Furthermore it should be emphasized that this organism has very high fermentative powers, producing large amounts of CO_2 and H_2O.

That the organisms of the nodules of the legumes are closely related to *Azotobacter* is not improbable, but that there is any close relationship between *Rhizobium* and the acid-fast bacteria and the *Actinomycetes* is not so clear. It is true that the latter contention has been supported by several writers, but the fact that *Rhizobium* produces nodules on the plant roots and the tubercle bacillus causes tubercles to develop in animal tissues is no more of an argument for their inter-relationship than to claim that the nematodes producing galls on plant roots are related to the tubercle bacillus or to the *Rhizobium* for the same reason. The differences between the motile (polar flagellate) gram negative, *Rhizobium,* fixing atmospheric nitrogen, and the acid-fast gram positive, non-motile tubercle bacillus incapable of fixing nitrogen are very marked and tend to outweigh the remote resemblance of the branched bacteroids to branched tubercle bacilli.

The relationship indicated between the tubercle bacillus and the *Actinomycetes* is not at all improbable, in fact, intermediate forms have been described.

The use by the author of the name *Sporothrix* for a group of bacteria is unfortunate, and will tend to confusion.

It is surprising to find the *Micrococci* and *Staphylococci* at one extreme and *Streptococci* at the other of the classificatory scheme that is worked out. The concept is unusual, to say the least, and is scarcely supported by adequate proof to be convincing.

It would seem that the family tree of the bacteria suggested by Dr. Kligler is based upon many misconceptions and misinterpretations and can scarcely be accepted without much more adequate proof. However, there is much in the article to provoke thought and discussion, and if this is accomplished and some conclusions eventually reached, the effort put forth can scarcely be said to have been in vain.

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THE AMERICAN MATHEMATICAL SOCIETY

The one hundred and ninety-sixth regular meeting of the society was held at Columbia University on Saturday, February 23, extending through the usual morning and afternoon sessions. Seventeen members were in attendance. Professor H. S. White occupied the chair. The following were elected to membership: Miss M. F. Chadburne, Smith College; Mr. Mervyn Davis, Equitable Life Insurance Company of Iowa; Mr. T. C. Fry, Western Electric Company; Dr. J. E. McAtee, University of Illinois; Dr. Norbert Wiener, Albany, N. Y. Four applications for membership were received.

The following papers were read at this meeting:

J. F. Ritt: "Proof of the multiplication formula for determinants by means of linear differential equations."

Olive C. Hazlett: "On vector covariants."

P. R. Rider: "On the problem of the calculus of variations in n dimensions."

A. R. Schweitzer: "On the iterative properties of an abstract group."

A. R. Schweitzer: "On certain articles on functional equations."

A. R. Schweitzer: "On iterative function equations."

J. R. Kline: "A new proof of a theorem due to Schoenflies."

R. L. Moore: "A sufficient condition that a system of arcs should constitute a surface."

J. L. Walsh: "On the location of the roots of the Jacobian of two binary forms, and of the derivative of a rational function."

O. E. Glenn: "Covariant expansion of a modular form."

J. F. Ritt: "Polynomials with a common iterate."

L. P. Eisenhart: "Transformations of applicable conjugate nets of curves or surfaces."

S. E. Slocum: "The romantic aspect of numbers."

The San Francisco Section of the society will hold its semi-annual meeting at Stanford University on April 6. The Chicago Section will meet at the University of Chicago on April 12–13; this meeting will include a symposium on divergent series and modern theories of summability. The regular New York meeting will be held at Columbia University on April 27.

F. N. Cole,
Secretary