

**ON INFANTILE PARALYSIS
AND SOME ALLIED DISEASES
OF THE SPINAL CORD: THEIR
DIAGNOSIS AND TREATMENT**

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On infantile paralysis and some allied diseases of the spinal cord: Their diagnosis and treatment
by Julius Althaus

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JULIUS ALTHAUS

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ON
INFANTILE PARALYSIS

AND
SOME ALLIED DISEASES OF THE
SPINAL CORD:
THEIR DIAGNOSIS AND TREATMENT.

BEING
AN ESSAY,
*To which the Silver Medal of the Medical Society of London
was awarded, on March 8, 1878.*

—o—
BY
JULIUS ALTHAUS, M.D., M.R.C.P. LOND.,

*Senior Physician to the Hospital for Epilepsy and
Paralysis, Regent's Park.*



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LONGMANS AND CO., PATERNOSTER ROW.

1878.

151 . 0 . 436

Year	Number of students	Number of teachers	Number of students per teacher	
			Actual	Target
2000	2,000	20	100	5
2001	2,000	20	100	5
2002	2,000	20	100	5
2003	2,000	20	100	5
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2005	2,000	20	100	5
2006	2,000	20	100	5
2007	2,000	20	100	5
2008	2,000	20	100	5
2009	2,000	20	100	5
2010	2,000	20	100	5
2011	2,000	20	100	5
2012	2,000	20	100	5
2013	2,000	20	100	5
2014	2,000	20	100	5
2015	2,000	20	100	5
2016	2,000	20	100	5
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2019	2,000	20	100	5
2020	2,000	20	100	5
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2050	2,000	20	100	5

This paper was read before the Medical Society of London, on February 11th, 1878, and is now published in a separate form, the subject being one of considerable scientific and practical importance, and not having been fully understood up to the present time.

36, BRYANSTON STREET,
PORTMAN SQUARE.

March, 1878.

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ON INFANTILE PARALYSIS.

ALTHOUGH Ollivier's large and important work on diseases of the spinal cord appeared as long ago as 1824, yet it may be truly said that a more precise knowledge of the affections to which that organ is liable, is of very recent date; and there are now few departments of pathology in which so much remains to be accomplished as in the one to which I purpose to draw attention in this paper. Indeed, the more we have come to know of it, the more abundant appears the crop of fresh problems which spring up at every step, and for which we are as yet totally unable to offer a satisfactory solution. With regard to the functions of the cord in health, there was more agreement amongst physiologists thirty years ago than there is at the present day. It is true that we are now much better acquainted with certain functions of the grey matter in the centre of the cord, and of the white posterior columns, than was formerly the case; yet we seem, after a number of ingenious experimental investigations, more in the dark than ever

concerning the function of the white anterior columns. Again, while Pflüger has, by most able researches and acute reasoning, attempted to vindicate for the upper portion of the cord, certain functions which we have hitherto been in the habit of looking upon as purely cerebral or mental, Goltz has in almost as masterly a manner gainsaid all these conclusions. Much, no doubt, is known about the cord as a centre of sensation, motion, reflex action, co-ordination, and its influence on the movements of the bladder, rectum, and the male and female organs of generation; yet we are still unacquainted with the mode of its action on the various secretions, more especially of the salivary glands, the womb, ovaries, kidneys, and testicles, to all of which the cord appears to have an intimate relation.

The same considerations apply to the department of normal and pathological histology of the cord, on which so much light has been shed by the researches of Lockhart Clarke, Deiters, Frommann, Charcot, and others; for even at the present moment so elementary and important a question as that of the intimate structure of the neuroglia, or cementing tissue of the nervous matter in health, is in dispute. Since Virchow's researches on this point were first made known, the microscopical characters of the neuroglia have been a favourite subject of study on the part of the foremost microscopists in Germany,

England and France ; and according to Boll's most recent researches it appears to consist of multipolar connective tissue cells, with numberless fine processes and nuclei. If we turn to pathological histology, there is as yet much divergence of opinion as to what should be considered inflammation, and what, on the other hand, secondary degeneration, arising not from an irritative process, but from failure of the nutritive or trophic action of the nerve-cells on the nerve-fibres. Certain pathological appearances, such as softening, disintegration, varicose nerve-sheaths, etc., may be artificially produced by post-mortem changes, unless the specimens be kept in an ice-chamber, or at least at a temperature very little above freezing-point; and the very application of chromic acid, intended for the preservation of the parts, has sometimes led to errors when the solution used was too strong, in consequence of which the peripheral portions of the specimens hardened too rapidly, and became a barrier against the further penetration of the acid, leaving the central parts unaffected, and therefore liable to decomposition.

In experimental pathology, some good and suggestive work has been done, and which promises, if continued and enlarged, to give us a clearer insight into the mode of production of the structural changes which occur in diseases of the cord. Myelitis was first experimentally produced by