ILLUSTRATIONS

FIGURES

Figure 1.1	A typical neuron 2
Figure 1.2	Connections between neurons 2
Figure 1.3	Types of neurons 2
Figure 1.4	Peripheral nerve 2
Figure 2.1	Brain, oblique view 8
Figure 2.2	Brain, lateral view 8
Figure 2.3	Brain, lateral view 8
Figure 2.4	Brain, basal view 8
Figure 2.5	Brain, horizontal (transverse) section 10
Figure 2.6	Brain, midsagittal view 10
Figure 2.7	Brain stem, midbrain 10
Figure 2.8	Superior surface of cerebellum 10
Figure 2.9	Inferior surface of cerebellum 10
Figure 2.10	Cutaway view of spinal cord 12
Figure 3.1	Pain and temperature pathway from extremities 14
Figure 3.2	Nerve fibers between spinal cord and skin 14
Figure 4.1	Pathway for pressure and crude touch 20
Figure 5.1	Pathway for proprioception, fine touch, and vibratory sense 22
	Brain and spinal cord 22
Figure 6.1	Pain and temperature and pressure and touch pathways from
%,	face 26
Figure 6.2	Mesencephalic nucleus with proprioceptive inputs 26
	Corneal or blink reflex 26
Figure 7.1	Corticospinal tract 32
Figure 7.2	Internal capsule 32
Figure 8.1	Corticobulbar motor pathway to voluntary muscles of the head 38
Figure 8.2	Area of brain for eyeball movements 38
	Corticobulbar motor innervatin of upper and lower face 38
	Horizontal section of brain 42
	Cross-section of midbrain 42
	Pathways to and from the subcortical motor areas 42
	Vestibulocerebellar pathways 48
	Vestibuloocular and vestibulospinal pathways 49
	Spinocerebellar pathways 54
	Vestibulocerebellar and corticopontocerebellar pathways 56
	Cerebellar feedback pathways 57
	Water tap principle 60
Figure 12.2	Sympathetic outflow 60

Figure 1		Parasympathetic outflow 63
Figure 1	2.4	Summary of general plan of autonomic nervous system 64
Figure 1	3.1	Sensory cranial nerves 68
Figure 1	3.2	Motor cranial nerves 68
Figure 1	3.3	Mixed cranial nerves 68
Figure 1	3.4	Oculomotor nerve (cranial nerve III) 69
Figure 1	3.5	Facial nerve (cranial nerve VII) 72
Figure 1	3.6	Facial nerve 72
Figure 1	3.7	Glossopharyngeal nerve (cranial nerve IX) 75
Figure 1	3.8	"Gag" or swallowing reflex 76
Figure 1	3.9	Ganglia associated with cranial nerves 77
Figure 1	3.10	Summary of fiber types passing through the ciliary ganglion 78
Figure 1	3.11	Schematic of sensory innervation of tongue 78
Figure 1	3.12	Sensory innervation of teeth and gingivae (gums) by branches of the
		trigeminal nerve 79
Figure 1	4.1	Auditory pathways 82
Figure 1	5.1	Horizontal section of brain showing optic pathways 86
		Midsagittal view of brain 86
Figure 1	5.3	Map of visual fields 86
		Optic reflexes 88
Figure 1	6.1	Olfactory and limbic systems 92
Figure 1	6.2	Olfactory and limbic systems 92
Figure 1		Olfactory and limbic systems 92
Figure 1		Schematic diagram of the descending reticular formation 96
Figure 1		Hypothalamic nuclei 100
Figure 1		Hypothalamic pathways 100
Figure 1	8.3	Hypothalamic control of posterior pituitary 102
Figure 1	8.4	Hypothalamic control of anterior pituitary 102
Figure 1	9.1	Lateral view of brain 107
Figure 1	9.2	Sagittal view of brain 107
Figure 1	9.3	Lateral view of brain 107
Figure 2	0.1	Frontal section showing meninges and dural sinuses 110
Figure 2	0.2	Falx cerebri and falx cerebelli 110
Figure 2	0.3	Meninges of spinal cord 110
Figure 2	1.1	Cerebral arteries, basal view 114 Cerebral arteries, lateral view 114
Figure 2	1,2	Cerebral arteries, lateral view 114
		Cerebral arteries, midsagittal view 114
Figure 2	1.4	Venous drainage 114
Figure 2	1.5	Deep cerebral veins 115
Figure 2	1.6	Cross-section of cavernous sinus 115
Figure 2	2.1	Ventricles, lateral view 118
Figure 2	2.2	Ventricles, basal view 118
Figure 2	2.3	Choroid plexus and flow of cerebrospinal fluid 118
Figure 2	2.4	Flow of cerebrospinal fluid 118
_		Diagram of spinal tap 118
Figure H		Horizontal section of the superior part of normal brain 196
Figure H		Horizontal section at a lower level 196
Figure H		Horizontal section at a still lower level 196
Figure H		Horizontal section at basal part of brain 196
Figure H		Coronal section of brain 197
Figure H	1.6	Horizontal cut through middle of orbits 197

)	K	•	
		<u>_</u>	7
	•	בכר	
		ב	_
			4
	Ξ	=	
	•		

Figure H.7	Horizontal section through middle and inner ear 197	
Figure H.8	Hydrocephalus 198	
Figure H.9	Infarct 198	
Figure H.10	Intracerebral hemorrhage 198	
Figure H.11	Epidural hematoma 198	
Figure H.12	Abscess 199	
Figure H.13	Meningioma 199	
Figure H.14	Astrocytoma 199	
Figure H.15	Metastasis 199	
Figure H.16	CT study showing medulloblastoma 200	
Figure H.17	Horizontal section showing a pituitary growth 200	
Figure H.18	CT myelography 200	
Figure H.19	Horizontal section showing subdural hematoma 200	
Figure I.1a	Midsagittal section of brain 204	
Figure I.1b	Midsagittal section of brain with identifying leaders 204	
Figure I.2	Horizontal section of brain 205	
Figure I.3	Horizontal section of brain, lower than Figure 1.2 205	
Figure I.4	Horizontal section of brain, lower than Figures I.2 and I.3, showing	
	midbrain 205	
Figure I.5	MRI scan of inner ear 205	
Figure I.6	Midsagittal MRI scan showing slipped disc 206	
Figure I.7	Syringomyelia and damaged thoracic vertebrae 206	
Figure I.8	Multiple sclerosis 207	
Figure I.9	Coronal section of brain 207	
Figure I.10	Arteriovenous malformation 207	
Figure I.11	Acoustic neuroma 207	
Figure I.12	Vertebral column 208	
Figure I.13	Lateral view of brain 208	
Figure I.14	Acoustic neuroma 208	
Figure I.15	Pituitary tumor 208	

ATLAS PLATES

Atlas Plate B.1	Lateral view of brain 155
Atlas Plate B.2	Basal view of brain 156
Atlas Plate B.3	Midsagittal view of brain 157
Atlas Plate B.4	Enlarged midsagittal view of brain 158
Atlas Plate B.5	Cross-section of brain at level of anterior commissure 159
Atlas Plate B.6	Cross-section of brain at level of mamillary bodies 160
Atlas Plate B.7	Ventral view of brain stem 161
Atlas Plate B.8	Dorsal view of brain stem 162
Atlas Plate B.9	Cross-section of midbrain at level of superior colliculus 163
Atlas Plate B.10	Cross-section of midbrain at level of inferior colliculus 163
Atlas Plate B.11	Cross-section of pons at facial colliculus 164
Atlas Plate B.12	Cross-section of lower pons 164
Atlas Plate B.13	Section through upper medulla 165
Atlas Plate B.14	Section through lower medulla 165
Atlas Plate B.15	Section through spinal cord at midcervical level 165
Atlas Plate B.16	Interior of cranium 166

MAPS

Map D.1 Dermatomes, anterior view 173
Map D.2 Dermatomes, posterior view 174

Illustrations **x**

© copyrighted material by PROLED. Inc.