

AN  
INAUGURAL DISSERTATION

ON

*"The Portio Dura or Facial Nerve"*

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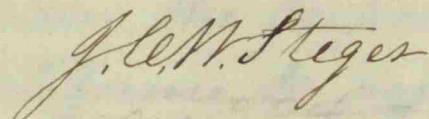
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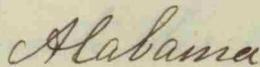
FOR THE DEGREE OF

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## Portio Dura or Facial Nerve

The class of Nerves to which the above belongs, comes off from the Base of the Brain. There are nine pairs, and are divided into Nerves of Special Sensation, of Common Sensation, and of Motion. A Nerve is an organ of Sensation or Motion. In our treatise upon this nerve, we wish to notice its anatomy, Physiology and Pathology. To begin its anatomy, we notice it arising from that portion of the Brain, known as the Medulla Oblongata, in the groove between the Corpora Oliare & corpora restiforme. It passes forwards along the crus cerebelli, and comes in relation with the auditory nerve, with which it enters the Meatus Auditorius interius, lying first to the inner side and then upon that nerve.

It enters a canal in the bottom of the Meatus intericus expressly intended for it, and directs its course forwards towards the hiatus Fallopii, where it forms a gangliform swelling and receives a small branch from the Iidian. It then curves backwards towards the Tympanum and descends along the inner wall of that cavity to the Stylo Mastoid foramen, through which it emerges into the Parotid gland, crossing the external jugular vein and external Carotid artery, and at the ramus of the lower jaw, divides into two trunks, the Temporo-facial & Cervico-facial. The trunks immediately split into numerous branches, which form looped communications with each other, and various anastomoses with the fifth, and spreads out upon the side of the face; the Temporo-fa-

cial upon the upper half of the face and temple, and the Cervico-facial upon the lower portion of the face and neck— Before the Nerve divides into these trunks it gives off a posterior auricular branch which ascends behind the ear, and communicates with filaments of the Preu-mogastric, and sends branches to the external ear. It gives off a branch also to the Stylo-hyoïd Muscle, and another to the digastric Muscle. Within the aqueduct of Fallopii it gives a branch to the Stapedius, and another to the chorda tympani; which passes through the Ovula-nun to the opening in the fissura Glaseri and joins the Gustatory Nerve. Enclosed in its sheath, it descends into the Sub-massillary gland & unites with Sub-massillary ganglion. This nerve is dependent upon

the fifth for a perfect knowledge of the  
muscles over which it presides. We next  
notice the Physiology of this nerve. First—  
being directly connected with the Brain, it  
acts as a Medium, and gives us expression  
which has been said to be an Index to the  
Mind, owing to the many States of  
which, can be made known by it, and  
from the further fact, that, we can  
judge of the natural turn of Mind  
which an individual possesses. In  
the loss of this then, while it would  
not involve the loss of any of the vi-  
tal functions essential to life, would  
deprive our race of their original beau-  
ty and perfection. While this is very des-  
irable, and should be the constant care  
of the Surgeon to preserve, it is not of  
the same importance as other cours-

quences which would result from a division of this Nerve. We consider that of Respiration of paramount importance. In ordinary respiration this Nerve is not called into play; but when by exertion of the Body, the circulation is increased, and a proportionable amount of aeration is required, the Muscles over which this Nerve presides is brought into play. That this is so, is proven by the daily experience of every one, though we can not properly appreciate it until this Nerve is paralyzed. Now this modification of respiration, is directly under the control of the Will, and can be varied to suit any emergency. Paralysis of this Nerve, that would deprive it of its influence in respiration, would involve

the loss of the proper exercise of, if not  
the functions of the two special senses  
Smell & Taste. We would be unable to  
draw air briskly up to the olfactory  
Nerve, and it would not respond to  
odors, unless they were so brought  
The Lips would flap loosely, and  
food would lodge between the cheeks  
and gums. The angles of the Mouth  
would hang down motionless, except  
in an attempt to blow or whistle,  
when they would be moved by the ex-  
pired air. This being the case, we would  
lose the power of speech, not being  
able to move the Lips to modify sounds  
By such paralyses, we would also lose  
the power of lighting up the face  
with a smile, and Expression would  
be very materially interfered with

not go much however, as paralysis of  
the branch of its distribution to the  
Eye, for by this we can express the em-  
otions of the Mind, after we are deprived  
of the power of speech. But for this  
Nerve the Eye would remain open &  
foreign matter coming in contact  
with it, would cause thickening and  
consequent opacity of the Cornea. The  
Tears would run down and exori-  
ate the Cheek. The face would pre-  
sent a characteristic vacant look and  
the Eye an unmeaning stare, and con-  
sequently the power to make known the  
States of the Mind would be lost, for  
this is the only Medium, through which  
it can issue its Mandates. Its origin  
from the Brain is marked in the groove  
between the Corpus olivare & rectiforme

the Fibres of which diverge and converge to form the Cerebrum and Cerebellum, which are regarded as as the center of the Nervous system of the Nerves of Special Sense, and of motion of the Intellect, and of the passions of pleasure and of pain. By its means we are placed in relation to all that is external. We believe the Brain to be the seat of the Mind, and that impressions made upon the Brain, develops the Mind and this development constitutes the Intellect. If then this Nerve is directly under the control of the Will, and guards all the channels through which impressions can be made upon the

Mind by external objects, is not its perfection necessary, in order to the recognition of impressions, of which the Mind can take cognizance, as well as to the proper exercise of all the organs of Special Senses; we have noticed the distribution of this Nerve to all the Muscles concerned in Respiration and Inspiration & the consequences of its division to both. When one side of the Nerve is paralyzed, and the other lighted up with a Smile, the paralyzed side is greatly exaggerated. We notice now the other distributions of this Nerve. The movements of the internal Ear that appropriate the undulations of sound, depend altogether on this Nerve, yet we cannot modify its action. Neither can we that of the Utricle, the movements of which dep.

ends upon this Nerve. These distributions call for another classification, as we have no control over them. Division of the branch distributed to the ear would involve the loss of its function, and as a consequence the power of speech from the man not being able to hear himself speak or others speak to him he would soon cease communicating with his friends in this manner —

There is a branch of this Nerve which descends, with the Gustatory, to the Tongue division of which would not only affect the power of speech, but the function of the Organ of Taste, in so far as it depends upon the solution of rapid Substances —

We have now noticed the distribution of this Nerve, the important part

it plays in enabling the organs of Special Sense to perform properly their functions, and the consequences of its division. We have adopted the classification of those authors, who regard this as a division of the Seventh pair, and also as a Nerve of Motion. Now as a Nerve of Motion it should not be regarded independent of the fifth Nerve, because, as already stated, it is dependent upon it for a knowledge of the muscles over which it presides. In paralysis of this Nerve we would in the first place lose the impression of the States of the Mind and with it the power of the Mind to convey impression to

the Brain. So we would not  
only suffer physically but  
mentally. The proper exercise  
of the functions of the Special  
Senses would also be interfered  
with, if not lost. If such a state  
of things was not followed by  
Death, it would deprive us of  
all ~~for~~ which it would be desira-  
ble to live; especially to the Lover as  
he can no longer hear the foot-fall of  
his Intended, nor read the emotions of  
her Mind in expression, nor see in the  
beautiful Rose-gay, nor listen to her  
musical voice. Then let us as  
Surgeons Study to preserve it, that  
we may not detract from the happiness  
of our fellow Men— Respectfully  
Faculty of N. U.— J. C. W. Steger

Medical Department