

# San Diego Microscope Is Lauded

Scientists Expect Local Invention to Open Sealed Doors to Study of Bacteria Invisible in Past.

PASADENA, Dec. 3 (A.P.)—Combined efforts of two scientists have made it possible for the first time to see with a new and powerful microscope bacteria which cause some 60 communicable diseases.

Their work is hailed as promising "to lay the basis for revolutionary discoveries in bacteriology."

One of the men, Royal Raymond Rife, left college with a Ph. D. degree and a desire to experiment and invent. To find time for his experiments he obtained work as a chauffeur for Mrs. A. S. Bridges of San Diego and fitted out a laboratory on the second floor of the garage.

The other scientist, Dr. Arthur Isaac Kendall, director of medical research at Northwestern university, discovered what he termed "medium K," a substance in which it was possible to cultivate germs as they develop in the human body. In his effort to filter and isolate certain germs, notably typhoid, he found they at first appeared in "rod" shape. On further filtration they disappeared. He believed they assumed a smaller form, but no microscope available was powerful enough to confirm his belief.

## PROVEN BELIEF

Dr. Milbank Johnson, prominent physician and civic leader of Pasadena, and a friend of Dr. Kendall, knew of his experiments and learned Dr. Rife had perfected a microscope which magnifies from 5000 to 17,000 diameters. The greatest enlargement giving good detail under other available microscopes was about 1500 diameters.

Dr. Kendall and Dr. Rife were brought together at Dr. Johnson's

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# LOCAL INVENTION GETS HIGH PRAISE

San Diego Microscope Expected to Prove Boon to Medical Science.

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home here. In experiments performed by them Dr. Kendall was able to follow the typhoid bacteria through numerous filtrations and with the new microscope confirmed his belief that they changed form in the filterable state.

Numbers of contagious diseases are believed to be caused by "filterable" bacteria which have not yet been cultivated and have not been seen under microscopes heretofore available, Dr. Kendall said. These diseases include infantile paralysis, measles, smallpox, influenza and common colds. They have been produced experimentally in animals with infected material, but the microbes themselves have been invisible.

Dr. Kendall said he hoped the Rife microscope would open the door to the discovery and complete study of the filterable or hitherto invisible bacteria.

The scientists tell of their experiments in a technical article in the issue of California and Western Medicine, published tomorrow. Commenting editorially, the magazine calls attention to the new type of microscope and says, "If it fulfills its apparent advantages over any microscopes thus far developed, it bids fair to lay the basis for revolutionary discoveries in bacteriology and the allied sciences."

## MADE OF QUARTZ

The entire optical system of the Rife microscope is made of quartz, instead of glass which heretofore had been used in the lenses and illuminating units. Introduction of polarized light by means of quartz prisms provides the quality of light necessary to see the bacilli in color, without the use of chemical stains and without injuring the organisms. The rest of the field is colorless, while the organism remains mobile and easily distinguishable.

Dr. Rife still drives Mrs. Bridges about, but as a friend rather than a chauffeur. She has helped finance his laboratory work and said she regards him "almost as a son." His invention of a stabilizer for airplanes used during the World war won him decorations from several of the allied powers.