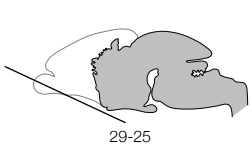
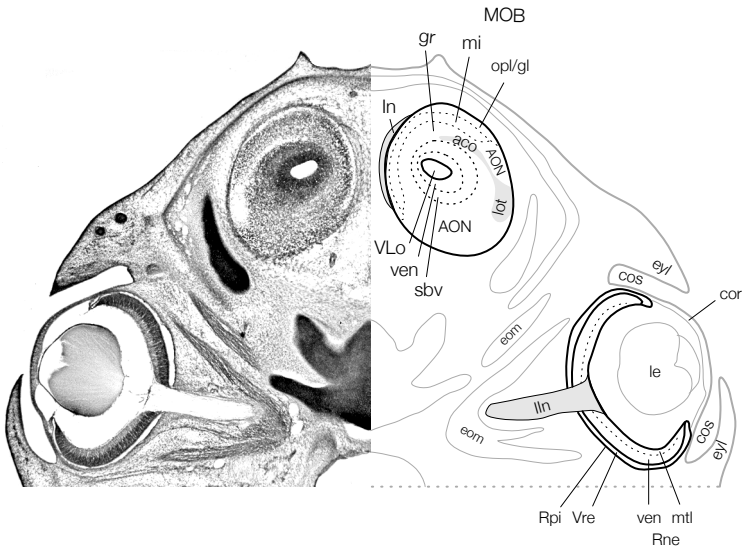
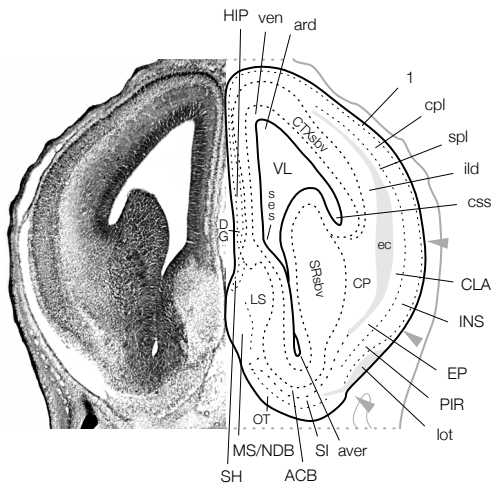
I. Embryonic Day 17: *further mantle differentiation*

By e17 the overall shape of the developing brain comes to resemble in outline that of the adult, except the cerebellum remains quite small. A rather complete series of 38 approximately transverse sections illustrates the appearance of the brain during this period, and another view of the forebrain region is provided by a series of 10 approximately horizontal sections.

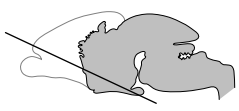


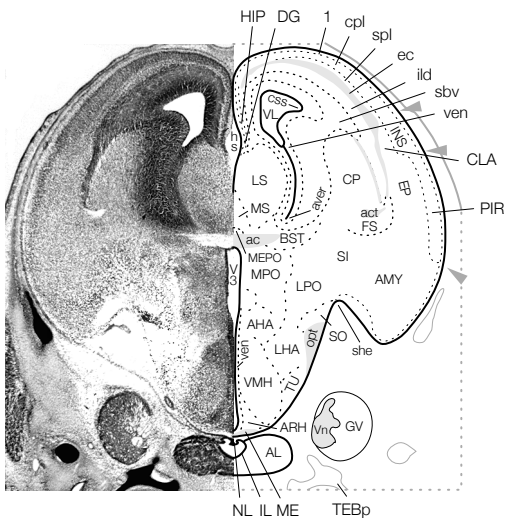


1

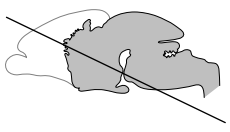


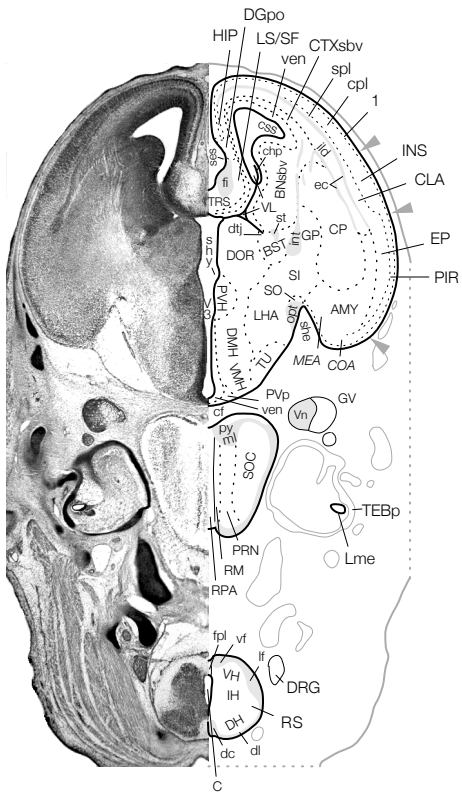
2





3



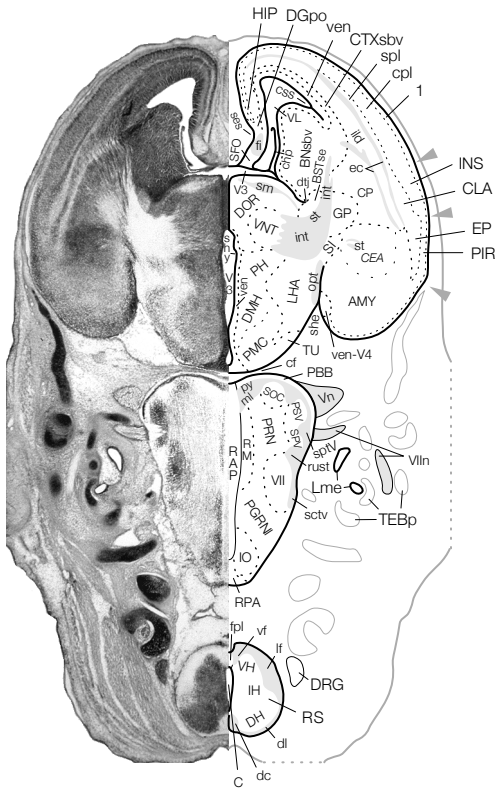


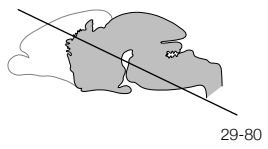
4

e17 horizontal

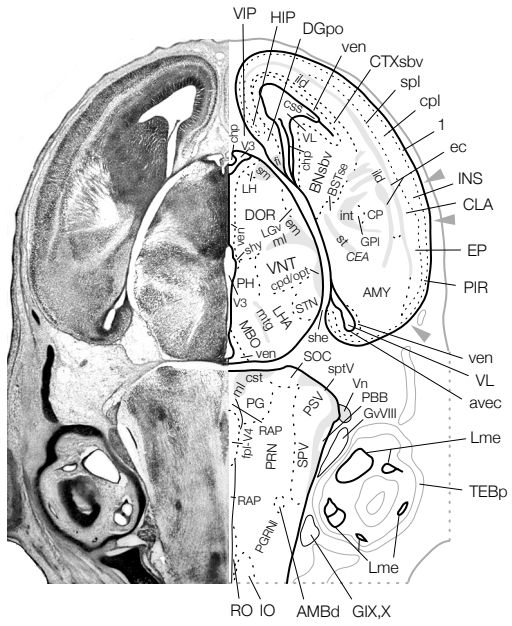
ac	anterior commissure
ACB	nucleus accumbens
aco	anterior commissure, olfactory limb
act	anterior commissure, temporal limb
AHA	anterior hypothalamic area
AL	pituitary gland, anterior lobe
AMBd	nucleus ambiguus, dorsal division
AMY	amygdala
AON	anterior olfactory nucleus
ard	dorsal arch, telencephalic vesicle
ARH	arcuate nucleus hypothalamus
avec, r	ventral angle, caudal, rostral
BNsbv	basal nuclei, subventricular layer
BST	bed nuclei stria terminalis
--se	--, posterior division, strial extension
C	central canal, spinal cord/medulla
CEA	central nucleus amygdala
cf	cephalic flexure
chp	choroid plexus
CLA	claustrum
CN	cochlear nuclei
COA	cortical nucleus amygdala
cor	cornea
cos	conjunctival sac
CP	caudoputamen
cpd	cerebral peduncle
CS	superior central nucleus raphé
css	corticostriatal sulcus
cst	corticospinal tract
CTX	cerebral cortex
--1	--, layer 1
--cpl	--, cortical plate
--ild	--, intermediate layer, deep sublayer
--sbv	--, subventricular layer
--spl	--, subplate
--ven	--, ventricular layer
dc	dorsal columns
DGpo	dentate gyrus, polymorph layer
DH	dorsal horn
dl	dorsolateral fascicle
DOR	dorsal thalamus
DMH	dorsomedial nucleus hypothalamus
DRG	dorsal root ganglion
dtj	ditelencephalic junction
ec	external capsule
em	external medullary lamina
ENT	entorhinal area
eom	extraocular muscles
EP	endopiriform nucleus
eyl	eyelid
fi	fimbria
fpl	floor plate
FS	fundus of the striatum
GIX,X	glossopharyngeal, vagal ganglia
GRN	gigantocellular reticular nucleus
GPl	globus pallidus, lateral segment
GV	trigeminal ganglion
GvVIII	vestibular ganglion
HIP	hippocampal region
hf	hippocampal fissure
hs	hippocampal sulcus
IH	intermediate gray spinal cord
lln	optic nerve
IL	pituitary gland, intermediate lobe
ln	olfactory nerve
INS	insular region
int	internal capsule
IO	inferior olive
lf	lateral funiculus
LG	lateral geniculate complex
LGv	lateral geniculate complex, ventral part
LH	lateral habenula
LHA	lateral hypothalamic area
Lme	membranous labyrinth
lot	lateral olfactory tract
LPO	lateral preoptic area

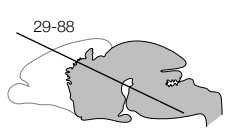
5



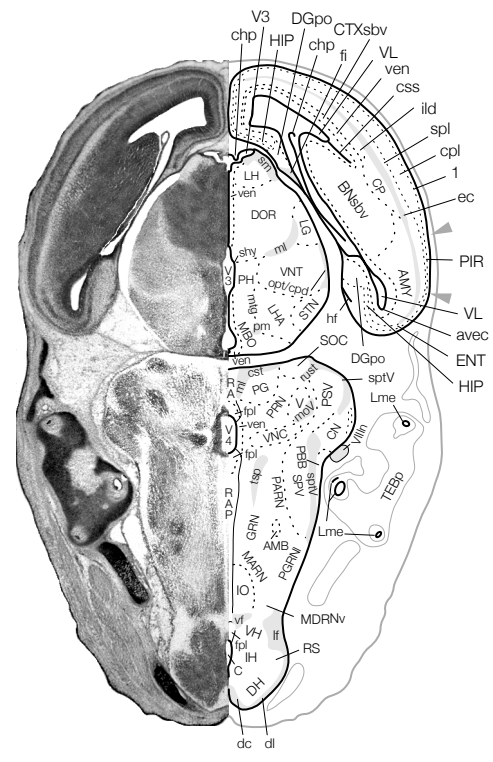


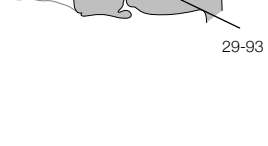
6





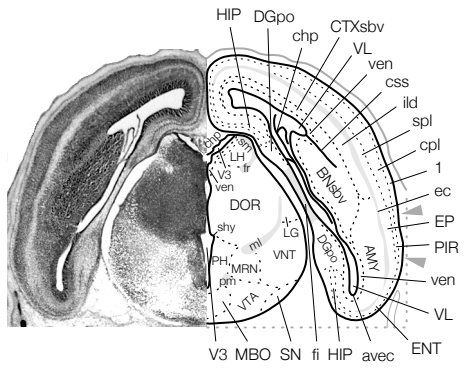
7



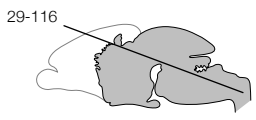


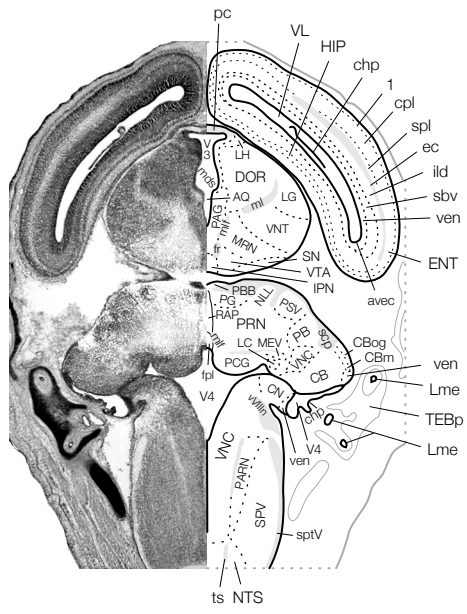
1 mm

LS	lateral septal nucleus
MARN	magnocellular reticular nucleus
MBO	mammillary body
MDRNv	medullary reticular nucleus, ventral part
ME	median eminence
MEA	medial nucleus amygdala
MEPO	median preoptic nucleus
ml	medial lemniscus
MPO	medial preoptic area
MOBgl	main olfactory bulb, glomerular layer
--gr, mi	--, granule cell, mitral layers
--opl	--, outer plexiform layer
moV	motor root of the trigeminal nerve
MS/NDB	medial septal n./n. of the diagonal band
mtg	mammillotegmental tract
NL	pituitary gland, neural lobe
opt	optic tract
OT	olfactory tubercle
PARN	parvicellular reticular nucleus
PBB	pontobulbar body
PG	pontine gray
PGRNl	paragigantocellular reticular n., lateral part
PH	posterior hypothalamic nucleus
PIR	piriform area
pm	principal mammillary tract
PMC	premammillary nuclear complex
PPN	pedunculopontine nucleus
PSV	principal sensory nucleus of the trigeminal
PVH	paraventricular nucleus hypothalamus
PVp	posterior periventricular n. hypothalamus
py	pyramidal tract
RAP	brainstem raphé
RM	nucleus raphé magnus
Rne-mtl	neural retina--mantle layer
Rne-ven	neural retina--ventricular layer
Rpi	retina, pigmented layer
RPA	nucleus raphé pallidus
RO	nucleus raphé obscurus
RS	reticular nucleus spinal cord
rust	rubrospinal tract
sbv	subventricular layer
sctv	ventral spinocerebellar tract
ses	septal sulcus
SF	septofimbrial nucleus
SFO	subfornical organ
SH	septohippocampal nucleus
she	hemispheric sulcus
shy	hypothalamic sulcus
SI	substantia innominata
sm	stria medullaris
SO	supraoptic nucleus
SOC	superior olivary complex
sptV	spinal tract of the trigeminal nerve
SPV	spinal nucleus of the trigeminal nerve
SRsbv	striatal ridge, subventricular layer
st	stria terminalis
STN	subthalamic nucleus
TEBp	temporal bone, petrous part
TRS	triangular nucleus septum
tsp	tectospinal pathway
TU	tuberal nucleus
V	motor nucleus of the trigeminal nerve
V3, V4	third, fourth ventricles
ven	ventricular layer
vf	ventral funiculus
VH	ventral horn spinal cord
VII	facial nucleus
VIIn	facial nerve
VIIIn	vestibulocochlear nerve
VIP	velum interpositum
VL, VLo	lateral ventricle, olfactory part
VMH	ventromedial nucleus hypothalamus
Vn	trigeminal nerve
VNC	vestibular nuclei
VNT	ventral thalamus
Vre	retinal ventricle

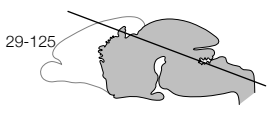


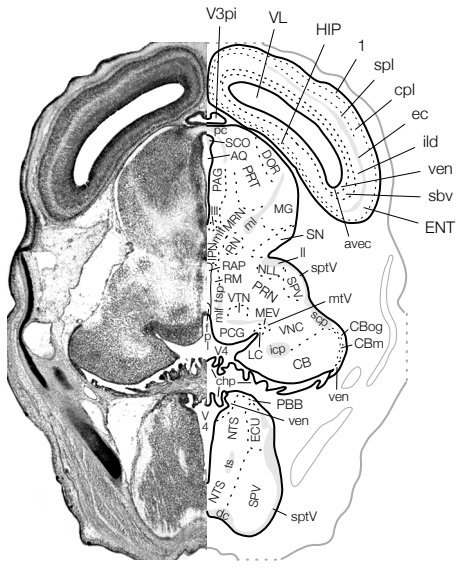
8





9





10

e17 horizontal

1 mm

AMY	amygdala
AQ	cerebral aqueduct
avec	ventral angle, caudal
BNsbv	basal nuclei, subventricular layer
CB	cerebellum
CBm	cerebellum, molecular layer
CBog	cerebellum, outer granule cell layer
CN	cochlear nuclei
css	corticostriatal sulcus
CTX	cerebral cortex
--1	--, layer 1
--cpl	--, cortical plate
--ild	--, intermediate layer, deep sublayer
--sbv	--, subventricular layer
--spl	--, subplate
--ven	--, ventricular layer
dc	dorsal columns
DGpo	dentate gyrus, polymorph layer
DOR	dorsal thalamus
ec	external capsule
ECU	external cuneate nucleus
ENT	entorhinal area
EP	endopiriform nucleus
fi	fimbria
fpl	floor plate
fr	fasciculus retroflexus
HIP	hippocampal region
icp	inferior cerebellar peduncle
III	oculomotor nucleus
IPN	interpeduncular nucleus
LC	locus coeruleus
LG	lateral geniculate complex
LH	lateral habenula
ll	lateral lemniscus
Lme	membranous labyrinth
MBO	mammillary body
mds	mesencephalic-diencephalic sulcus
MEV	mesencephalic nucleus of the trigeminal
MG	medial geniculate complex
ml	medial lemniscus
mlf	medial longitudinal fascicle
MRN	mesencephalic reticular nucleus
mtV	mesencephalic tract of the trigeminal
NLL	nucleus of the lateral lemniscus
NTS	nucleus of the solitary tract
PAG	periaqueductal gray
PARN	parvicellular reticular nucleus
PB	parabrachial nucleus
PBB	pontobulbar body
pc	posterior commissure
PCG	pontine central gray
PG	pontine gray
PH	posterior hypothalamic nucleus
PIR	piriform area
pm	principal mammillary tract
PRN	pontine reticular nucleus
PRT	pretectal region
PSV	principal sensory nucleus of the trigeminal
RAP	brainstem raphé
RM	nucleus raphé magnus
RN	red nucleus
SCO	subcommissural organ
scp	superior cerebellar peduncle
shy	hypothalamic sulcus
sm	stria medullaris
SN	substantia nigra
sptV	spinal tract of the trigeminal nerve
SPV	spinal nucleus of the trigeminal nerve
SRsbv	striatal ridge, subventricular layer
TEBp	temporal bone, petrous part
ts	solitary tract
tsp	tectospinal pathway
V3	third ventricle
V3pi	third ventricle, pineal recess
V4	fourth ventricle
ven	ventricular layer
VL	lateral ventricle
VNC	vestibular nuclei
VNT	ventral thalamus
VTA	ventral tegmental area [Tsai]
VTN	ventral tegmental nucleus [Gudden]
vVIIIn	vestibular nerve