that this germ possesses certain characteristics either in form, size, reaction to staining agents, in manner of development or growth, or in some other particular by which it can be distinguished from all other germs. If it can be shown that the organism has no such characteristics, or that its supposed characteristics are possessed and reproduced by other germs, then all the evidence of its specific nature which has been drawn from its constancy in typhoid cases becomes worthless, because no investigator can then say that the organism which he finds belongs to the same species which Eberth observed; for the means of recognizing this species to the exclusion of all others do not exist, or at least have not been applied.

What are the tests upon which we rely in the identification of Eberth's germ? No bacteriologist will, I suppose, claim that there is anything in the form or size of Eberth's germ by which it can be distinguished from the ordinary saprophytic bacilli; but on this point I will fortify myself with a quotation from Baumgarten, a most earnest believer in, and a most able exponent of, the specific character of the organism. He says: "The typhoid bacillus in those development forms in which we most frequently see it (namely, in the infected body of man) shows a very great resemblance to the common, widely-distributed bacilli of ordinary putrefaction which were formerly designated by the now antiquated name of bacterium termo. In the fresh typhoid infiltrations of the intestinal walls, in the typhoid, infiltrated mesenteric glands, in the hyperplastic spleen, in the liver, in the kidney, etc., our bacilli (Eberth's germ) appear just like (gleichwie) the bacterium termo, as short (scarcely three times as long as broad), relatively thick rods with rounded ends, which are often joined in twos, at times in threes, so as to appear on a superficial examination like long single bacilli." We therefore see that it is admitted by those who believe in the specific nature of Eberth's germ that there is nothing in its morphology by which it can be distinguished from certain putrefactive bacilli. We turn, therefore, from this point and now proceed to the study of certain tinctorial and growth properties, by means of which Baumgarten and others state that Eberth's germ can with absolute certainty be distinguished from the bacilli already mentioned. Great stress has been laid upon the statement that Eberth's germ takes the analine colors with difficulty and imperfectly, while the putrefactive bacilli take such stains promptly. I once carried to one of the most renowned teachers of bacteriology in Germany cultures of a germ which I had isolated from drinking-water, and after inoculation with which three dogs had manifested continued fever, one of the animals dying on the twenty-eighth day, a second on the thirty-fifth day, both showing on *post mortem* examination in a marked degree the essential lesions of typhoid fever, and the third finally recovering, and asked him if it might not be a modified form of Eberth's germ. He found that my germ did take the ordinary stains, and from this fact alone claimed that it could have no relation to Eberth's germ, that it was nothing more nor less than a saprophytic bacillus, and that either it had no causal relation to the diseased condition in the dogs or the disease in the dogs was not typhoid fever, "Because," said he, "there is no doubt that Eberth's germ is the specific cause of typhoid fever." I think that I am now in a position to demonstrate that this test is wholly unreliable. In the first place, the behavior of Eberth's germ to staining reagents is wholly dependent upon circumstances, and will vary greatly with different samples. This is partially recognized by Baumgarten, who states that the difference in the readiness of taking stains between Eberth's germ and the putrefactive bacilli is less marked in cover-glass preparations than in sections. Eberth's germ, which has been grown artificially through many successive generations, takes the stain quickly and deeply. I have here preparations made from a pure culture obtained in the Hygienic Institute of Berlin in August, 1888, and that these bacilli have taken the stains to which they were exposed for less than a minute can be readily seen. In the tissues, or in cultures recently taken from the tissues, this germ is stained with difficulty; but when long grown outside the body, it takes these same stains readily. Now, what condition leads to this difference? I have here two germs taken from drinking-water, which as first obtained are stained quickly and deeply, but after they have been kept at a fever temperature for a time, they manifest the same difficulty in staining as is shown by Eberth's germ. This difficulty in