FROZEN SECTIONS OF A CHILD: FIFTEEN DRAWINGS FORM NATURE

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OF A

CHILD

BY

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FIFTEEN DRAWINGS FROM NATURE

BY

H. P. QUINCY, M.D.

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PREFACE.

THE sections that form the basis of this little work were made, with many others, during the winter of 1880-81, to illustrate my lectures at the Harvard Medical School. The sections were so instructive, and the series so perfect, that I was very anxious to have them drawn and published. The subject was the body of a girl, said to be three years old. The length was thirty-three inches. At this age the proportions of the body, and of the organs, are no longer those of the infant, and not yet those of the adult. The anatomy of this age has received little attention, and I hope that this work may therefore be of use. It will serve, also, for the study of the adult relations, as the peculiarities due to the age of the subject are carefully noticed in the text. I have endeavored to call attention to the most important inferences to be drawn from the plates, and have mentioned, incidentally, many points of anatomy which the student will not find in the text-books. The reader is urged, however, to study the plates carefully for himself. They are of life-size, and drawn from the sections with great care and patience. The arteries were injected.

Believing, as I do, that frozen sections will play an important part in the anatomical teaching of the future, I shall say nothing of their

advantages, which speak for themselves, but will mention some of their shortcomings. One would expect that they would be very well suited for the study of fasciæ; and so they are if you destroy the specimen by removing the tissues between the fasciæ. Otherwise you see little or nothing of them, for few fasciæ are thick enough to be easily distinguished when seen in section. Small vessels that have not been injected—the thoracic duct, for instance, and nerves that are cut across—are often made out only with great difficulty. I feel it my duty to admit that there is serious doubt whether in all the plates the pneumogastrics and the thoracic duct are placed quite accurately in the posterior mediastinum.

My experience with frozen sections enables me to offer the following directions for making them. First, be very sure that the body, or part, to be frozen is in precisely the position you desire, and that there are no folds or indentations in the skin. I always use natural cold when possible. Weather much above zero (Fahrenheit) is unsatisfactory; but if the part is thoroughly chilled by several days' exposure to a pretty low temperature, a night of 10° may possibly finish it. Salt and ice, or snow, no doubt, will answer the purpose, but much time and patience are required. It is essential that the melted ice should have a chance to run off. The body should be frozen like a rock—so much so that the operator cannot tell whether he is cutting bone or muscle. Tooth is the only tissue he should be able to recognize. The sections should be made in a cold room, with a very sharp saw that has been chilled. When a section is cut, its surface is obscured by a thick half-frozen saw-dust, which is doubly thick if the freezing is not quite sufficient. It is wisest, if time allows, to remove this at once, which is done by pouring a little hot water

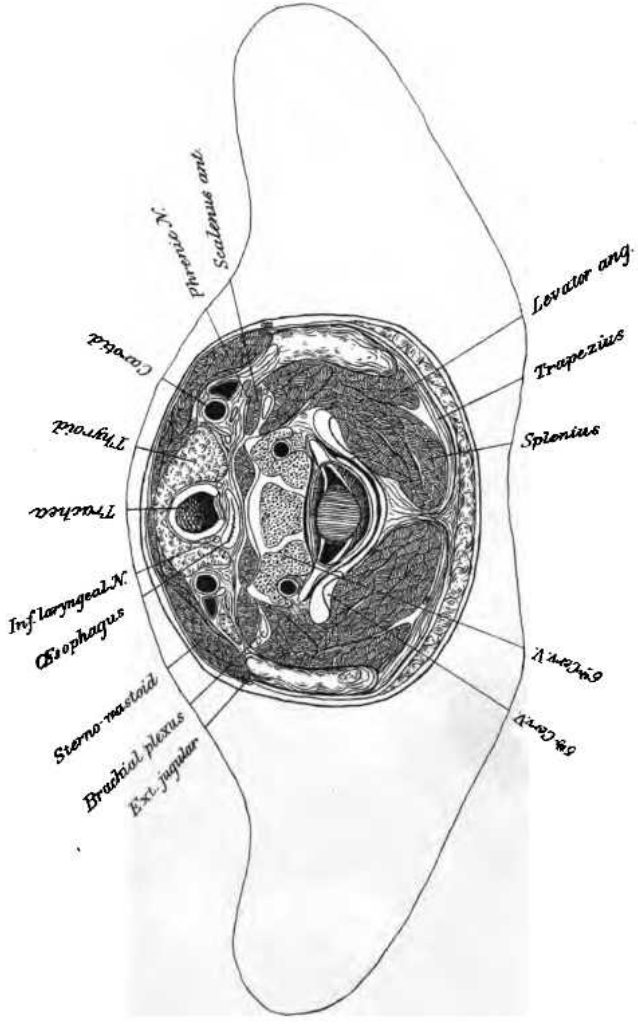
over the section and brushing or scraping it off rapidly and carefully. This is a very delicate part of the process, and its successful performance has much to do with the beauty of the specimen. If it is to be kept, it should be laid on a piece of glass or wood, and placed at once, while still frozen, in *cold* alcohol.

The specimens from which these plates are made are preserved at the Harvard Medical School, and are at hand to solve any doubts that may arise.

To study the plates turn the book so that the vertebra is nearest to you and imagine that you are looking down into your own body.

70 Beacon Street, Boston,
July, 1881.

PLATE. I


Phrenic N.
Scalenus ant.
Levator ang.
Trapezius
Splenius
Carotid
Thyroid
Trachea
Inf. laryngeal N.
Oesophagus
Sterno-mastoid
Brachial plexus
Ext. jugular
Sup. Cervl.
Sup. Cervl.