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DR. J. J. WOODWARD

IN REPLY TO

DR. LIONEL S. BEALE.

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*DR. J. J. WOODWARD IN REPLY TO DR. LIONEL  
S. BEALE.*

If I may judge by his paper in the July number of this journal, Dr. Lionel S. Beale feels much aggrieved at some brief remarks of mine in the April number. I hasten to disclaim any intention of wounding his feelings by what I then said, though of course I cannot yield the right of giving public expression to my dissent from speculations which appear to me unsound.

In reply to this attack, it seems necessary that I should add a few words to what I have already said with regard to the use of glycerine in connection with the soft tissues. I have found it a most useful reagent in the examination of fresh specimens, and it is continually employed, both by myself and my assistants, in the museum, though not as the sole means of examining fresh tissues; for serum, aqueous humor, acetate of potassa, and many other media are better for certain purposes, and are not to be neglected for glycerine with all its "charms."

For the permanent preservation of the soft tissues, however, I have not found glycerine a success. When Dr. Beale first published his method of preparing the tissues for examination with high powers, I hastened to adopt it. I obtained the best Price's glycerine from England, I filled blood-vessels with Prussian blue, stained nuclei with carmine, and followed the plan proposed in all its details with the utmost good faith. The preparations thus made were very pretty, certainly, but I regret to say they obstinately refused to keep. Dr. Beale says "glycerine has behaved more kindly" to him, and mentions that he has many specimens, "some of which have been preserved in glycerine for periods varying from one to ten years," and thinks he could perhaps even "find some that have been kept upwards of twelve years in this medium."

As the climate of England is not subject to the high summer temperatures which so often prevail in the United States, it is very possible that glycerine may behave somewhat "more kindly" as a preservative in that country than it will here; though from what I have been able to learn from the conversation of friends who have been abroad, and from the letters of correspondents, I have been led to the conclusion that the experience of the majority of histologists, both on the continent and in England, has been, in this matter, essentially the same as mine. Nor do I understand Dr. Beale's language,

either in the article now before me or in his former publications, as claiming any constant or uniform permanency for glycerine preparations. He does not tell us that all, or even the majority, or even a large minority, of the thousands of preparations he has immersed in glycerine, retained their pristine beauty and usefulness for any considerable time. Is it not a fact, I would ask him, that even in his own skillful hands it is only a few fortunate preparations out of many made, which by some happy chance survive the common ruin of the first summer?

Now, as to just what I have been able to do myself, or to have done at various times by my assistants, I have not a great deal to add to my former article. Dr. Beale proposes that I should get some friend in whom I have "implicit confidence," to cross the ocean and wait on him with some of the museum specimens, for comparison with his. If he really desires that any such comparison should be made, would it not be much simpler for him to send me by mail, or otherwise, one or two glycerine preparations of tissues which he thinks it quite impossible to display in balsam? I would take pleasure in sending back what I could, in the same way. Meanwhile, I cordially invite any English or American microscopists who have seen Dr. Beale's preparations in his own hands, to call at the museum in Washington, and see what we have been able to do in the way of making a collection of histological preparations which are likely to be permanent.

The foregoing remarks cover, I think, all the essential points in Dr. Beale's critical paper, except the first paragraph, which, after all, I presume, accounts for the rest. In reply to this paragraph, I can only say that I courteously disavow any desire to "annihilate" Dr. Beale's doctrines by any mere "dictum" of mine. They must stand or fall on their own merits, and the judges will be the men in all countries who have worked over the same ground hitherto, or who may do so hereafter.

I had no intention or wish to prejudge the result; I only desired to place on record, for the information of some of my young fellow-countrymen, for whom alone the article complained of was written, the simple circumstance that I do not accept the hypothetical superstructure of "germinal matter" and "vital power" which my distinguished critic builds on the foundation of his experience with carmine staining and glycerine. I wished them to know also that there were other reagents, such as nitrate of silver, chloride of gold,

osmic acid, damar varnish, and Canada balsam for example, at which, indeed, Dr. Beale sneers, but the effects of which, nevertheless, must be considered patiently by all who desire to gain a knowledge of the facts on which our cautious and provisional histological hypotheses ought to be built. I qualified my remarks by the words "I believe." I only meant to record my belief; I did not attempt to enforce it by arguments, for which I had then, and have now, no leisure; that necessary work is in other and abler hands, where it may safely be left.

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