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AN OUTLINE OF THE COURSE IN NORMAL HISTOLOGY AND MICROSCOPIC ANATOMY.

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The problem of reducing to a minimum the amount of energy expended in the routine work of teaching is one which necessarily interests every working histologist. While we would deprecate the adoption of a fixed, rigid programme to be followed year after year, we believe that in a subject like normal histology, where many of the methods employed are constant, a careful list of the work actually done and of the methods actually used during one or two years will be of considerable service as a basis for the organization of the course in ensuing years. The programme which we present here is almost exactly that which has been followed during the past year in the Johns Hopkins Medical School. It is by no means intended to represent an ideal course in histology; on the contrary, it has very obvious defects, some of which we hope soon to be able to remove. It is simply a course which has been given, adapted to certain conditions, and one to be modified from time to time with changing conditions and as further experience of our own and others shall indicate.

In framing a course in histology for the regular students of this school there were certain points which demanded particular consideration. In the first place, the class of students might fairly be expected to differ from that of the average medical school. Every student, in order to gain admission, must have a college degree or its equivalent, must possess a good reading knowledge of French and German, and in addition give evidence of having studied biology, chemistry and physics, including practical laboratory work in these subjects during at least one year. It might be safely assumed that the average student in such a school, as a result of his previous scientific training and experience, would be able to do more

and better work in normal histology and microscopic anatomy, than has before been expected of medical students, and our experience thus far justifies such an assumption. One difficulty which speedily became obvious, however, was the unequal preparation of the different students for microscopic study on entering the school. Whereas some of the students had worked extensively with the microscope, an occasional one having had more than a year's instruction in practical histology, others in their work in practical biology had done little normal histology or none at all. In organizing a course, the needs of all the students had to be considered, and arrangements were made by means of which the experienced found work difficult enough for them, and the untrained were given tasks which were not beyond them. It is probable that this inequality as regards preliminary attainments in microscopic work will grow less with the years, since the students admitted at the beginning of the school have had no opportunity of directing their preliminary education to suit the requirements of admission. But there must always be greater individual differences, probably, among the class of students entering such a school, than in the medical school requiring no college degree before admission, inasmuch as, other things being equal, specialization and individuality increase *pari passu* with age and educational advantages.

In deciding as to the plan to be adopted in the course we have been much influenced, too, by the fact that our students are students of medicine. Thus it will be noticed that in the selection of tissues, those from the human body make up a large part of the material used; and when animal tissues are employed, special care has been taken to point out how they differ from the human. Moreover, in deciding what to exclude from the course—for this we think as important as the matter included—thought was given to the bearing of the specimens on the practical work in medicine which was to follow, and stress was laid upon those portions of human histology which previous experience has taught us are of the most importance in the appreciation and interpretation of the pathological alterations in disease. While in the future all detail will, we must believe, be found to be of importance to the pathologist, in the present status of pathological histology a knowledge of

certain details is of much greater value than that of others; and for the student entering medicine, a judicious selection of what shall be given and what shall be left out should be made by some one who has had a more or less wide training in pathological histology.

The time is now past, we believe, when an instructor in pathology should be compelled to devote the time intended for the study of diseased tissues to instruction in normal histology and microscopic anatomy. It is true that every student has his knowledge of normal structures widened and more firmly rooted by good courses in pathological histology, but he should not meet with normal appearances in these courses for the first time.

Further bearing in mind the life-work for which the student is preparing himself, we have not, in this course, always chosen the method which would show the finest structural details of the tissues. While the most delicate methods have been introduced in places, we have endeavored to familiarize the students with a large number of different modes of preparation, and to help them to understand the varying appearances of one and the same tissue under different methods of preliminary treatment. A piece of spleen hardened in Müller's fluid is quite unlike a portion of the same organ hardened in alcohol or in Flemming's mixture, and the appearances of such tissue in stained section differ still more from those to be seen in a frozen section of the fresh spleen. The student who has been brought up entirely on "gilt-edged" histological methods will find himself sadly at a loss in battling with the "rough and ready" world in which the pathologist has to live.

Nor could we leave out of account, in framing the course, the fact that in the studies of the subsequent three years, various portions of the body are again submitted to extended microscopic investigation. Thus in the second year in the department of pathology, a preponderance of attention is paid to the structure of certain of the organs; in the third year in the department of medicine, the blood of patients is submitted to very accurate color-analyses, and in the course in obstetrics the histology of the female genital organs is again thoroughly reviewed. In surgical pathology, microscopic work is also

done, and in the planning of the courses in neurology, dermatology, gynæcology, ophthalmology, etc., provision will doubtless be made for microscopic work.

The course beginning October first extends to March fifteenth. Three *full* half-days are devoted to regular class work, and additional time throughout the week is available for special work in technique, recitations and drawing. Between March fifteenth and June first considerable time is available for review, and for extra work for those students who have had difficulty in keeping pace with the course while in progress.

The teaching, consisting in the main of practical work in the laboratory under the direct guidance of a corps of demonstrators, is supplemented by a series of 60 lectures with demonstrations, explanations of charts and models and dark-room projections.

After some introductory work on the cell in general, and a review of the blastodermic layers, the student begins his histology with the study of the morphological units in the body, that is to say, with the study of general histology, and proceeds to the study of the architecture of the organs (microscopic anatomy) only after he has had considerable experience in isolation and dissociation by means of teasing, tearing, dissecting, macerating, corroding and digesting the elementary tissues. It has seemed to us that this system has marked advantages over that in which histological studies are begun with the study of organs. The student who tries to study organs when he cannot recognize almost at a glance epithelium, smooth muscle, striped muscle, cartilage cells, nerve cells, nerve fibres and the like, is comparable to the student in chemistry who attempts to understand and memorize the reactions of complex organic compounds without having been taught the significance of an alcohol-, an aldehyde-, an amine- or amide-group. Familiarity with units is, we are convinced, the only key to a proper understanding of the tissues. And thus in the study of organs the student is stimulated to search for morphological units of a higher order—for example, vascular or secretory units—a task which can often be lightened by the study of developing tissues where such units may generally be seen in simpler forms.

From the first the student is advised to pass as gradually as possible from the naked eye appearances to the relations as seen under high powers of the microscope. Thus after the naked eye study in the course, and the color, odor, consistence, etc., have been noted, pieces of the tissue are examined with the aid of the dissecting microscope (8-20 diameters), first in bulk and afterwards dissociated; only then does the examination with higher powers of the microscope begin, at first with low powers and finally with high powers, in some instances with oil-immersion lenses.

During the early part of the course very few microtome sections are permitted, and, throughout, the importance of methods other than those of mere sectioning is especially emphasized. The student goes to the animal body or to the cadaver in the dissecting room, sees the general relations of the tissues there, procures for himself the specimen, and thus is taught how and where material for study is to be obtained.

In addition to the regular class work, to each student is assigned the task of the complete preparation of some tissue or set of tissues, involving the processes of fixing, hardening, embedding (in celloidin and paraffin) and sectioning. Some members of the class find the time to do more of this sort of work than others, and as all of it is done under the direct supervision of an instructor, the technical experience gained should be subsequently helpful.

It will be noted in the tables that liberal use has been made of embryonic tissues. Starting out with the blastodermic layers, the student from the first is taught to lead all tissues, as far as possible, back to their early embryonic origin, and through the whole course no small measure of the attention of the student is directed to the histogenetic relations, at different stages, of the tissue or organ under consideration.

While the morphological facts are necessarily the first objects in the course, still the physiological bearings are not entirely lost sight of, and we have had no hesitancy now and then in calling the attention of the students to a physiological, chemical, or even clinical relation when we have thought it important that it should be especially associated in the mind with a certain morphological peculiarity. Thus, while any marked "overlapping" of courses is avoided, the attempt is

made to impress upon the student the fact that histology, instead of being divorced from a number of kindred subjects, stands in the most intimate, almost inseparable, connection with them.

The student is encouraged at all times to make careful objective drawings of what he sees.

Text-books in English, German and French are used in the course, and in addition each student is required to read original articles in the literature and to make a careful abstract of at least one scientific article. In this way he gains the habit of going to the sources for his information, is impressed with the limitations of histological knowledge, sees the lines along which original research is moving, and learns the origin of text-books.

It will be observed in perusing the list, that whereas none of the important organs have been omitted, certain parts of the body have been studied in more detail than others. This we think unavoidable, but we have arranged the subjects so that especial attention should be given to those parts of the body in which at present most advance is being made. Thus the sense organs and nervous system, it will be seen, have been examined in considerable detail, and as far as possible the students are made conversant with the newer ideas concerning the minute anatomy and histogenesis of the peripheral and central portions of the nervous system. Preceding this portion of the work, six half-days, in addition to the time allotted to the subject in the course, are given to the student for the study of the gross anatomy of the central nervous system. A series of sections at various levels of the spinal cord and brain are then carefully studied and drawn, and finally several days are devoted to the study of tracts, thus bringing the student's knowledge together in a more or less orderly fashion. Our experience, though brief, has confirmed us in our belief that the histology and microscopic anatomy of the nervous system are properly, for the present at least, included in this course. Much has been demanded of the students, but within certain limits, students, we think, do more thorough work when much is expected of them.

In choosing the methods mentioned in the following list we have been influenced in a given instance sometimes by one

factor, sometimes by another. When the method suggested seems at first less desirable than certain others which are in vogue and which could have been selected, it should not be taken for granted that the other method has not been thought of. It may be that the method in question has been chosen to suit a certain particular condition in the course. Still we know only too well that there are many ways in which the list can be improved, and not a few errors which would be better eliminated. We shall be particularly grateful for corrections or suggestions from those who take an interest in the subject. It is an especial pleasure in closing to acknowledge our indebtedness to Professor Mall for helpful counsel and manifold suggestion.

The method here used for designating the main steps employed in preparing the various tissues for histological study was devised as a convenient means of briefly indicating the necessary technique when planning out the work of the course. The writing out in full of the technique used for each tissue was found to take too much time and to be needlessly cumbersome. Word-abbreviation was too apt to be confusing, and thus a completely artificial system seemed on the whole to be the best.* The various technical processes employed in histological study were roughly arranged in eleven-odd groups: *fresh examination*, *dissociation*, *decalcification*, *fixation*, *hardening*, *microscopic preparation*, *staining*, *clearing*, *fastening*, *mounting*, and *special*, and each of these groups was designated by a particular letter of the alphabet. Thus, for example, all the methods used for staining are grouped under "G." The various methods in each group are further designated by numbers, thus *e. g.* staining with borax-carmine is indicated by "G_1"; furthermore, since certain of the technical steps are carried out by the instructors and certain of them by the students, the group representing the particular process is written (or printed) as a "capital" when representing work done by the instructor, as a "small letter"

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* The method for a similar purpose used by Benda in the "Histologischer Hand-Atlas" of Benda and Guenther (Leipzig, 1895) suggested the method here employed.

when it is done by the student. An example will make this clear: In indicating the methods used in preparing the cardiac end of a dog's stomach for microscopic examination, the following signs are used: "D_{12}; E_2; F_9; $g_{7, 12}$; k_5," which being interpreted means that the tissue was (1) fixed in Zenker's fluid; (2) hardened in graded alcohols; (3) embedded and sectioned in celloidin by the instructor; and by the student (4) stained in hæmatoxylin and eosin; and (5) mounted in balsam. Only the more important steps, or those to which especial attention is to be called, are indicated, thus the clearing agent most often used in the daily routine of the classroom, carbol-xylol, "H_1," is seldom put down among the steps of the technique.

With this explanation it is hoped that the following tables and the programme will be clearly self-explanatory. The technical methods used are, in the main, those commonly given by the various books on technique, though many of them have been taken from the literature, and a number have been slightly modified to suit our own needs or preferences.

EXPLANATION OF ABBREVIATIONS EMPLOYED.

A.—Methods of Preservation or Examination in Natural State.

(1) Fresh tissues.
(2) Tissues in normal fluids.
(3) Tissues in physiological salt solution.
(4) Tissues in aqueous humor.
(5) Tissues in blood serum.
(6) Tissues in iodized serum.
(7) Tissues in Farrant's medium.
(8) Tissues in 1 per cent. sugar solution.

B.—Methods of Dissociation, Maceration, Corrosion or Alteration.

(1) 0.25 per cent. ac. acetic.
(2) 30 per cent. potassic hydrate.
(3) 33⅓ per cent. alcohol (Ranvier's alcohol).
(4) 0.1 per cent. osmic acid.
(5) Conc. ac. hydrochloric.
(6) Conc. ac. nitric.
(7) Müller's fluid.
(8) 0.1 per cent. potass. bichromat.
(9) 0.5 per cent. ac. chromic.
(10) 0.5 per cent. ammon. chromat.
(11) Digestion with pancreatin and sod. bicarb.
(12) Digestion with pepsin and ac. hydrochlor.

(13) Iodized serum.
(14) Water.
(15) 20 per cent. ac. acetic.
(16) Conc. ac. sulphuric.
(17) Lugol's solution.
(18) Sat. sol. tannic acid.
(19) 0.05 per cent. ac. chromic.

C.—Methods of Decalcification.

(1) 3 to 5 per cent. ac. nitric.
(2) 2 per cent. ac. chromic.
(3) Ac. acetic glaciale.
(4) Müller's fluid.
(5) Per cent. ac. picric.
(6) Per cent. hydrochlor.
(7) v. Ebner's fluid.
(8) Phloroglucin + ac. nitric (Haug).

D.—Methods of Fixation.

(1) Heat on copper bar at 120° C.
(2) Boiling water.
(3) Steam.
(4) Absolute alcohol.
(5) Flemming's solution.
(6) Hermann's solution.
(7) Fol's solution.
(8) Osmic acid vapor.
(9) 1 per cent. osmic acid.
(10) 10 per cent. ac. nitric.
(11) Sat. sol. hydrarg. perchlor. in 0.75 per cent. NaCl solution.
(12) 5 per cent. formaldehyde.
(13) Zenker's fluid.
(14) Bethe's fluid.
(15) Kleinenberg's solution.
(16) Equal parts abs. alcohol and ether.

E.—Methods for Hardening* sometimes used for Fixing, etc.

(1) Graded alcohols 33⅓ per cent., 50 per cent., 70 per cent., 80 per cent., 90 per cent., 95 per cent., absolute.
(2) Graded alcohols 80, 95, absolute.
(3) 95 per cent. alcohol.
(4) Müller's fluid.
(5) Müller's fluid 3 pts. + alcohol (95 per cent.) 1 pt.
(6) Erlicki's fluid.
(7) 1 per cent. ac. chromic.

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* The line between fixing and hardening fluids must of necessity be an artificial one. We have designated as fixing fluids those commonly allowed to act for twenty-four hours or less on the tissues; as hardening fluids those used a longer time than this.

(8) 5 per cent. formaldehyde.
(9) Cox's solution.
(10) Cajal's osmo-bichromic solution (rapid Golgi method).
(11) 2 pts. Müller's fluid + 1 pt. 1 per cent. ac. osmic (*Marchi*).
(12) Weigert's mordant for neuroglia.
(13) Distension and drying.

F.—Methods of Preparation for Microscopic Examination.

(1) Transfer simply to slide.
(2) Spread out thin on slide.
(3) Semi-desiccation method.
(4) Teasing.
(5) Strip off in layers.
(6) Free-hand section.
(7) Section with Valentine's knife.
(8) Frozen section.
(9) Celloidin section.
(10) Paraffin section.
(11) Dissection.
(12) Elder-pith section.
(13) Grinding and polishing.
(14) Cullen's formaline method.

G.—Methods of Staining and Impregnation.

(1) Borax carmine.
(2) Alum cochineal.
(3) Indigo-carmine.
(4) Picro-carmine.
(5) Upson's carmine.
(6) Van Gieson's fluid.
(7) Delafield's hæmatoxylin.
(8) Böhmer's hæmatoxylin.
(9) Heidenhain's hæmatoxylin.
(10) Weigert's myelin stain.
(11) Weigert-Pal myelin stain.
(12) Ehrlich's acid hæmatoxylin.
(13) Eosin.
(14) Acid fuchsin.
(15) Acid picric.
(16) Safranin.
(17) Methylene blue.
(18) Aqueous magenta.
(19) Dahlia.
(20) Methyl violet.
(21) Ehrlich's triple stain.
(22) Weigert's fibrin stain.
(23) Weigert's neuroglia stain.
(24) Mall's reticulum stain.
(25) Boiled gold chloride methods.

(26) Löwit's gold method.
(27) Golgi's gold method.
(28) Lemon juice gold method.
(29) 0.75 per cent. argent. nitrat.
(30) Silver nitrate + ammon. hydrat.
(31) Lavdowsky's modification of Ehrlich's methylene blue method.
(32) Nissl's methylene blue and soap solution.
(33) Thionin.
(34) Gerlach's gold chloride solution.
(35) Benda's iron hæmatoxylin.
(36) Aniline blue.

H.—Methods of Clearing.
(1) Carbol-xylol (ac. carbol. pur. xtls. 1 + xylol 3).
(2) Xylol.
(3) Creasot.
(4) Ol. caryophyll.
(5) Ol. bergamot.
(6) Ol. origanum.
(7) Ol. cajeput.
(8) Acid glycerine.
(9) Glycerine.

I.—Methods of Fastening Sections to Slide.
(1) Mayer's albumen.
(2) Gulland's water method.
(3) Schallibaum's collodion method.
(4) Clove oil collodion method.
(5) Obreggia's collodion-paraffin method.

K.—Methods of Mounting.
(1) Glycerine pur.
(2) Glycerine 20 + ac. arsenios. trace + water 80.
(3) Farrant's medium.
(4) Sat. sol. potass. acetat.
(5) Xylol balsam.
(6) Dammar.
(7) Benzol-colophonium.
(8) Physiological salt solution.
(9) Glycerine and alcohol with or without acid.

L.—Other Methods of Preparation.
(1) Injection with aqueous Berlin blue.
(2) Injection with carmine gelatine.
(3) Injection with Berlin blue gelatine.
(4) Injection with cinnabar gelatine.
(5) Injection with methylene blue (intra vitam).
(6) Feeding with madder.
(7) Artificial œdema.

Subject.	Special Features Illustrated.	Animal.	Methods Employed.
Fabric fibres, etc.	Wool.		A_1; f_4.
	Cotton.		
	Linen.		
	Silk.		
	Rabbit's hair.		A.
	Human hair.		
	Air bubbles.		
	Oil droplet.		
Vegetable cells.	Cells in onion leaf.		A_2; (1) $f_{5\ 2}$; a_8; b_{17}; afterwards b_{16}. (2) $f_{5\ 2}$; g_{17}.
	Cells in potato, cell contents.		A_2; f_6; b_{17}; afterwards b_{16}.
	Cell division in onion tip.		D_6; E_2; F_{10}; I_1; G_{16}; H_4; K_5.
	" " in fritillaria.		D_5; E_2; F_{10}; I_1; G_{16}; H_4; K_5.
Animal cell.	Saliva and scraping from cheek.		a_2; afterwards b_{15}.
	Echinoderm ova—fertilized (1–16 cell stages).		D_{15}; E_2; k_2.
	Early embryonic cells :		
	in (1) cross section 1 day chick.		D_{10}; E_1; G_7; F_{10}; i_1; h_2; k_5.
	(2) " " 3 day "		D_{10}; E_1; G_7; F_{10}; i_1; h_2; k_5.
	Cell division in tongue.	Newt.	D_6; E_2; F_{10}; I_1; G_{16}; H_4; K_5.
	" " in testicle.	Mouse.	D_6; E_2; F_{10}; I_1; G_{16}; H_4; K_5.
	Centrosome and attraction-sphere.		Demonstration.
	Amitotic cell division.		Demonstration.
	Altmann's granula.		Demonstration.
Epithelium.	Shed skin—squamous epithelium.	Frog.	E_2; f_2; afterwards g_7; h_1; k_5.
	Cornea of embryo.	Pig.	A_1; f_2; afterwards g_{17}.
	Cornea.	Dog.	B_3; f_4; k_2.
	Transitional epithelium of bladder.	Dog.	B_3; f_4; k_3.
	Columnar epithelium and goblet cells, intestine.	Human.	B_3; f_4; k_3.
	Stratified epithelium of skin.	Human.	B_3; f_4; k_3.
	" " " mouth.	Human.	B_3; f_4; k_3.
	Ciliated epithelium of bronchi.	Human.	B_3; f_4; k_3.
	Epithelium in section of cornea.	Rabbit.	D_{11}; E_2; F_9; g_2; h_1; k_5.
	" " " " small intestine.	Dog.	D_{11}; E_2; F_9; g_2; h_1; k_5.
	Living ciliated cells.	Oyster.	A_1; f_2.
	" " "	Frog.	Demonstration.

Subject.	Special Features Illustrated.	Animal.	Methods Employed.
Epithelium.	Glandular epithelium—kidney.	Dog.	$B_{5\ 14}$; f_4.
	" " liver.	Dog.	B_3; f_4.
	Frozen section—kidney.	Dog.	F_8; a_3.
	Pigmented epithelium of retina.	Dog.	B_3 for 2 days; f_4; k_2.
	Lens fibres.	Dog.	B_3 for 2 days; f_4; k_2.
Connective tissues.	Mucoid tissue, section umbilical cord.	Human.	$E_{4\ 2}$; F_9; $g_{7\ 13}$; k_5.
	Fœtal conn. tissue, tendon.	Embryo pig.	B_7; f_4; g_4; k_2.
	Endothelium, mesentery.	Rabbit.	A_1; g_{29}; $e_{8\ 2}$; h_1; k_5.
	Subcut. areolar tissue.	Rabbit.	A_1; L_7; f_3; afterwards g_{18}; k_3.
	White fibrous tissue, tendon.	Dog.	B_3; G_2; f_4; k_2.
	in corium of skin.	Human.	D_4; f_9; $g_{7\ 13}$; k_5.
	Conn. tiss. corpuscles of cornea.	Rabbit.	G_{26}; f_9; h_1; k_5.
	Cornea in frozen section.	Dog.	F_8; a_3; afterwards g_{17}.
	Pigmented conn. tiss. cells in penis.	Terrapin.	E_3; F_9; $g_{7\ 13}$; k_5.
	Mastzellen stained with "polychrome" methylene blue.		Demonstration.
	Yellow elastic tissue in lig. nuchæ.	Ox.	A_1; f_6; afterwards g_{18}.
	Membrane of elastic fibre—contents.	Ox.	B_{11}; f_4; g_{18}.
	Elastic membrane—artery.	Dog.	A_1; f_5.
			B_2; f_4.
	Reticulum—lymph gland.	Dog.	F_8; B_{11}; f_3; g_{24}.
	" " "	Dog.	F_8; b_2.
	Gelatine manufacture.		Demonstration.
	Chemical reactions of the connective tissues.		Demonstration.
Cartilage.	Simple cellular.	Embryo pig.	A_1; f_6; a_3; afterwards g_{17}.
	Hyaline—general structure in rib.	Ox.	A_1; f_6; a_3; afterwards b_{15}.
			A_1; f_6; g_{17}.
	on articular surface.	Ox.	A_1; f_6; b_{17} for glycogen.
	White fibro-cartilage—intervertebral disc.	Dog.	A_1; f_6; b_{17}.
	Yellow elastic cartilage in ear.	Dog.	D_{15}; E_2; F_9; $g_{7\ 13}$; k_5.
Smooth muscle.	Cells in tunica muscularis of intestine.	Dog.	A_1; f_5; a_3; afterwards g_{17}.
	Cells in tun. musc. of pregnant uterus.	Pig.	B_9; f_4.
	Embryo smooth muscle.	Pig.	E_4; f_4; g_4.
	Piece of wall of distended bladder.	Frog.	D_4; $g_{7\ 13}$; k_5.
	Section of smooth muscle-intestine.	Dog.	(Already prepared under epithelium.)

Subject.	Special Features Illustrated.	Animal.	Methods Employed.
Voluntary muscle.	Appearance of fresh tissue.	Frog.	A_1; f_4; a_3; afterwards g_{17}.
	Dissociated fibres.	Dog.	B_2; f_4.
	Muscle from embalmed subject.	Human.	Muscle from dissecting room; f_4; k_2.
	Muscle-fibrillæ.	Frog.	E_7; E_3; f_4.
	Cohnheim's fields.	Insect, dog.	G_{26}; E_2; F_{10}; i_1; k_5.
	Embryonic fibres.	Pig.	B_7; f_4.
The neurone.	Cell elements in adult spinal cord.	Ox.	A_1; g_{17}. B_3; G_1; f_4.
	Cell elements in spinal ganglion.	Dog.	D_9 for ¾ hour; glyc. $_1$ + ac. acetic $_1$ for from 3 to 4 days; f_4; (Schiefferdecker, p. 227).
	Cells in sympathetic ganglia.	Frog.	D_9 for ¾ hour; glyc. $_1$ + ac. acet $_1$ for 3 days; f_4.
	Examples in embryo spinal cord.	Pig.	E_{10}; G_{29}; F_9; H_5; k_5.
	Section of spinal ganglion.	Dog.	D_9; E_2; F_9; G_5; k_5.
	Section of cervical sympathetic ganglion.	Dog.	D_9; E_2; F_9; G_5; k_5.
Nerves.	Fresh sciatic nerve.	Dog.	A_1; b_{14}.
	Ranvier's silvered nerve.	Dog.	G_{29}; expose to light; f_4.
	Silvered nerve.	Dog.	Vide article by Golgi, Nervensystem, p. 63.
	Osmic preparation.	Dog.	B_4; f_4.
	Axones.	Dog.	½ per cent. osmic 4 hours; 90 per cent. alc. 24 hours; wash in H_2O; sol. ac. fuchsin 24 hours; abs. alc. 3 days; toluol; celloidin.
	Axones.	Dog.	$E_{4\ 2}$; F_9; $g_{36\ 16}$; h_2; k_5 (Ströbe).
	Fresh splanchnic nerve.	Dog.	A_1; f_4.
	Cross section of sciatic nerve.	Dog.	$E_{7\ 2}$; F_9; g_5; k_5.
	Cross section of splanchnic nerve.	Dog.	$E_{7\ 2}$; F_9; g_5; k_5.
Nerve endings.	Motor endings in vol. muscle.	Frog.	May's method.
	Free nerve endings in epithelium of cornea.	Frog.	G_{28}; E_3; F_9; h_1; k_5.
	Pacinian corpuscles.	Cat.	A_1; a_3; afterwards b_{15}.
	Meissner's corpuscles.	Human.	D_4; F_9; $g_{7\ 13}$; k_5.
	Nerve endings in frog's tongue, pig's snout and human skin, with vital methylene blue staining.		Demonstration.
Blood.	Fresh blood from ear.	Human.	Test with b_{14}; b_{15}; b_{18}; b_2.
	" " " frog.	Frog.	

Subject.	Special Features Illustrated.	Animal.	Methods Employed.
Blood.	Technique of fresh blood slide.	Human.	A.
	Blood platelets.	Human.	Prick finger through g_{20} (1–100,000).
	Fibrin.	Human.	Coagulation beneath cover-glass.
	Fibrin in tissues stained with Weigert's fibrin stain.		Demonstration.
	Blood of other animals.	Bird, Dog, Cat, Rabbit.	Demonstration.
	Technique of Ehrlich's method of drying and staining, and the varieties of white corpuscles in the blood.	Human.	D_1; g_{21}; k_5.
	Nikiforoff's method.	Human.	D_{16}; $g_{17\ 13}$; k_5.
	Nuclei of white corpuscles.	Human.	Blood mixed with drop of D_6.
	Eosinophiles in horse's blood; iron in eosinophile granules; mastzellen; myelocytes.		Demonstration.
	Hæmoglobin crystals.	Rat.	Blood made laky and then placed in stoppered bottle to crystallize.
	Hæmin crystals.	Human.	$NaCl + HC_2H_3O_2$ (glacial) and heat.
	Mastzellen in tongue.	Dog.	D_4; F_9; g_{19}; k_5.
	Hæmoglobinometer, Hæmocytometer, Hæmatokrit.		Demonstration.
	The circulating blood in mesentery and tongue.	Frog.	Demonstration.
Heart.	Dissection of heart.	Sheep.	A_1; f_{11}.
	Fresh elements of heart muscle.	Sheep.	B_2; f_4.
	" " " " "	Human.	F_8; a_3.
	Purkinje fibres.	Sheep.	A_1; f_4.
	Cross section of papillary muscle.	Dog.	$L_{1\ 2}$; E_2; F_9; $g_{7\ 13}$; k_5.
	Section of heart wall and mitral valve.	Dog.	$L_{1\ 2}$; E_2; F_9; $g_{7\ 13}$; k_5.
	" " " " aortic valve.	Dog.	$L_{1\ 2}$; E_2; F_9; $g_{7\ 13}$; k_5.
Arteries, veins and capillaries.	Dissection of walls of medium-sized artery. Portions dissected off to be examined microscopically.	Dog.	B_3; f_{11}.
	Cross section of aorta.	Cat.	D_5; E_2; F_9; g_{16}; h_4; k_5.
	" " " femoral artery and vein.	Cat.	D_5; E_2; F_9; g_{16}; h_4; k_5.
	Capillaries from pia mater.	Human.	D_{12}; f_4; g_4.
	Silvered mesentery.	Cat.	g_{29}; d_{12}; e_3; h_1; k_5.

Subject.	Special Features Illustrated.	Animal.	Methods Employed.
Lymph glands and lymphatics.	Cross section of thoracic duct.	Dog.	D_5; E_2; F_9; g_{16}; k_5.
	Sagittal section of lymph gland.	Ox.	D_{11}; E_2; F_9; $g_{7\ 13}$; k_5.
	Injected lymphatic gland.	Dog.	$L_{1\ 2\ 3}$; E_5; F_9; h_1; k_5.
	Unstained lymph gland.	Dog.	A_1; F_{14}.
	Framework.		Cf. mounted section of reticulum.
Spleen.	Appearances in gross.	Human.	A_1.
		Pig.	A_1.
	Fresh scraping from surface.	Pig.	A_1; f_4; a_3; afterwards b_{15}.
	Smear cover-glass preparation.	Pig or human.	D_1; (Ehrlich's copper bar); g_{21}; k_5.
	Section.	Human.	D_5; E_2; F_9; g_{16}; h_4; k_5.
	Injected organ.	Dog.	$L_{1\ 2}$; E_5; F_9; h_1; k_5.
	Framework.	Dog	Demonstration of dried specimens.
Bone.	Architecture of femora.	Human.	Dried bone sawed through longitudinally.
	Elements of bone marrow.	Dog.	A_1; a_3; afterwards g_{17}.
	Elements of marrow.	Dog.	d_6; f_4.
	Section of marrow.	Dog.	D_5; E_2; F_{10}; i_1; g_{35}; k_5.
	Longitudinal section of decalc. bone.	Dog.	L_3; E_4; C_1; F_9; $g_{7\ 13}$; k_5.
	Cross section of decalc. bone.	Dog.	E_4; C_1; F_9; b_{15}; g_3; k_5.
	Longitudinal and cross section dried bone.	Human.	Demonstration; also with polarization microscope.
Developing bone and muscle.	Finger.	Human fœtus.	$E_{4\ 2}$; C_1; F_9; $g_{7\ 13}$; k_5.
Tendon and muscle as organs.	Injected blood-vessels in muscle and tendon.	Rabbit	$L_{1\ 2}$; E_5; f_6, h_1; k_5.
	Cross section of tendon.	Dog.	$E_{4\ 2}$; F_9; g_4; k_3.
	Nerve endings in tendons and muscles.		Demonstration.
Alimentary Tract.	Dissection of alimentary tract from mouth to anus.	Embryo pig.	A_1; f_{11}.
Mouth and tonsil.	Section of lip.	Baby.	E_3; F_9; $g_{7\ 13}$; k_5.
	Section of palatine tonsil.	Human.	D_{13}; E_2; F_9; $g_{7\ 13}$; k_5.
	Blood-vessels of tonsil.	Cat.	L_1; E_5; G_1; F_9; h_1; k_5.
Tongue.	General structure in longit. section.	Rat.	E_3; F_9; $g_{7\ 13}$; k_5.
	Tip of tongue and filiform papillæ.	Human.	D_4; F_9; $g_{7\ 13}$; k_5.
	Side of tongue.	Human.	D_4; F_9; $g_{7\ 13}$; k_5.

Subject.	Special Features Illustrated.	Animal.	Methods Employed.
Tongue.	Vallate papillæ and tonsilla lingualis.	Human.	D_4; F_9; $g_{7\ 13}$; k_5.
	Papilla foliata.	Rabbit.	D_6; E_2; F_{10}; g_{16}; h_4; k_5.
Teeth and salivary glands.	Parotid gland, resting.	Rabbit.	D_{13}; E_2; F_9; $g_{7\ 13}$; k_5.
	" " active.	Rabbit.	
	Submaxillary gland.	Human.	D_{11}; E_2; g_{33}; k_5.
	Sublingual gland.	Human.	D_{13}; E_2; F_9; $g_{7\ 13}$; k_5.
	Adult tooth, longit. section.	Human.	f_{13}; k_5.
	Developing tooth in lower jaw.	Embryo pig.	E_4; C_1; E_3; F_9; $g_{7\ 13}$; k_5.
Oesophagus and stomach.	Cross section œsophagus—upper part.	Human.	E_3; f_9; $g_{7\ 13}$; k_5.
	" " " lower part.	Human.	
	Longit. section and blood-vessels of œsophagus and cardiac end of stomach.	Cat.	L_1; E_5; G_1; F_9; k_5.
	Longit. section through whole stomach.	Rat.	D_{13}; E_7; F_9; $g_{7\ 13}$; k_5.
	Section of cardiac end.	Dog.	D_{11}; E_2; F_9; $g_{7\ 13}$; k_5.
	Section of middle region.	Dog.	D_{11}; E_2; F_9; $g_{7\ 13}$; k_5.
	" pyloric end and beginning of duodenum.	Dog.	D_{11}; E_2; F_9; $g_{7\ 13}$; k_5.
	Secretion-canaliculi on parietal cells.	Dog.	E_{10}; G_{29}; F_9; k_5.
Intestine.	Dissection and low power microscopic examination of layers of small intestine.	Dog.	a_1; f_{11}.
	Cross section of small intestine.	Dog.	E_2; F_9; $g_{7\ 13}$; k_5.
	Longit. section through Peyer's patch.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
	Blood-vessels and lymphatics.	Rabbit.	$L_{1\ 3\ 4}$; F_9; k_9.
	Auerbach's plexus, Meissner's plexus.	Guinea pig.	G_{28}; $f_{11\ 2}$; k_2.
	Vermiform appendix in transv. section.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
	Large intestine—cross-section.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
	Longit. section through anus.	Baby.	D_4; F_9; $g_{7\ 13}$; k_5.
Pancreas.	General structure.	Dog.	D_{13}; E_2; F_9; $g_{7\ 13}$; k_5.
	Blood-vessels.	Cat.	L_1; E_5; G_1; F_9; k_9.
	Finer cell structure—(Altmann's granules).	Cat.	Altmann's method.
Liver.	Lobular structure.	Pig.	D_4; F_9; $g_{7\ 13}$; k_5.
	" "	Human.	E_3; F_9; $g_{7\ 13}$; k_5.

Subject.	Special Features Illustrated.	Animal.	Methods Employed.
Liver.	Blood-vessels.	Rabbit.	$L_{3\ 4}$; E_3; F_9; k_9.
	Bile-capillaries.	Human.	E_{10}; G_{29}; F_9; k_5.
	Kupffer's cells.	Human.	F_8; B_{19}; G_{34}; k_1.
	Fresh tissue.	Human.	F_8; a_3.
	Embryonic appearances.	Embryo pig.	D_{11}; E_2; F_9; $g_{7\ 13}$; k_5.
Thyroid.	Section including so-called "embryonic nodule."	Dog.	D_4; F_9; $g_{7\ 13}$; k_5.
Thymus.	Section.	Baby.	D_4; F_9; $g_{7\ 13}$; k_5.
The Respiratory System.			
Epiglottis, larynx and trachea.	Longit. section through the tissue.	Rat.	E_3; F_9; $g_{7\ 13}$; k_5.
Lungs.	Dissection of trachea and lungs.	Embryo pig.	A_1; f_{11}.
	Elements.	Dog.	B_3; f_4; k_2.
	Section adult lung.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
	Blood-vessels of lung—(section through root).	Dog.	$L_{3\ 4}$; E_5; F_9; k_9.
	Shaving of dried injected lung.	Dog.	L_1; E_{13}; F_6; k_9.
	Frozen section and elastic tissue.	Dog.	A_1; F_8; a_3; afterwards b_2.
	Development of lung.	Human fœtus.	E_3; F_9; $g_{7\ 13}$; k_5.
Genito-Urinary Organs.			
Kidney.	(1) Isolated units.	Dog.	B_5; f_4.
	(2) Vertical section for blood-vessels. } (3) Tangential section for blood-vessels. }	Cat.	$L_{1\ 2}$; E_3; F_6; h_1; k_5.
	(4) Vertical section through renculus.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
	(5) Cell details in cortex.	Dog.	D_6, E_2; F_{10}; i_1; g_{16}; b_4; k_5.
	(6) Developing kidney.	Embryo pig.	D_{13}; E_2; F_9; $g_{7\ 13}$; k_5.
	(7) Appearance of fresh tissue.	Dog.	A_1; f_8; k_8; afterwards g_{17}.
Ureter.	(1) Cross section.	Dog.	E_3; F_9; $g_{7\ 13}$; k_5.
Bladder.	(1) Section through walls of contracted organ.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
	(2) Section through wall of organ distended.	Dog.	D_4; F_9; $g_{7\ 13}$; k_5.

Subject.	Special Features Illustrated.	Animal.	Methods Employed.
Testicle.	(1) General structure.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
	(2) Spermatogenesis.	Mouse.	D_6; F_{10}; i_1; g_{16}; h_4; k_5.
	(3) Isolated tubules.	Dog.	B_5; f_4.
Semen.	Spermatozoa.	Human.	A_1; a_1; afterwards g_{17}.
Vas deferens.	Cross section.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
Prostate and pars urethra.	Section.	Human.	D_{13}; E_2; F_9; $g_{7\ 13}$; k_5.
Vesiculæ seminales.	Section.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
Ovary.	General structure in young adult.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
	Structure in pregnant animal.	Dog.	E_3; F_9; $g_{7\ 13}$; k_5.
	Blood-vessels in ovary and longit. section of Fallopian tube.	Cat.	$L_{1\ 2}$; E_3; F_9; $g_{7\ 13}$; k_5.
	Blood-vessels in ovary.	Human.	$L_{1\ 2}$; E_3; F_6; k_9.
Fallopian tube.	Cross section.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
Uterus and vagina.	General longit. "oversight" section.	Cat.	$L_{1\ 2}$; E_3; F_9; $g_{7\ 13}$; k_5.
	Wall of body of uterus.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
	Longit. section of cervix, including cervical canal.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
	Pregnant uterus (Decidua).	Human.	$E_{4\ 2}$; F_9; $g_{7\ 13}$; k_5.
	General structure of the placenta and its blood-vessels	Human.	$L_{1\ 2}$; E_3; F_9; $g_{7\ 13}$; k_5.
	Cross section of vagina.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
Penis.	Transverse section.	Dog.	E_4; C_1; E_2; F_9; $g_{7\ 13}$; k_5.
	Transv. section adult.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
	Longit. section of glans and prepuce.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
Cowper's glands.	Section through penis and gland.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
Clitoris and urethra.	Longit. section bladder, urethra and clitoris.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
Bartholine's glands.	General structure.	Human.	E_3; F_9; $g_{7\ 13}$; k_5.
Adrenal.	General structure.	Human.	E_4; F_9; $g_{7\ 13}$; k_5.

Subject.	Special Features Illustrated.	Animal.	Methods Employed.
Sense Organs.			
Skin.	Palm of hand.	Human.	D_4; F_9; $g_{7\ 13}$; k_5.
	Back of wrist.	Human.	D_4; F_9; $g_{7\ 13}$; k_5.
	Finger tip.	Human.	D_5; E_2; F_{10}; i_1; g_{16}; h_4; k_5.
	Elements.	Human.	B_{11}; f_4.
Eyelid.	General structure.	Baby.	E_3; F_9; $g_{7\ 13}$; k_5.
Lip.	Junction of skin and muc. memb.		Cf. alim. tract.
Skin.	Blood-vessels.	Human.	L_3; E_3; F_9; h_1; k_5.
Nail.	Cf. also section of baby's finger showing developing bone.	Human.	B_2; f_4.
Scalp.	Hairs and follicles.	Human.	$E_{4\ 2}$; F_9; (iodine-green method).
Hair.	Elements.	Human.	a_1; b_{16}; f_4.
Hair follicle.	Elements.	Human.	B_{15} (2 days); f_4.
Mammary gland.	General structure.	Human.	D_4; F_9; $g_{7\ 13}$; k_5.
Milk.	Elements.	Cow and human	a_1.
Nose.	General dissection of.	Embryo pig.	A_1; f_{11}.
	General structure of cavities and septum in vertical section.	Baby.	E_4; C_1; E_2; F_9; $g_{7\ 13}$; k_5.
	Elements of mucous membrane.	Dog.	$B_{4\ 3}$; G_1; f_4.
	Section of mucous membrane.	Guinea pig.	D_5; E_2; G_1; F_{10}; i_3; k_5.
	Alæ nasi and respirat. muc. memb.	Baby.	E_3; F_9; $g_{7\ 13}$; k_5.
	Nerves in muc. memb., cribrif. plate and olfactory bulb.	Embryo pig.	2 (E_{10} G_{29}); D_4; F_9; H_5; K_5.
Eye.	General relations.	Pig.	f_{11}.
	Structure in horizontal section through cornea, lens, optic nerve, ciliary region and retina.	Guinea pig.	E_7; E_2; F_9; $g_{7\ 13}$; k_5.

Subject.	Special Features Illustrated.	Animal.	Methods Employed.
Cornea.	Matrix—negative picture.	Rabbit.	Stick $AgNO_3$.
	Matrix—positive picture.	Dog.	G_{26}; F_9; k_5.
	Nerves.	Embryo pig.	G_{31}; D_{14}; F_{10}; i_1; g_2; k_5.
Lens.	Fibres.	Cat.	B_3; separate capsule after 2 hours; return to B_3 for 24 hours; f_4; k_2.
Retina.	Elements.	Pig embryo.	D_9; B_{14} for 2 days; f_4; k_2.
	Nerve elements.	Pig embryo.	G_{31}; D_{14}; F_{10}; i_1; g_2; k_5.
	Nerve elements.	Pig embryo.	G_{27}; F_9; K_5.
Eyeball.	Distribution of blood-vessels.	Cat.	$L_{1\ 2}$; E_3; F_9; h_1; k_5.
Lachrymal gland.	General structure.	Human.	D_{13}; E_2; F_9; $g_{7\ 13}$; k_5.
Optic nerve.	Structure in cross section.	Human.	$E_{5\ 2}$; F_9; G_{11}; H_1; K_5.
	Long. section through optic nerve, chiasm, and optic tract.	Pig embryo.	$E_{5\ 2}$; F_9; G_{11}; H_1; K_5.
Whole ear.	General relations.	Embryo pig.	a_1; f_{11}.
External ear.	Transv. section of soft parts of ext. auditory canal.	Human.	D_4; f_9; $g_{7\ 13}$; k_5.
Middle ear.	General structure.	Dog.	E_4; C_5; E_2; F_9; $g_{7\ 13}$; k_5.
Internal ear.	General view of cochlea, sacculus, and semicircular canals.	Baby.	E_4; C_1; E_2; F_9; $g_{7\ 13}$; k_5.
	Cochlea—vertical section.	Guinea pig.	D_9; E_2; C_1; E_2; G_1; F_{10}; i_3; k_5.
	Nerves and nerve endings at base of skull.	N. born mouse.	2 (E_{10}; G_{29}); D_4; F_9; H_5; K_5; (cf. v. Lenhossek).
	Nerves and nerve endings.	Guinea pig.	Retzius' method (cf. Böhm and v. Davidoff, p. 372).
Central Nervous System.			
Embryonic nervous system.	General form—relations of central nervous system in advanced embryo.	Embryo pig.	f_{11}. (To be preserved in formaline and used for reference throughout the course.)
	Transv. section—1 day chick.	Emb. chick.	Cf. sections given for study of animal cell.
	" " 3 " "	Emb. chick.	

Subject.	Special Features Illustrated.	Animal.	Methods Employed.
Embryonic nervous system.	Longit. section young pig embryo.	Emb. pig.	D_{10}; E_2; F_9; $g_{7\ 13}$; k_5.
	Transv. section through region of third ventricle.	Emb. pig.	D_{10}; E_2; F_9; $g_{7\ 13}$; k_5.
Spinal cord.	Structure in transv. section and technique of Weigert's stain.	Dog.	E_4; F_9; g_{10}; h_1; k_5.
	Another section in Upson's carmine.	Dog.	E_3; F_9; g_5 over night; k_5.
	Transv. section cervical enlargement.	Human.	E_4; F_9; G_{11}; H_1; k_5.
	" " thoracic cord.	Human.	"
	" " lumbar cord.	Human.	"
	Longitudinal section cervical cord.	Human.	"
	(*a*) laterally.	Human.	"
	(*b*) through mid. of hemisphere antero-posteriorly.	Human.	"
	Transv. section below hemi-section.	Monkey.	$E_{4\ 11}$; E_2; F_9; h_1; k_5.
	" " above hemi-section.	Monkey.	$E_{4\ 11}$; E_2; F_9; h_1; k_5.
	" " asc. deg. after section of post. roots.	Monkey.	$E_{4\ 11}$; E_2; F_9; h_1; k_5.
	" " descending degeneration.	Human.	E_4; F_9; G_{11}; H_1; K_5.
	" " ascending degeneration.	Human.	E_4; F_9; G_{11}; H_1; K_5.
	Study Golgi cord.		Cf. section given for study of neurone.
	Frozen section spinal cord.	Dog.	A_1; F_8; a_3.
	Structure of nerve cells in cord.	Dog.	D_4; F_{12}; G_{32}; H_7; K_7.
	Cord of fœtus nearly full term to show non-medullated pyramidal tracts.	Human.	E_4; F_9; G_{11}; H_1; K_5.
Myelencephalon and nerves directly connected with it.	Two transverse sections.	Adult human.	$E_{8\ 3}$; F_9; G_5; k_5.
	Six transverse sections.	Adult human.	$E_{8\ 4\ 3}$; F_9; G_{11}; H_1; K_5.
	Sec. through decussation of pyramids, after extirpation of thumb area in cortex.	Monkey.	$E_{8\ 4\ 11}$; F_9; H_1; K_5.
	Longitudinal section through pons and medulla.	Adult human.	$E_{8\ 4\ 3}$; F_9; G_{11}; H_1; K_5.
Metencephalon and nerves directly connected with it.	Four transverse sections at different levels through pons varolii.	Adult human.	$E_{8\ 4\ 3}$; F_9; G_{11}; H_1; k_5.
	Tr. section through pons in region of sup. olivary complex.	Cat.	$E_{8\ 4\ 3}$; F_9; G_{11}; H_1; K_5.
	Section of cerebellar cortex, including dentate nucleus.	Cat.	$E_{8\ 4\ 2}$; F_9; G_{11}; H_1; K_5.
	Finer structure of cerebellar cortex.	Cat.	E_4; G_{29}; F_9; h_5; k_5.

Subject.	Special Features Illustrated.	Animal.	Methods Employed.
Mesencephalon, Diencephalon and nerves directly connected with them.	Section through inferior colliculi corp. quad.	Human.	$E_{8\ 4\ 2}$; F_9; G_{11}; H_1; K_5.
	Section through superior colliculi corp. quad. including tegmentum, subst. nigra, cerebral peduncles, corpora mamillaria, optic tract, pulvinar and corpora geniculata.	Human.	$E_{8\ 4\ 2}$; F_9; G_{11}; H_1; K_5.
Diencephalon, Telencephalon and nerves directly connected with them.	Ten coronal sections for macroscopic study through hardened half brain, respectively, 30, 46, 55, 63, 69, 75, 86, 92, 107 and 137 mm. behind frontal pole.	Human.	E_8; F_6.
	Horizontal section for microscopic study including parts between wall of third ventricle and cortex of island of Reil.	Human.	$E_{8\ 4\ 2}$; F_9; G_{11}; H_1; K_5.
	Coronal section for microscopic study through thalamus and hypothalamus, including nucleus hypothalamica (Luysi),	Human.	$E_{8\ 4\ 2}$; F_9; G_{11}; H_1; k_5.
	Sections of cortex for microscopic study : (1) Upper part of gyrus centralis anterior. (2) Middle third of gyrus temporalis superior. (3) Cuneus adjacent to calcarine fissure. (4) Gyrus fornicatus. (5) Ammon's horn and nucleus amygdalæ. (6) Substantia perforata anterior. (7) Gyrus frontalis inferior (pars opercularis). (8) Gyrus angularis.	Human.	(1) $E_{8\ 4\ 2}$; F_9; G_{11}; H_1; K_5. (2) $E_{8\ 2}$; F_9; G_5; H_1; K_5.
	Finer structure of cortical substance.	Human.	E_4; G_{29}; F_9; h_5; k_5.
	Lobus olfactorius. Transv. section.	Human.	E_4; F_9; G_{11}; H_1; K_5.
	Transv. section.	Rabbit.	E_4; G_{29}; F_9; h_5; k_5.