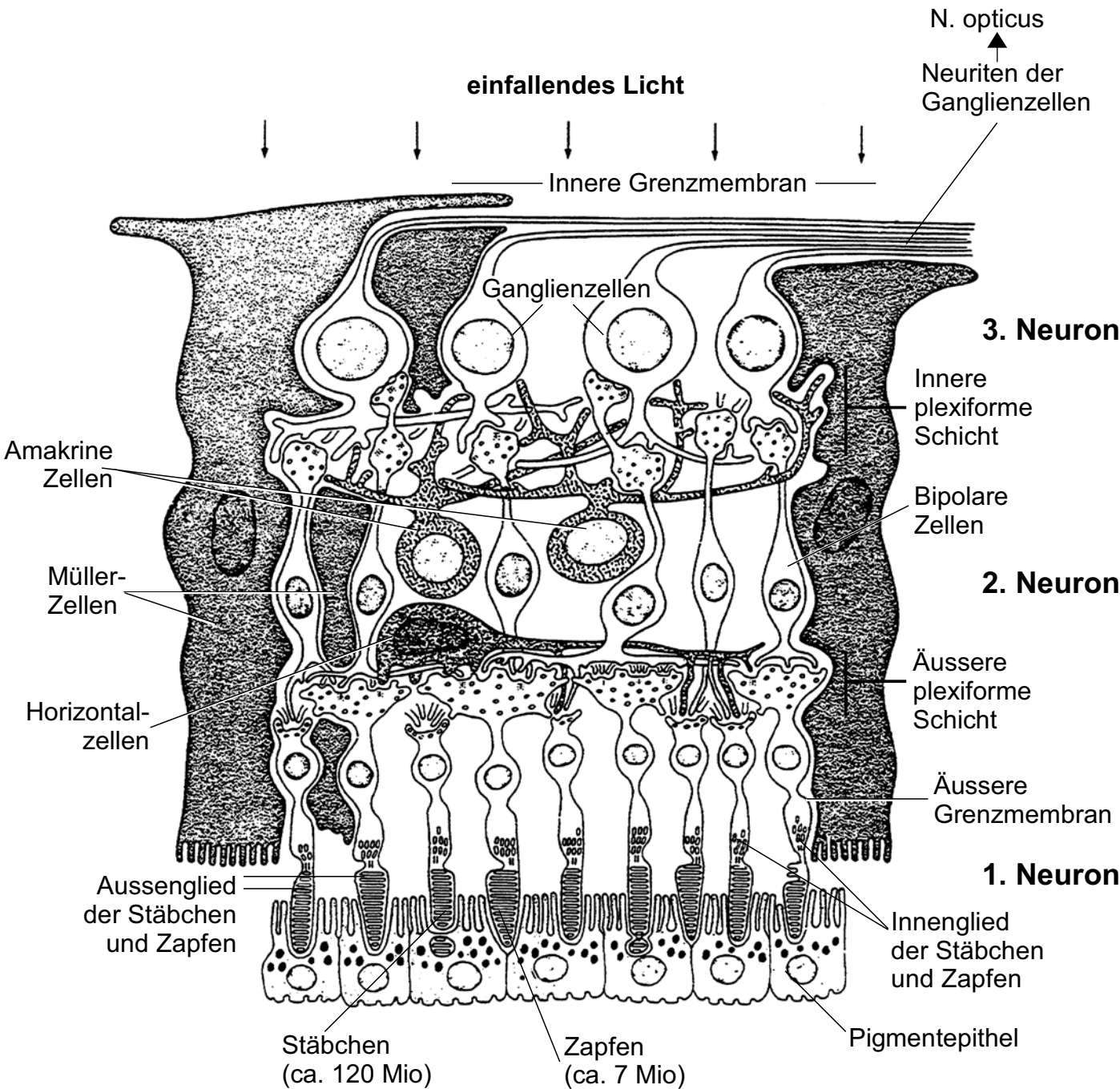
Postganglionäre Neurone
+ Fasern

Augapfel

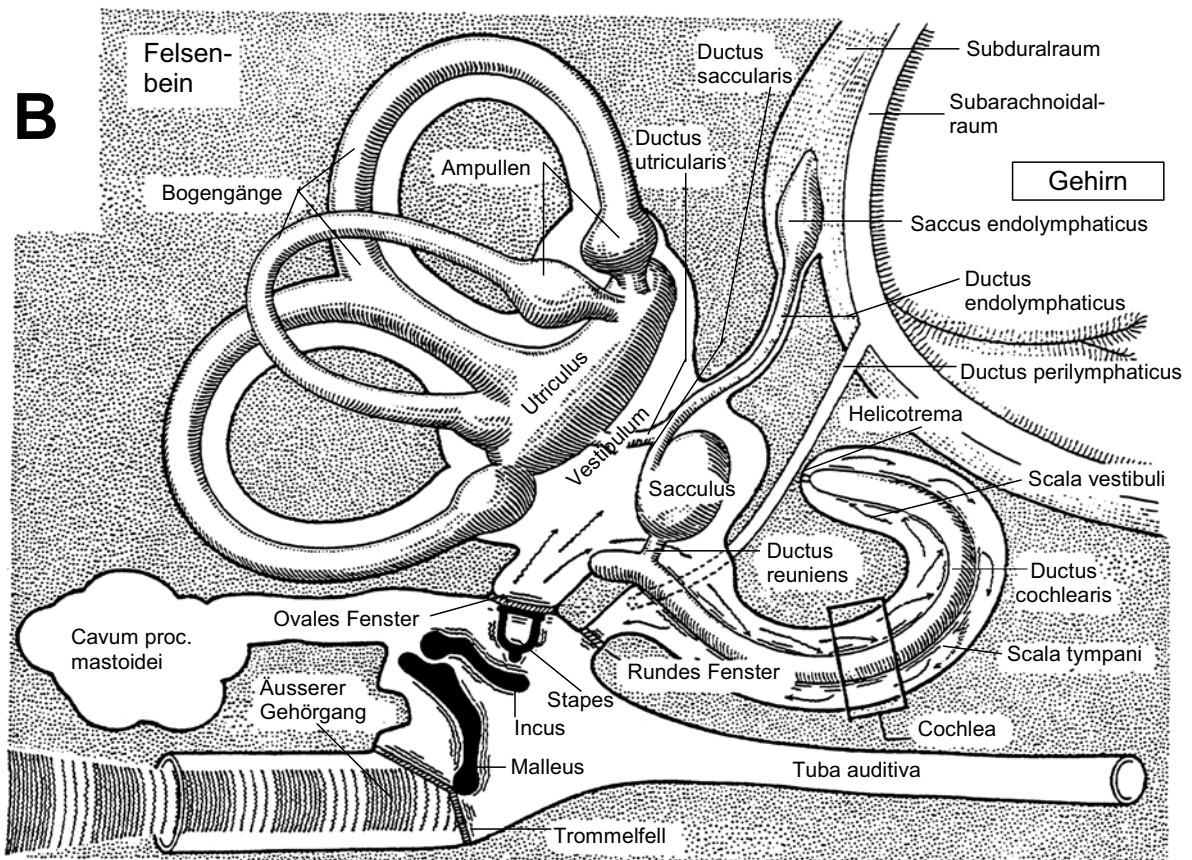
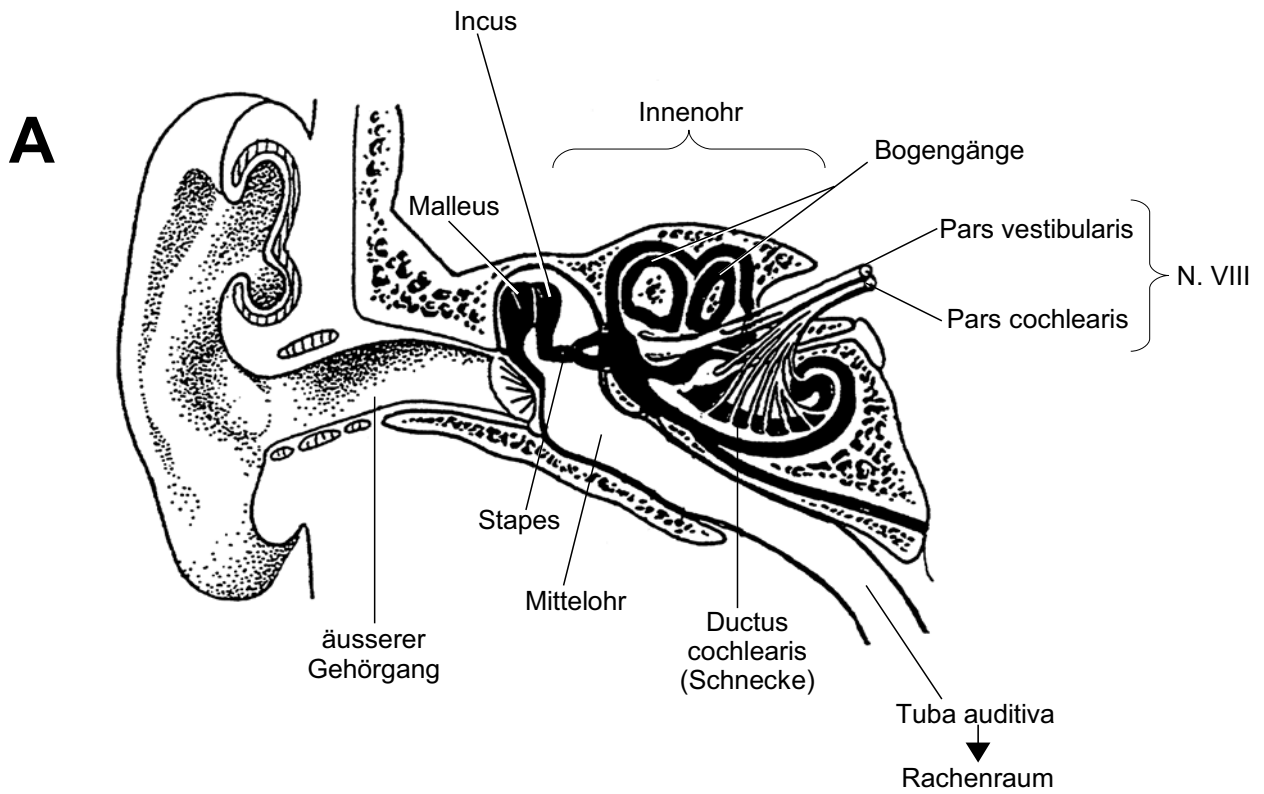
Augenhaut -äussere
-mittlere
-innere



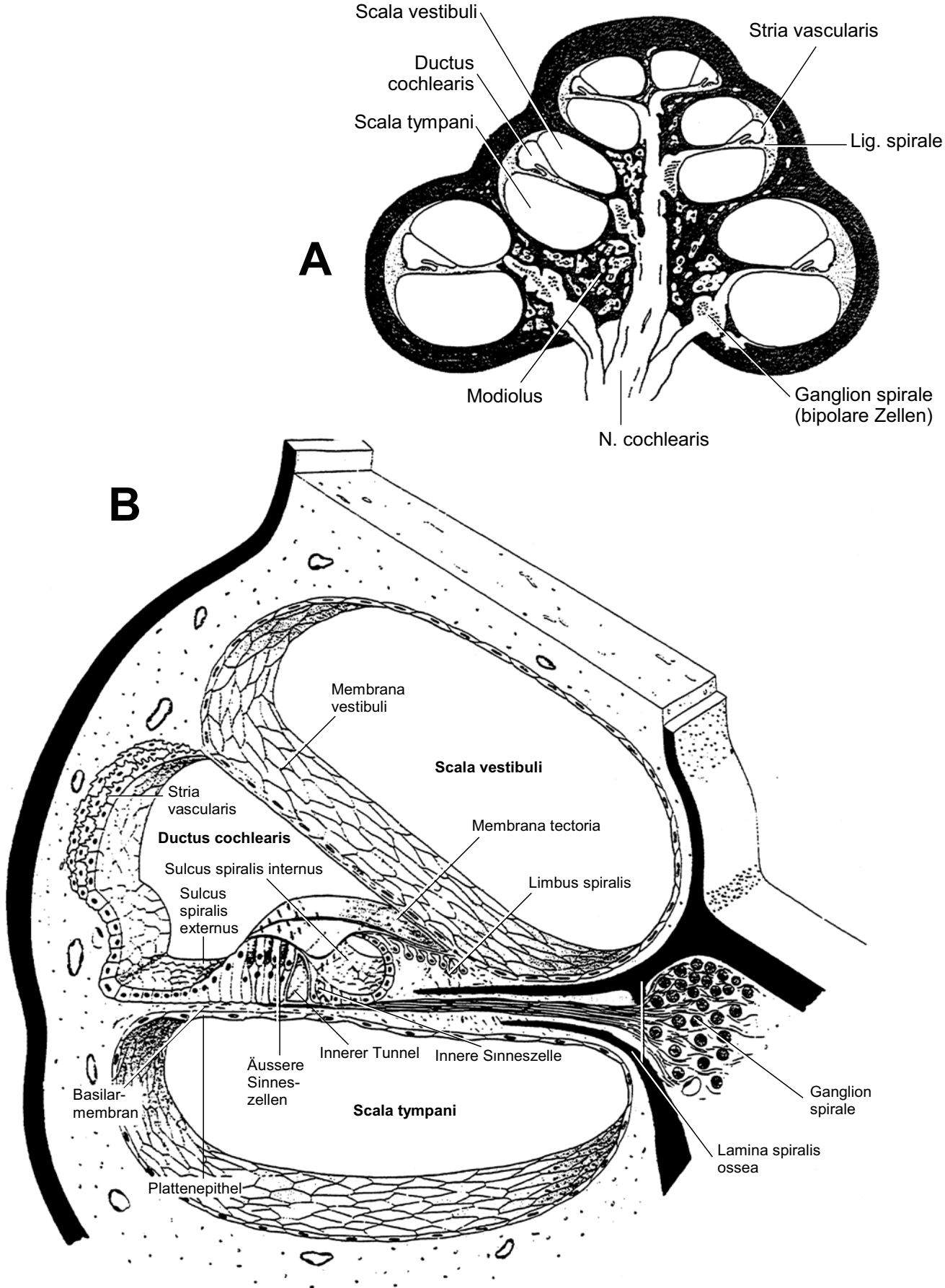
Retina



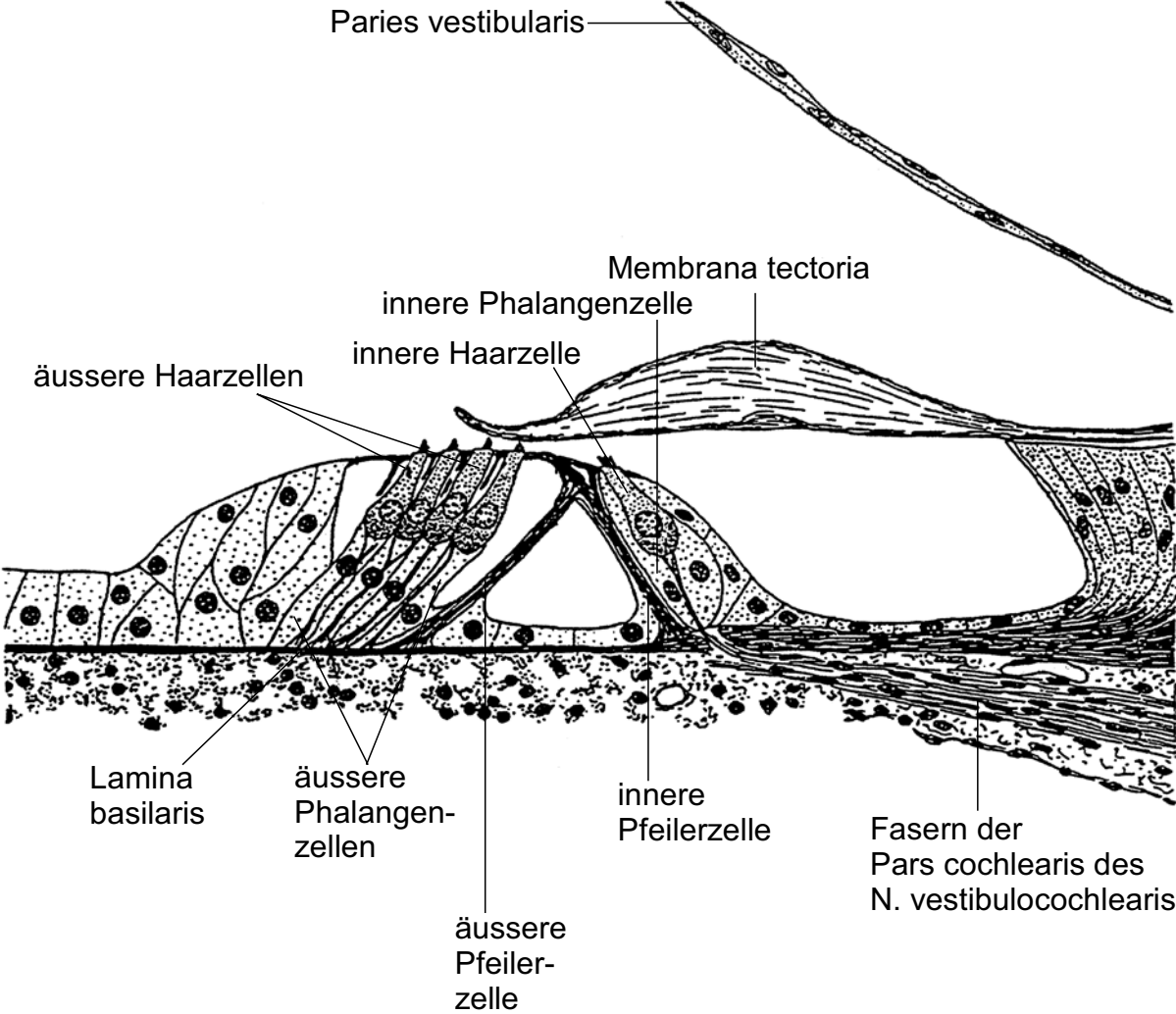
Ohr



Cochlea

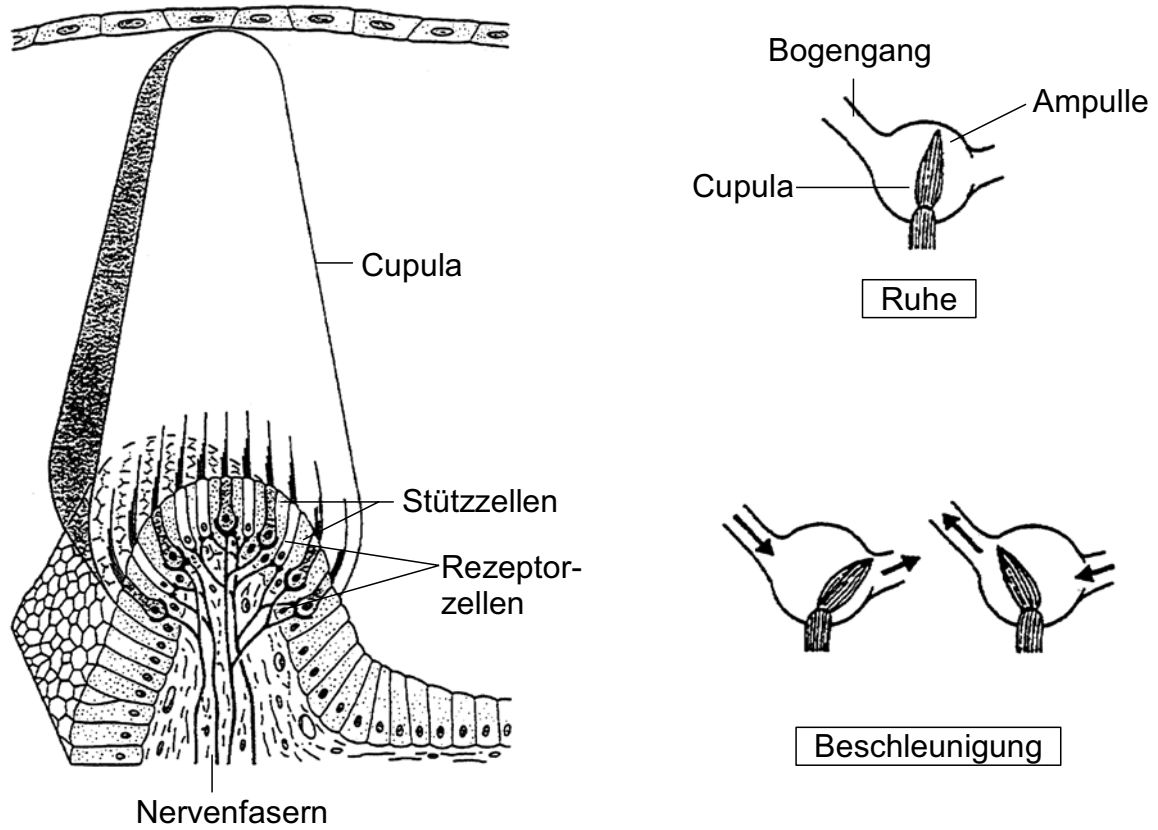


Corti-Organ

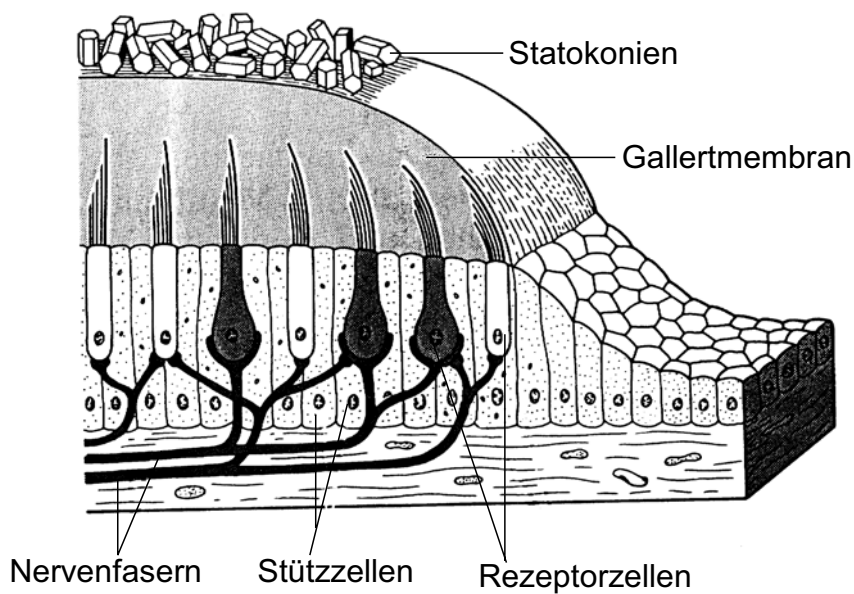


Gleichgewichtsorgan

A Crista ampullaris

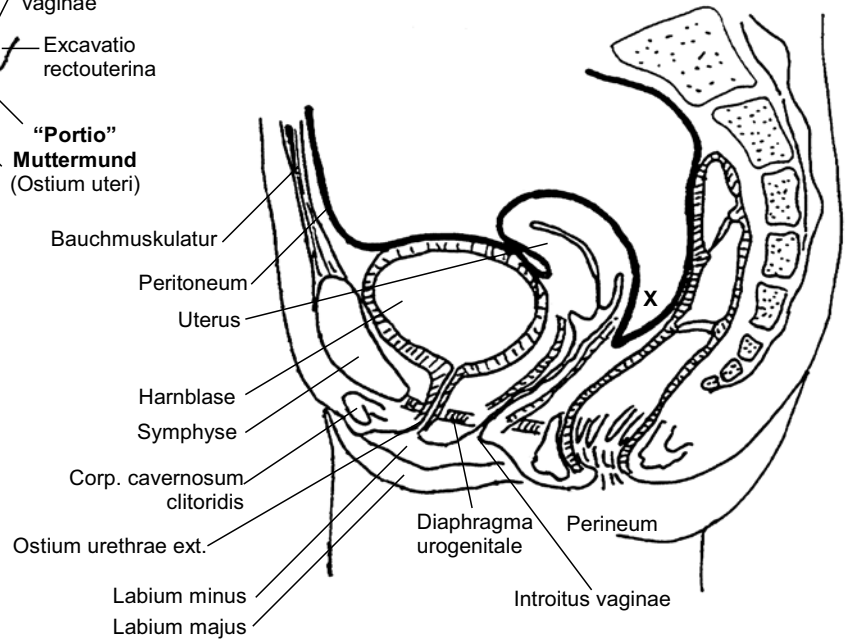
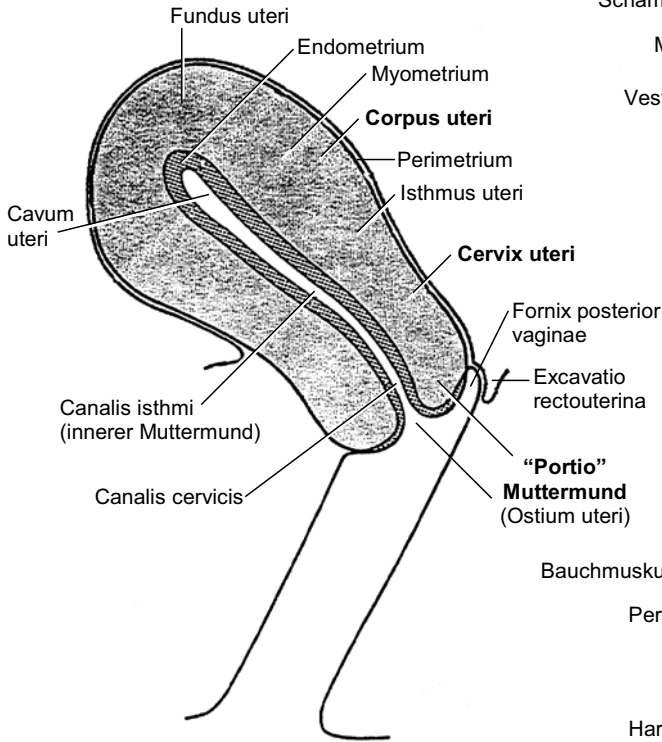
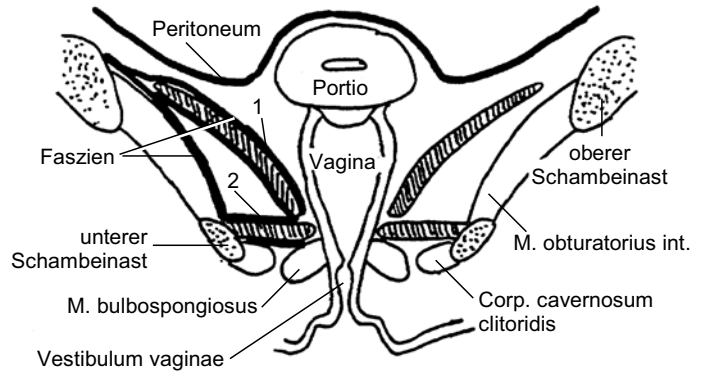


B Macula statica

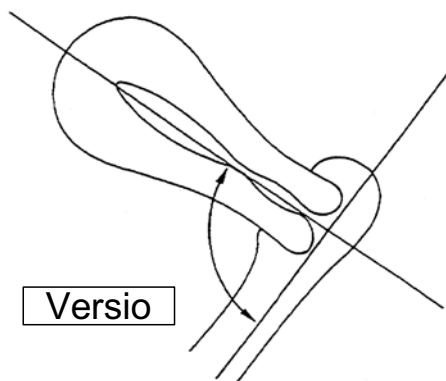


Uterus

- Beckenboden:
- 1 Diaphragma pelvis (M. levator ani)
 - 2 Diaphragma urogenitale

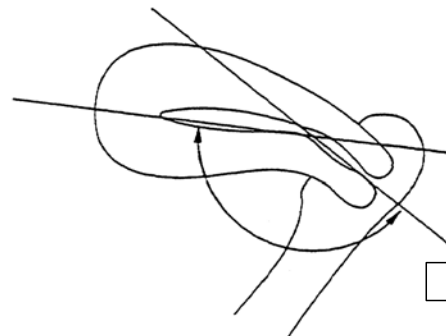


X Excavatio recto-uterina (Douglas)



Versio

Anteversio 90°

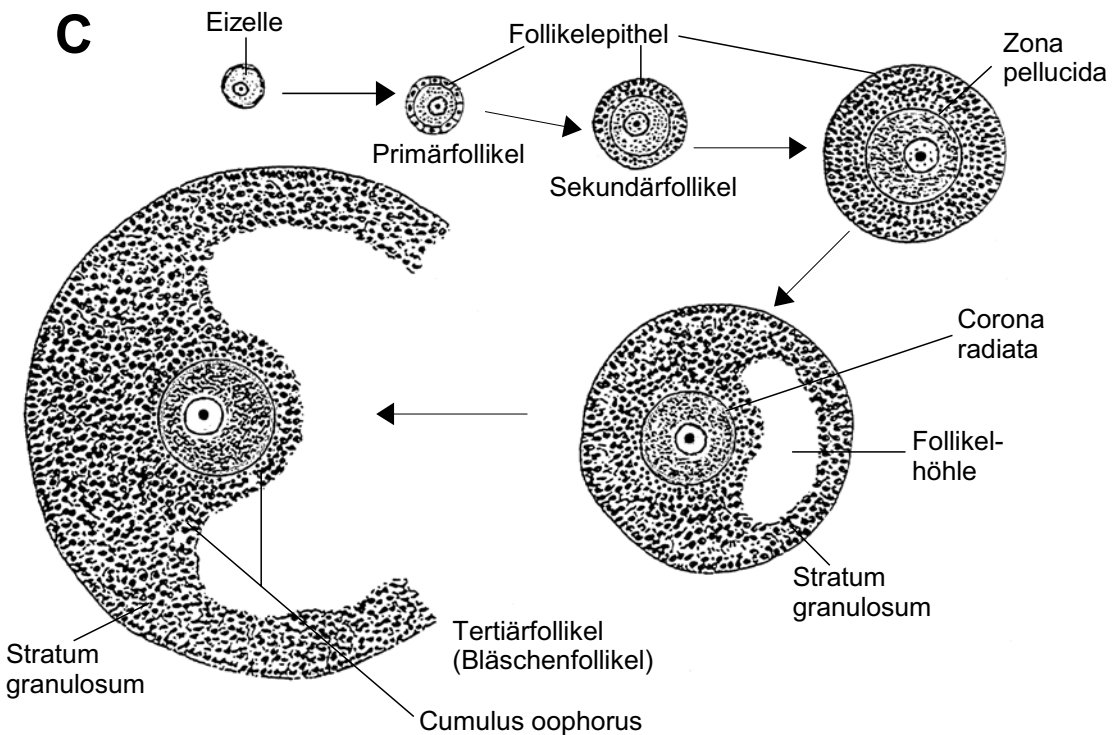
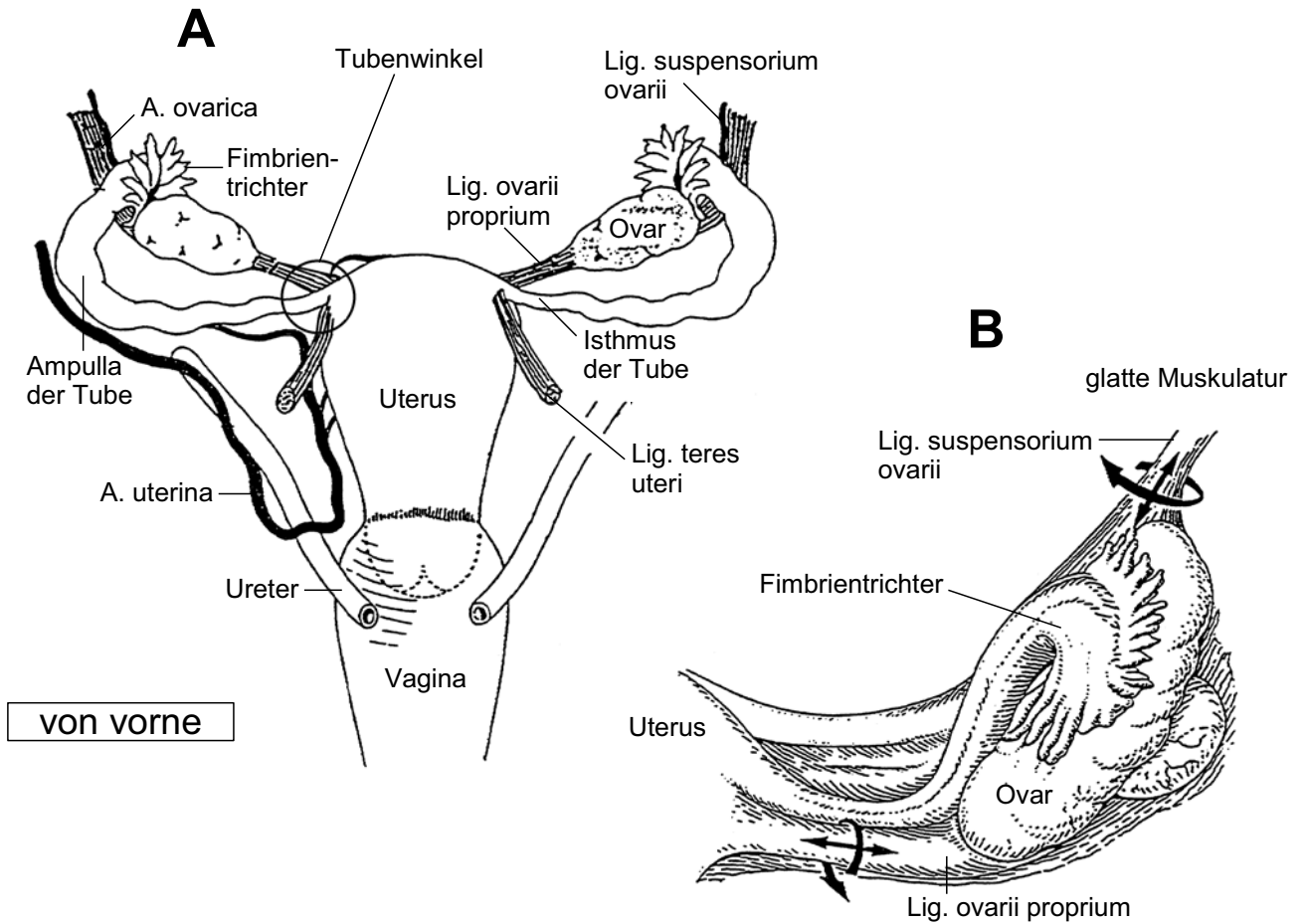


Flexio

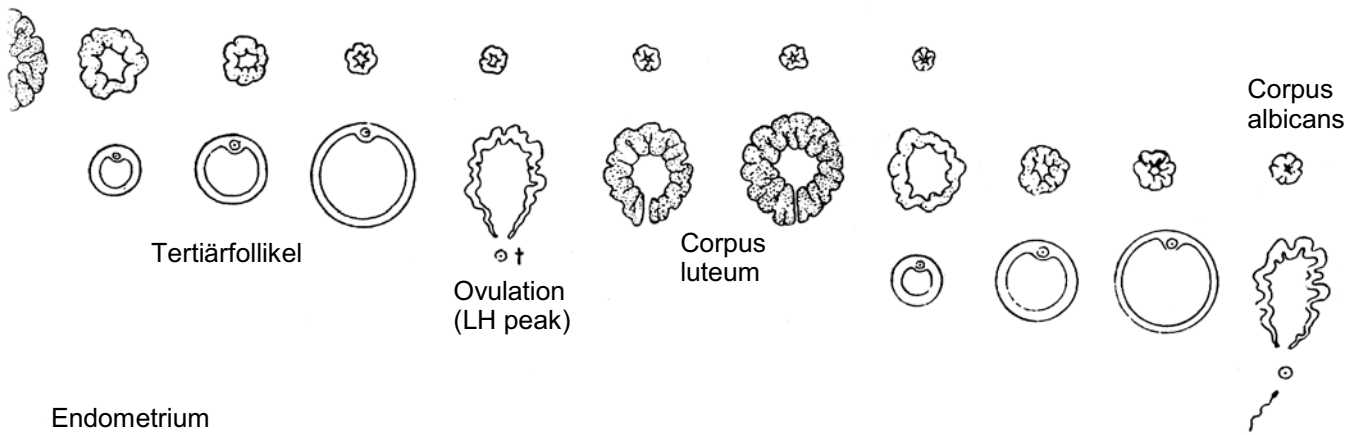
Anteflexio 170°

Positio (med./ lat.)

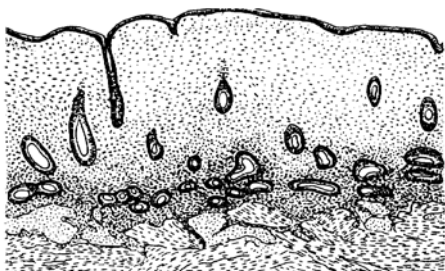
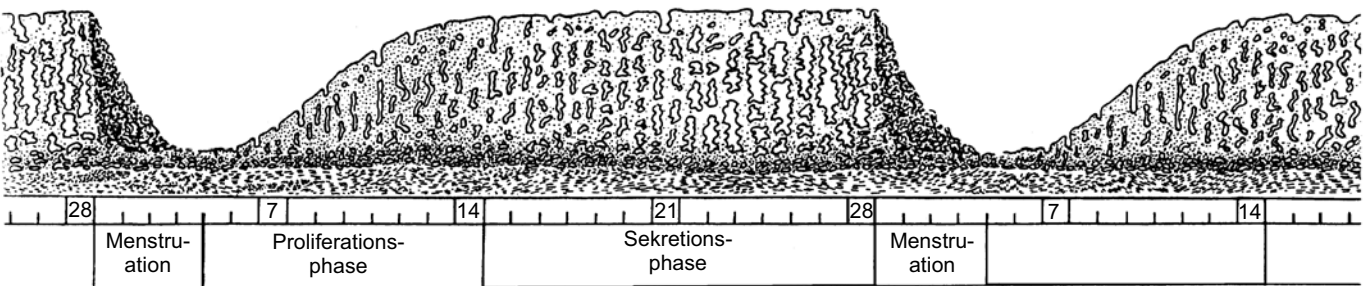
Ovar



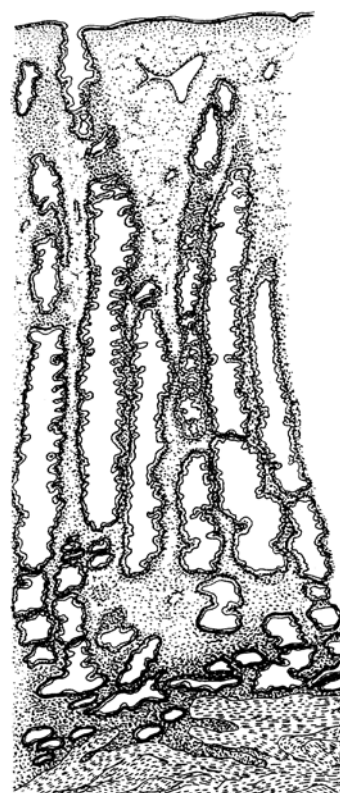
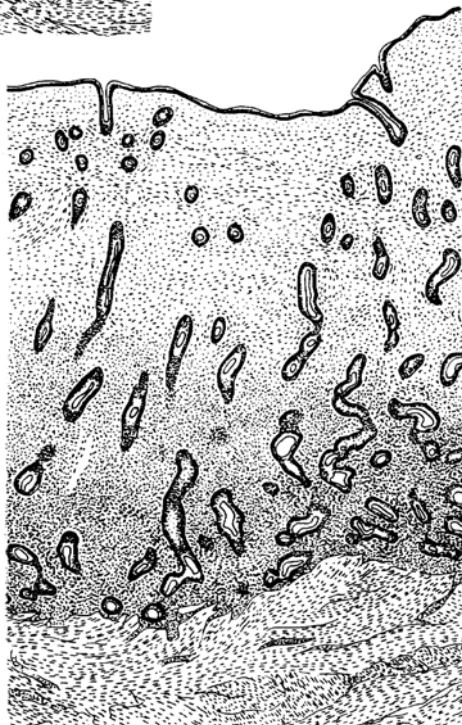
Endometrium



Endometrium



12. - 13. Tag



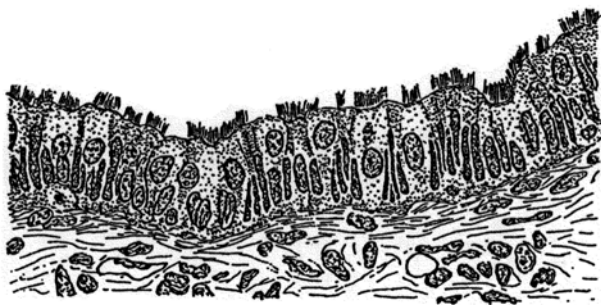
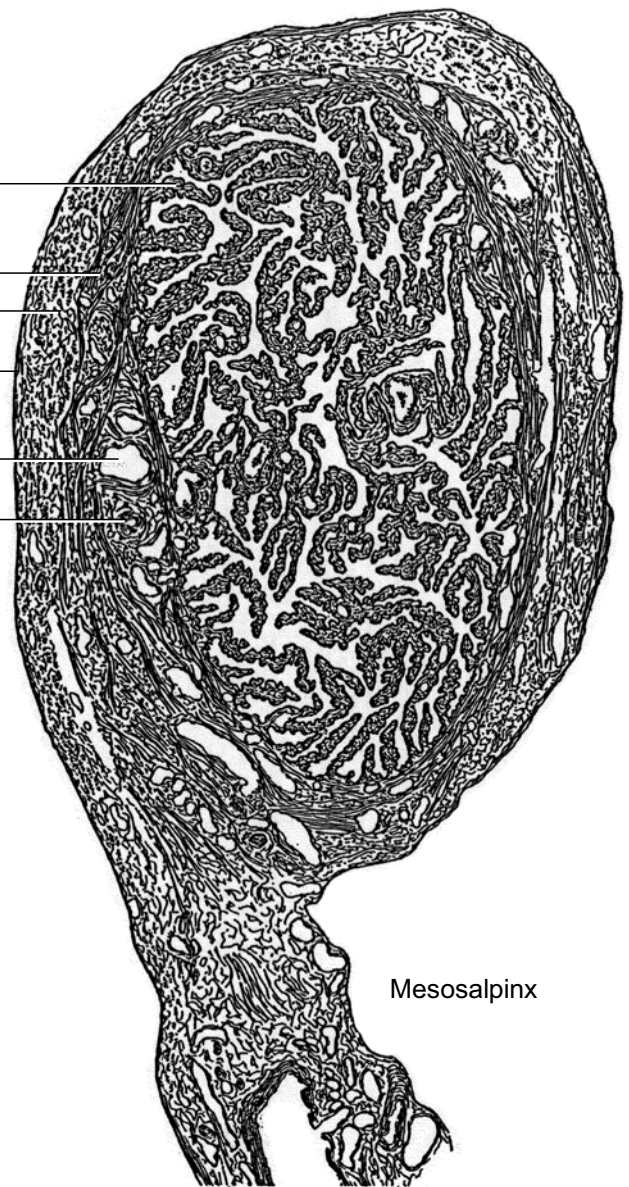
Stratum functionale

Stratum basale

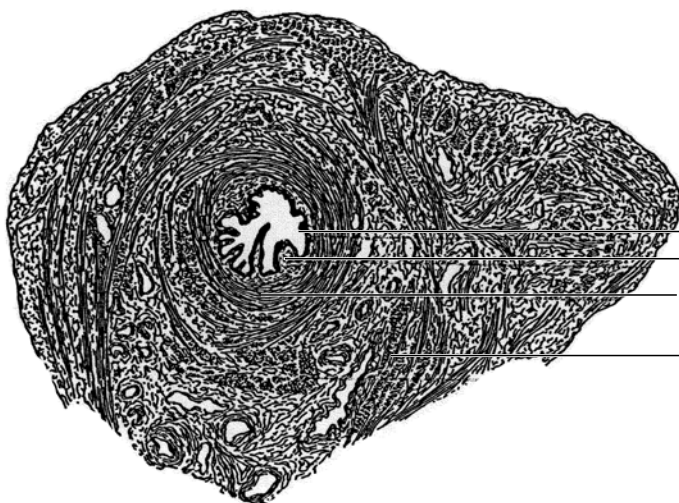
Tuba uterina

Querschnitt durch die Ampulla tubae uterinae einer 20-jährigen Frau. Die Tela subserosa enthält grössere Gefässe und subperitoneale Muskulatur. An den freien Enden der Fimbrien geht das Serosa-Epithel in das den Eileiter auskleidende Epithel über.

- Schleimhautfalte
- tubeneigene Muskulatur
- subperitoneale Muskulatur
- Tunica serosa
- Vene
- Arterie



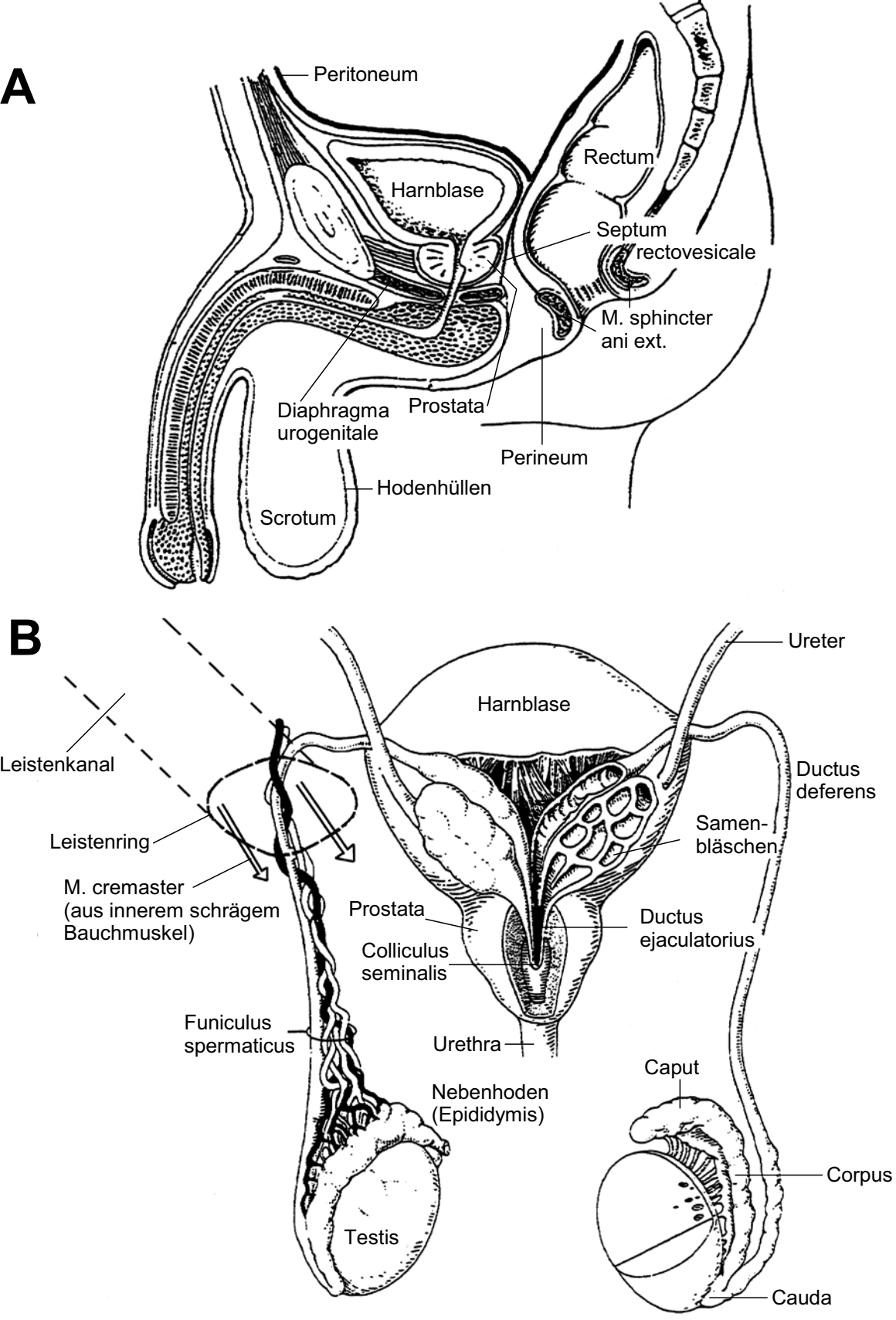
Tunica mucosa des Eileiters (Mensch, erste Hälfte des menstruellen Zyklus): einschichtiges prismatisches Flimmerepithel und Lamina propria.



- einschichtiges prismatisches Epithel
- Lamina propria
- Ringmuskulatur
- Längsmuskulatur

Querschnitt durch den Isthmus tubae uterinae (kurz vor dem Eintritt in den Uterus) einer 44-jährigen Frau.

Männliche Reproduktionsorgane Übersicht I

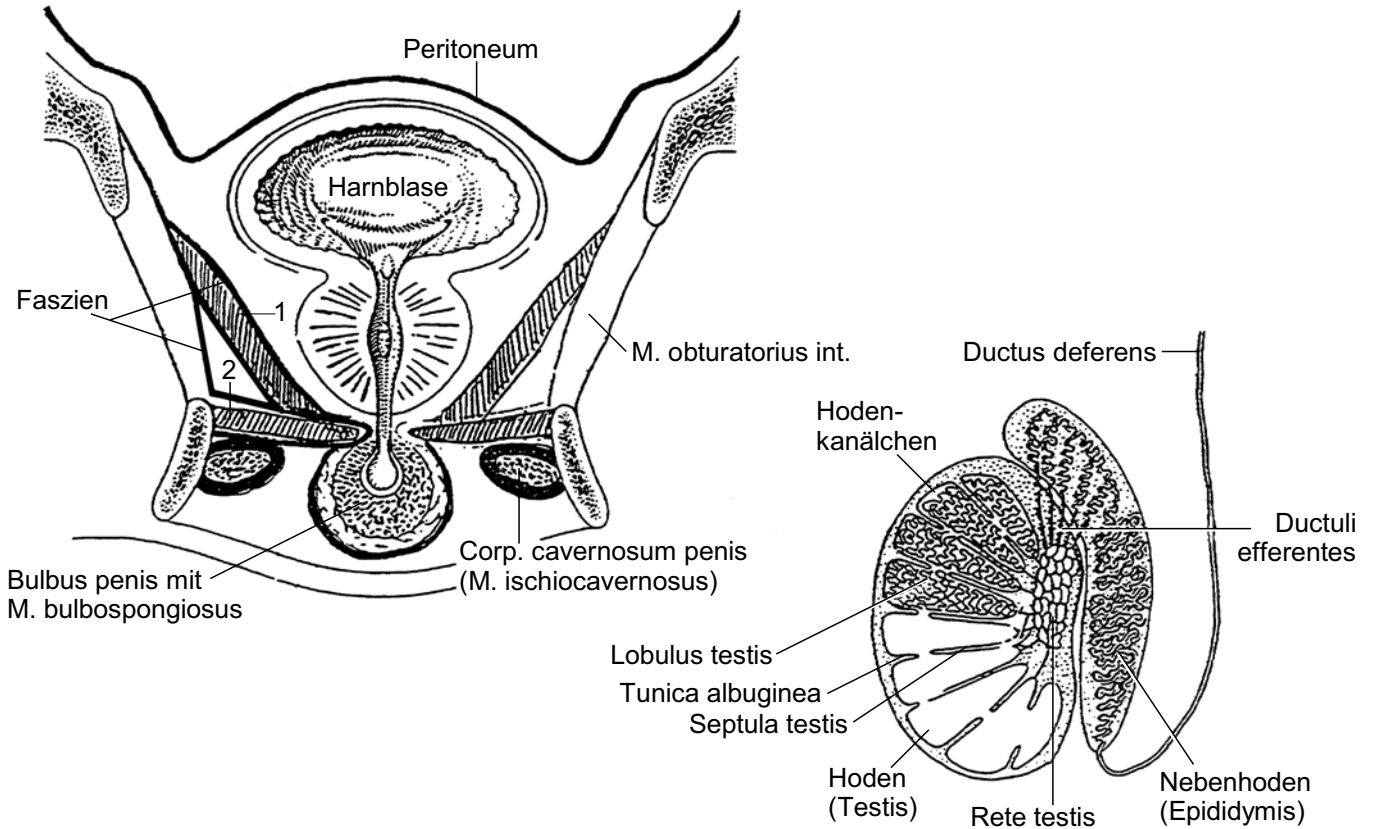


Männliche Reproduktionsorgane Übersicht II

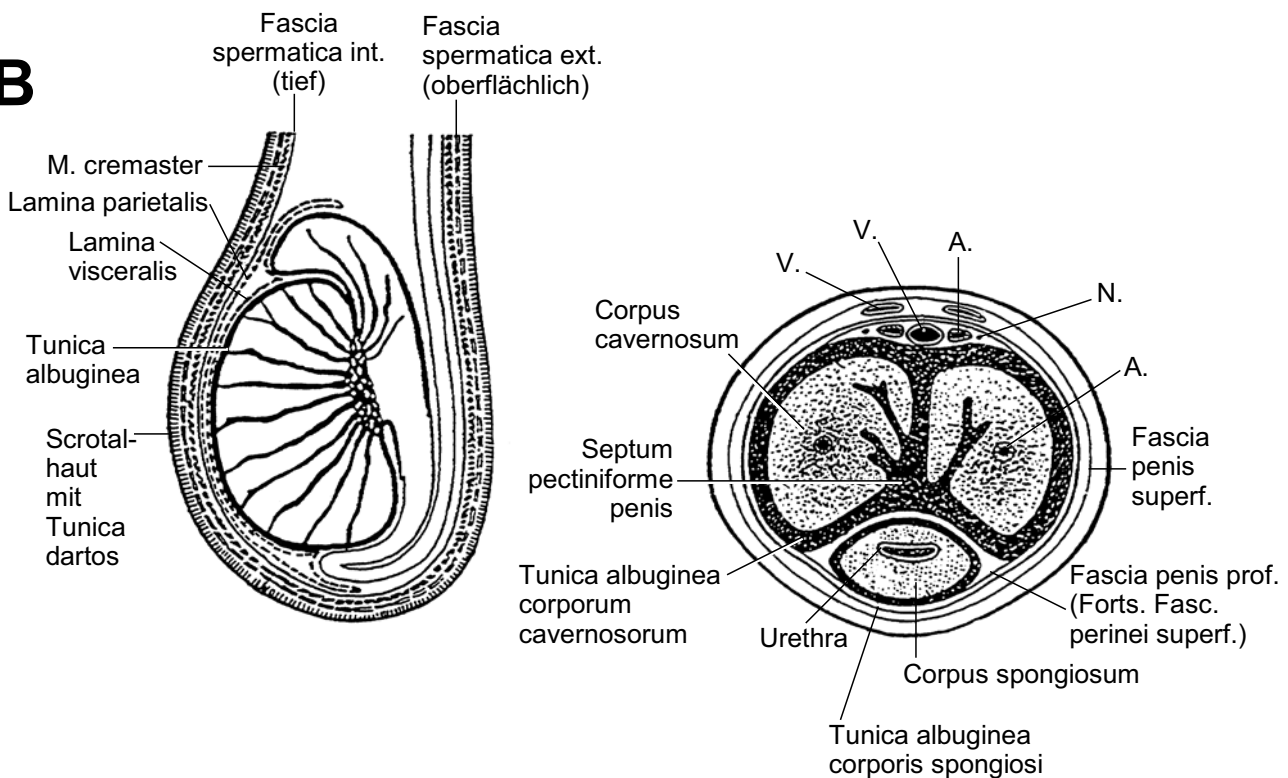
Beckenboden: 1 Diaphragma pelvis
(M. levator ani)

2 Diaphragma urogenitale

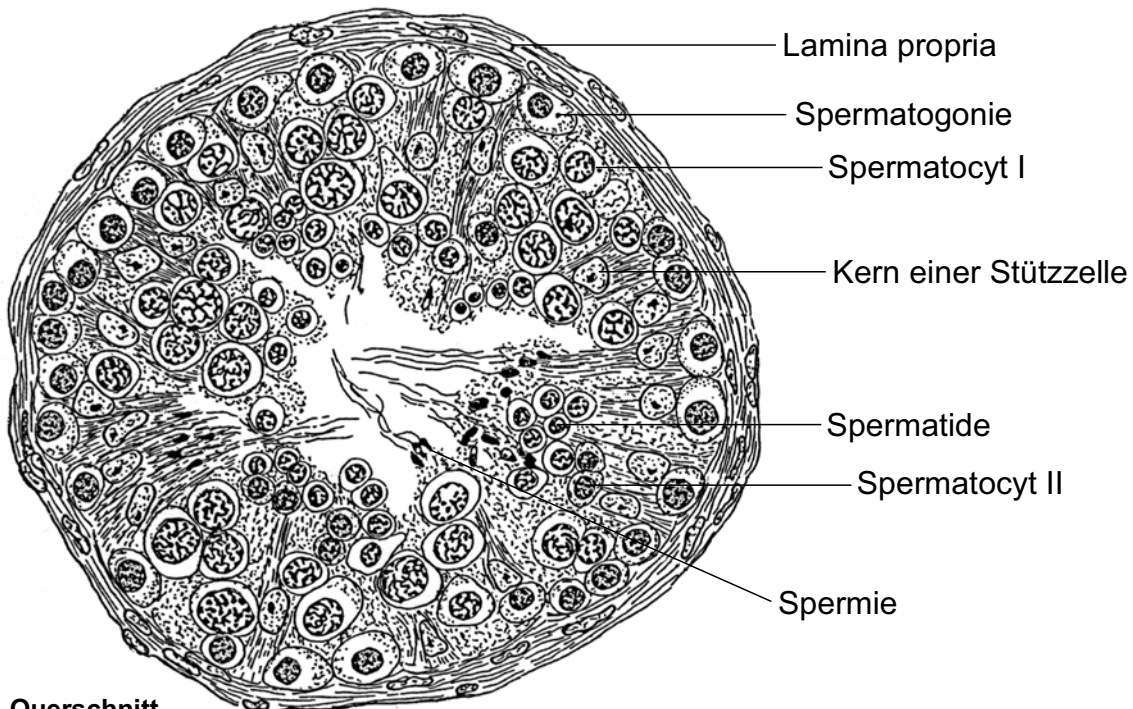
A



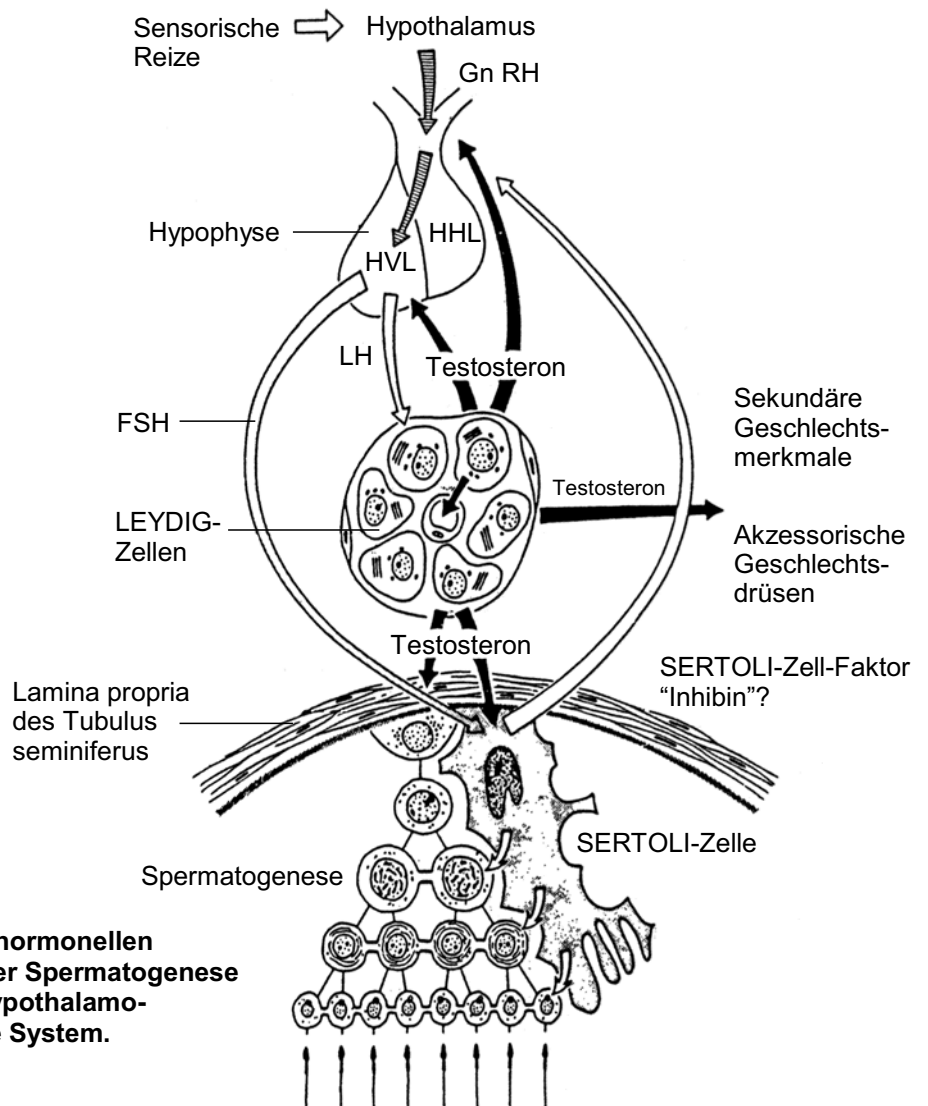
B



Spermatogenese

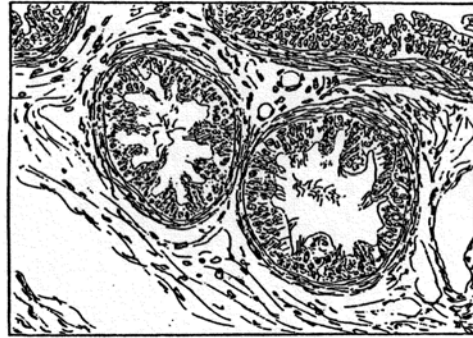
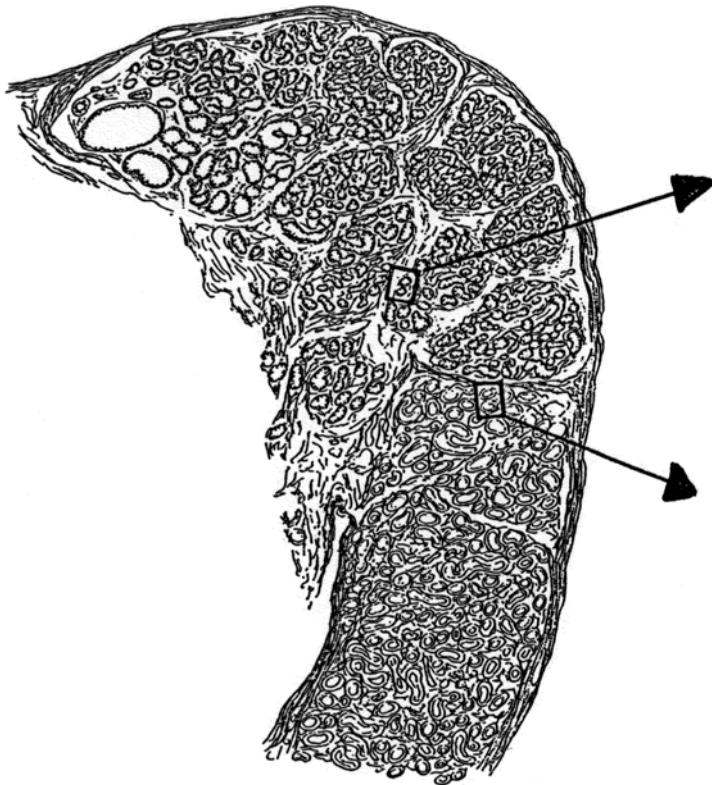


Querschnitt durch einen Tubulus contortus aus einem menschlichen Hoden. Samenbildungszellen und Stützzellen (Sertoli-Zellen). Vergrößerung 500x.

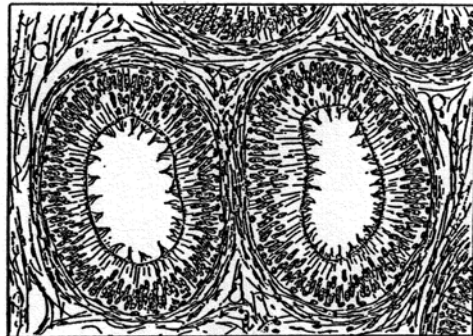


Schema zur hormonellen Steuerung der Spermatogenese durch das hypothalamo-hypophysäre System.

Nebenhoden

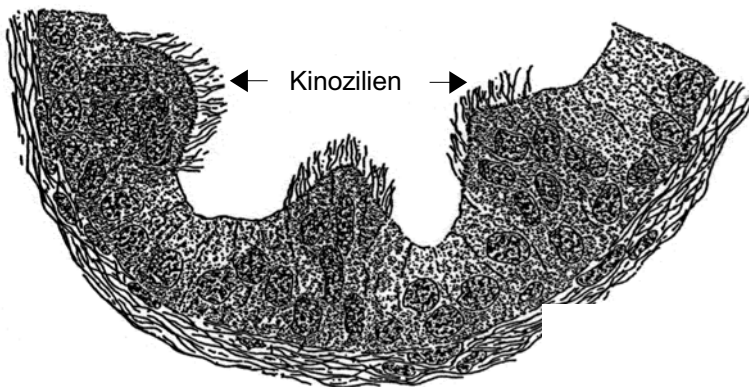


Ductuli efferentes testis. Vergr. 100x



Ductus epididymidis. Vergr. 100x

Längsschnitt durch den Nebenhodenkopf eines Menschen. Ductuli efferentes testis und Ductus epididymidis. Die beiden eingezeichneten Vierecke markieren die in den rechts daneben stehenden Abbildungen bei starker Vergrößerung wiedergegebenen Stellen. Vergr. 6x



Ausschnitt aus einem Ductulus efferens eines menschlichen Nebenhodens. Vergr. 600x

Ausschnitt aus dem Ductus epididymidis eines menschlichen Nebenhodens. Vergr. 600x

