LABORATORY GUIDE FOR THE BACTERIOLOGIST

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LANGDON FROTHINGHAM

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FOR THE

BACTERIOLOGIST

BY

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PREFACE.

The following technical methods, arranged as simply and concisely as possible, are especially intended for convenience in laboratory work. One constantly wishes and uses the methods herein enumerated, and for the same must refer to the large text-books. It is to avoid this longer search, except for details, that the following scheme is published—a scheme which the writer adopted some years ago for his own convenience, and which he sincerely hopes others may also find a useful desk companion. Before describing the different methods, there are mentioned a few ways by which the work may be much accelerated—ways probably known to and practised by many, but not, perhaps, to all.

1. BACTERIOLOGICAL TECHNIQUE.

Of paramount importance in bacteriological technique is rapid work associated with the best possible results. In preparing, staining, and mounting cover-glass preparations much valuable time is too often wasted, and if this can be reduced to a minimum we are in many ways the gainers. On account of this loss of time the older method of making cover-glass preparations—by placing the material to be examined upon a cover-slip and pressing another slip upon it, staining them in a watch-glass with staining fluids made up when desired by adding a few drops of a concentrated alcoholic solution of the stain to be used to water or to aniline water, and mounting at once in Canada balsam—has greatly fallen into disuse.

By far the larger portion of cover-glass preparations made, are prepared purely and simply for the purpose of diagnosis; it is therefore ordinarily a useless waste of cover-slips to make two preparations from the same material, especially as such preparations are frequently much too thick to be considered beautiful or even worthy of permanent mounting. Similarly it is evident that it is needless to mount at once in Canada balsam, for cover-glass preparations are invariably thrown away after a short microscopical examination, not because the preparations are poor, but rather because they were made only for diagnosis, which having been accomplished they are only in the rarest cases of further use. Moreover, after mounting in balsam one should properly wait until the balsam is dry before examining in oil, or run the risk of making an unsightly preparation; here again much time is lost. Furthermore, the staining may be greatly accelerated. It is seldom necessary to stain in the watch-glass or to make up one's staining fluids as required; the fluids for ordinary staining should always be ready for use. The staining is best and simplest performed upon the cover-glass, after which the preparation may be mounted and at once examined in water. It is then a simple matter, if desired,