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A Reappraisal of the Ascending Systems in Man, with Emphasis on the Medial Lemniscus

With 24 Figures and 1 Table

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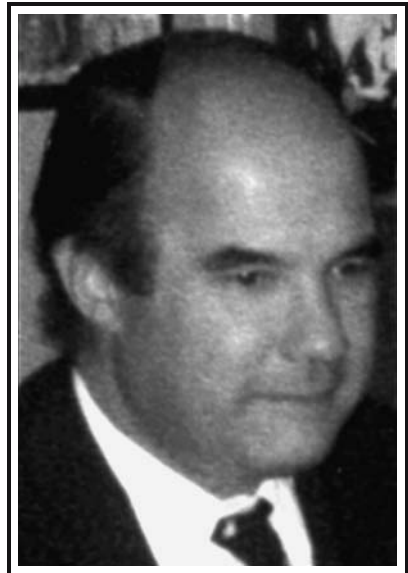
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Jaap H.R. Schoen
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Abbreviations

(The abbreviations apply to all figures.)

bc	Brachium conjunctivum
bci	Brachium colliculus inf.
bcs	Brachium colliculus sup.
C	Nucl. interstitialis Cajal
CE	Nucl. cuneatus ext.
CGM	Corpus geniculatum med.
Ci	Capsula interna
CM	Center median
CND	Nucl. centralis griseus dors.
CNV	Nucl. centralis griseus ventr.
CNS	Nucl. centralis sup.
CP	Commissura post.
cp	Pedunculus cerebri
cr	Corpus restiforme
Ctt	Tractus tegmentus centralis
CU	Nucl. cuneatus int.
Cun	Nucl. cuneiformis
dbe	Decussatio bc
dp	Decussatio pyramidalis
drV	Ramus descendens NV
dsc	Tractus dorsospinocerebellaris
DV	Nucl. vestibularis descendens
DX	Nucl. dorsalis vagus
fa	Fasciculus anterior
fatl	Fasciculus antero-lateralis
FL	Fasciculus lat.
flm	Nucl. fasciculus longitudinalis med.
fp	Fasciculus posterior
frr	Fasciculus reticulo-tectalis spinalis
GC	Griseum centrale mesencephali
Gc	Nucl. reticularis gigantocellularis

GR(N)	Nucl. gracilis
g VII	Genu nucl. facialis
ia	Fibrae arcuatae internae
IC	Colliculus inf.
Icol	Nucl. intercolliculare
ll	Lemniscus laterale
ml	Lemniscus mediale
mlf	Fasciculus longitudinalis med.
MV	Ramus mesencephalicus NV
MV	Nucl. vestibularis med.
N	Substantia nigra
nc	Tractus cuneocerebellaris
NIII	Nucl. oculomotorius
NVI	Nucl. abducens
NVII	Nucl. facialis
NXII	Nucl. hypoglossus
Oc	Tractus olivocerebellaris
p	Tractus pyramidalis
P	Promontorium
Pc	Nucl. pontocaudalis
pf	Fasciculus praedorsalis
pl	Area paralemniscale
Pmd(s)	Promontorium, marginalis disseminatus
PR	Nucl. praepositus hypoglossi
Pul	Pulvinar thalami
PV	Nucl. princeps NV
R	Nucl. ruber
Rp	Repagulum
S	Tractus solitarius
SC	Colliculus sup.
SO	Nucl. oliva sup.
Ssp	Substantia (nucl.) supraspinalis
Sth	Tractus spinothalamicus
Tppc	Nucl. tegmenti pedunculo pontinus pars compacta
Vsc	Tractus spinocerebellaris ventralis
vma	Velum medullare ant.
VPL	Nucl. ventralis posterior lat.
VPM	Nucl. ventralis posterior med.
II	Tractus opticus

Preface

This volume of *Advances in Anatomy, Embryology and Cell Biology* is based on material assembled by Dr. Jaap H.R. Schoen. Jaap Schoen published his results only partially himself (see Schoen's references in the preface of Usunoff et al. 1997). After his sudden death, due to a diving accident, Jan Voogd and Hans Feirabend of our Neuroregulation group encompassed his cerebellar results in the chapter on the cerebellum and precerebellar nuclei in Paxinos' *The Human Nervous System* (Voogd et al. 1990), while Kamen Usunoff and myself grouped Schoen's trigeminal results and presented them together with the background of the outcome of recent animal trigeminal experiments in *Advances in Anatomy, Embryology and Cell Biology* 136 (Usunoff et al. 1997).

Jaap Schoen described his series thoroughly and worked them out in serial drawings of the most important sections. Numerous scientists have consulted this material. Together with the abstracts of the Dutch Anatomical Society and half-finished descriptions of the different parts of the central nervous system for his thesis, the pattern of his results emerged.

A large series of results are available that still have to be published. Since Jaap Schoen "was one of the few neuroanatomists to apply the Nauta method to human material" (Voogd et al. 1990), his results are highly important for human neuroanatomy. This monograph contains part of his material. Some repetition, especially of figures, is inevitably due to the dispersed publication of Schoen's results in various books, monographs, articles, and abstracts (see Usunoff et al. 1997).

I acknowledge Jan Voogd for the correction of the part on spinal ascending systems of this monograph and Kamen Usunoff for correcting the whole manuscript. Madame Tineke Schoen-Obink is thanked for permission to use the results of her late husband's work.

January 2005

Enrico Marani