

OUR BOOK SHELF

Lehrbuch der vergleichenden Mikroskopischen Anatomie.
Von Dr. Herman Fol. Erste Lieferung. (Leipzig, 1884.)

THE present volume is the first of a work which promises to be in many respects an important addition to the literature of microscopic anatomy. It describes in clear and concise language most of the commendable methods used by the author himself for examining and preparing microscopic specimens of animal tissues.

The methods of injecting vessels and cavities, the nature and preparation of the various materials and apparatus useful for injection, the theory and practice of the microscope and practice of the auxiliary apparatus are treated thoroughly, the theory and practice of drawing microscopic objects, the methods most useful for making micro-photographs, and for showing stereoscopically small objects, are fully described and illustrated, and will be found most useful and instructive reading. Next, the methods for examining living tissues, for fixing and hardening them, then the various ways for embedding and making sections, are minutely described. The last or seventh section is one of the most important ones, giving an excellent *résumé* of micro-chemical reactions, including the osmic acid gold and silver methods, and the methods of staining tissues with carmine, hæmatoxylin, and the various aniline dyes.

To each section is added a useful bibliographical summary. On the whole the book is an excellent guide for microscopists, both teachers and original workers.

E. KLEIN

LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.]

[The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to insure the appearance even of communications containing interesting and novel facts.]

Unconscious Bias in Walking

THE results of some experiments recently made to ascertain the cause of the well-known phenomena of "unconscious bias in walking" will perhaps be of interest to your readers in connection with the various theories presented in the discussion of this subject in NATURE (vol. xxix. pp. 262, 286, 310, 356, 384, 452).

Within the past six months over 2500 anthropometric measurements have been made of students in the three higher classes of the Massachusetts Agricultural College, including the relative length and strength, muscular development, &c., of the limbs, and the bias in walking of forty-nine individuals has been carefully determined, with results as given in the following summary statement.

In making these measurements I have been assisted by Dr. F. Tuckerman, of this place, who will collate the data obtained in their relations to bilateral symmetry.

The tests to determine the bias in walking were made in the drill-hall of the College, a room with a hard smooth cement floor, well adapted to this purpose.

For convenience in recording the curves of divergence a meridian or base line was drawn through the middle of the floor lengthwise of the hall, and on each side of it lines of departure were marked 1 metre apart, while the latitude was indicated by transverse parallel lines every 2 metres.

In trials to determine the bias, the individual was placed on the meridian line 2 metres back of the first parallel, and after he had well fixed the bearings of the line, he was blindfolded and started at a rapid, but not hurried pace. If he crossed the first parallel of latitude on the meridian line, he was allowed to proceed, but if a marked divergence from this line was made he was stopped, and a new start was made in the right direction. Small sticks were laid down on each parallel of latitude at the point of crossing, by assistants conveniently placed for this purpose, and at the end of the course the line of march could be

readily seen. In some cases irregularities in the curve indicated either a hesitating or constrained effort in walking, or errors in marking the precise point of transit.

In these cases the trials were repeated, until a reasonably true curve was obtained. A record was then made of the distance from the meridian line, to the right or the left of the point of crossing on each parallel of latitude.

From this record the curves made were plotted on a diagram, so that they could be readily compared and their peculiarities noted.

That the relative length and strength of the legs has no direct relation to the bias in walking will be readily seen from the following tabular statement:—

TABLE I.

No bias in 5 cases	In 1 the right leg is longest ...	In 1 the right leg is strongest
	(One of these presented the greatest difference in length of legs, and the other more than the average of those with right leg longest)	In 1 strength of legs not tested

No bias in 5 cases	In 2 the right leg is longest ...	In 1 the right leg is strongest
	In 3 the legs of equal length ...	In 2 the left leg is strongest (a)

Four are right-handed.

One uses right and left with equal dexterity (a). In pointing at a distant object with both eyes open, in three the right eye is dominant, in one the left eye is dominant, and in one both eyes are apparently used to determine the range.

TABLE II.

Bias to right in 14 cases	In 5 the right leg is longest ...	In 2 the right leg is strongest
	In 4 the left leg is longest ...	In 2 the left leg is strongest

Bias to right in 14 cases	In 3 the right leg is longest ...	In 3 the right leg is strongest (a)
	In 1 the left leg is longest ...	In 1 the left leg is strongest

Bias to right in 14 cases	In 2 the right leg is longest ...	In 2 the right leg is strongest (a)
	In 3 the legs are of equal length ...	In 3 the left leg is strongest

All are right-handed.

In pointing at a distant object with both eyes open, in 12 the right eye is dominant, and in 2 the left eye is dominant, the latter in the groups marked (a).

TABLE III.

Bias to left in 30 cases	In 5 the right leg is longest ...	In 5 the right leg is strongest (a) (b)
	In 8 the right leg is longest ...	In 2 the left leg is strongest

Bias to left in 30 cases	In 5 the right leg is longest ...	In 5 the right leg is strongest (b)
	In 10 the left leg is longest ...	In 4 the left leg is strongest (b)

Bias to left in 30 cases	In 5 the right leg is longest ...	In 5 the right leg is strongest
	In 12 the legs of equal length ...	In 5 the left leg is strongest (b)

One is left-handed (a). Twenty-five are right-handed. Four use right and left with nearly equal dexterity (b). In pointing with the finger at a distant object, with both eyes open, in 22 the right eye is dominant, in six the left eye is dominant, and in 2 both eyes are apparently used to determine the range.