

—Dietz on Science—
TINY MICROBES' POWER SECRET IS IN NUMBERS

Bacteria Thousands Could Be Placed in Line One Inch Long.

BY DAVID DIETZ
Scripps-Howard Science Editor

Every one knows that microbes are very small, but it is doubtful if many have any notion of their exact size.

Bacteriologists, to simplify their statistics, have invented their own standard of length for measuring germs. It is known as the "micron," and in scientific literature is indicated by the Greek letter "mu," the equivalent of our "m."

An average sized bacterium is about one micron in length. A micron, we should hasten to add, is approximately 1-25,000th of an inch. It is exactly 1-1,000th of a millimeter.

However, microbes vary greatly in size. Professor Stanhope Bayne Jones points out in his newly published "Man and Microbes" that there is far greater variety in size among microbes than human beings.

Marvel at Smallness

Giant and pygmies are more nearly of a size than some of the giant microbes and their tiny associates," he writes.

Every one who has worked with microbes has marveled at the smallness of their size and has tried to compare familiar objects with them.

This usually leads to the ridiculous use of figures which one ended with the statement that if all the statisticians were laid end to end it would be a very good thing, indeed.

Nevertheless, Professor Bayne-Jones proceeds to give us a statistical comparison himself.

He asks us to imagine 25,000 soldiers drawn up in a single rank with an allowance of eighteen inches for each man. This would form a line about seven and one-fourth miles long.

Equals Weight of Water

"Suppose next," he says, "that some omnipotent general officer from headquarters should command 'Dwindle' and that, at the word of command, each soldier would shrink to the width of an average bacterium, one micron, and close up to his neighbor.

Their line would then be about one inch long.

"Twenty-five thousand typhoid germs could lie comfortably side by side in an inch."

In general, a microbe weighs just a little more than a drop of water of the same volume, Professor Bayne-Jones continues.

This means that it would take \$33,000,000 microbes each with a volume of one cubic micron to weigh one milligram.

This number would have to be multiplied by 28,300 to get the number of bacteria needed to weigh an ounce. (There are 28,300 milligrams in an ounce.)

Microbes weigh so little more than water because about 80 per cent of the bulk of a microbe is made up of water.

It is astonishing, Professor Bayne-Jones tells us, how little solid matter there is in a microbe.

The figures show that a living germ is not apt to need a great bulk of food," he adds, "and they give us a hint that microbes must depend upon numbers to do the tremendous thing they accomplish."

LENTE SPEAKER HERE

Evanston Minister to Conduct Services at Christ Church.

Noon-day Lenten services this week at Christ church will be conducted by the Rev. Harold L. Bowen, rector of St. Mark's church, Evanston, Ill. His first sermon will be given Tuesday noon.

He will speak each following day of the week except Saturday.

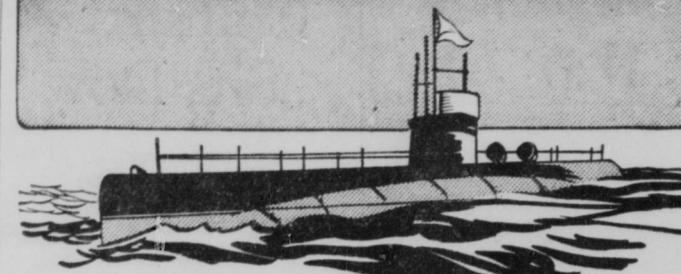
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— THIS CURIOUS WORLD —



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LABOR SLOWS RAIL SCHEMES

Protests Against Throwing Men Out of Work by 'Economics' Score.

BY MARSHALL MCNEIL
Times Special Writer

WASHINGTON, April 3.—Labor's protests against "economics" that would throw more men out of work definitely have slowed down the President's railroad conference which resumed its session here today.

It appears that the final plan to be submitted to President Roosevelt and by him to congress will revolve about the appointment of a federal co-ordinator whose business will be to eliminate wasteful services and practices of the carriers.

But such a plan will be unsuccessful and possibly detrimental, railway labor has told the President and his conference unless rehabilitation of the railroads themselves, and a large public works program are undertaken simultaneously.

It reliably was estimated today for the first time that \$90 million dollars to one billion dollars could be spent by the railroads in deferred maintenance and general rehabilitation to bring their plants up to par for safety and efficiency.

The conferees today headed by Secretary of Commerce Roper, railway operators, economists and bankers, Dr. W. M. W. Soplawn of the house interstate and foreign committee, labor representatives, and L. F. Lorraine of the Delaware & Hudson, were to discuss again the plans before them. There seemed slight possibility of a final agreement soon.

MAKES TWO ENDS MEET

Gunman Robs Two Street Car Men at Both Terminals of Line.

Nineteen minutes sufficed for a Negro gunman to rob two Indiana-Columbus avenue street car operators Sunday night at both terminals of the line.

Boarding an inbound car at West and Thirteenth streets, the Negro man, William Crosswell, 921 Highland Avenue, operator, with a gun and relieved him of approximately \$25 and his money.

Nineteen minutes later the Negro entered an outbound car at Columbia Avenue and Twenty-third street, and again using a handkerchief mask and his gun, robbed operator Earl Ritter, 1434 East Eleventh street, of \$20.

PARTY SOLIDLY BEHIND REPEAL, M'NUTT ORDER

Every Loyal Democrat to Back Platform Pledge, Governor Declares.

"Both the state and national Democratic platforms called for repeal of the eighteenth amendment and it is logical that the party organization should work for that end."

That is the program laid down by Governor Paul V. McNutt, who has established a unique record by forcing the legislature to carry out every platform pledge.

Perhaps for the first time in Indiana political history, a party enacted its platform into law, it is pointed out.

So, when Arthur Branam, Monroe county Democratic chairman, charged Sunday that he was ousted as automobile license plate distributor because he was working against repeal, he was telling at least a "half truth," McNutt forces admitted today.

The other half is that Branam was an appointee of Secretary of State Frank May Jr., is charged with failing to keep a promise made to the McNutt faction and forced to pay the penalty by forfeiting all patronage.

Branam joined forces with the Republican county chairman to work against repeal.

Dr. William Lowe Bryan, president of Indiana university, where McNutt was dean of law, is to be one of the dry delegates.

The regular Democratic organization is expected to oppose election of all drys and back the wet side in the election, set tentatively for June 6.

It is this "party responsibility" that also is being used to explain why the monopolistic imported beer

IN LINE FOR U. S. JOB



Walter J. Cummings, Chicago utilities magnate, is under consideration for the post of assistant secretary of the treasury.

There are three such posts, each in charge of important functions of the department.

permits have been awarded as Democratic plums.

One of the McNutt leaders explained it this way:

"Although the Republican party platform in Indiana called for repeal of the eighteenth amendment, the politicians in their campaign fell back on their old dry support—the Anti-Saloon League, the W. C. T. U. and the like.

"The huge Democratic majority in both houses repealed the Wright bone-dry law and passed the beer control bill. They kept their platform pledge and assumed responsibility."

"Isn't it logical, therefore, that since they are taking the blame for making Indiana wet, they should receive any benefits which might occur?"

"If they turned the control over to Republicans, they might purposely mess it up so that they could blame the Democrats and win the next election."

WAR VETERAN CUT SCHEDULE AWAITED HERE

Ale Unable to Determine Effect Until Study of President's Order.

Until the entire text of the veterans "economy" edict if the President is in the hands of John H. Ale, manager of the regional division of the United States veterans' bureau, he will not be able to determine the effect on the local hospital or affairs of the regional office. The hospital and office are on Cold Spring road.

"The new rating schedule for disabilities, hospitalization and pensions should arrive from Washington by Wednesday or Thursday. It will be Monday before we will be able to put the new ratings into effect to determine their meaning to Indiana," Ale said.

Any order to close the local hospital is not expected for several months.

"The Washington offices of the bureau will want time to study the economy act before closing hospitals," Ale said.

The Cold Springs road hospital is

considered a field station and the economy act of President Roosevelt makes it possible to close the field stations in the nation.

The fact that the Indianapolis hospital, which houses the regional offices, is a government-owned building on ground donated to the veterans bureau by the city may keep the institution from being closed.

But local hospital officials believe that should the new structure be shut, that it would be kept in condition for use as a soldiers' home or hospital in the future.

The regional offices, in all probability, would be combined with other offices in some centrally located city, as Chicago or the work done direct from the veterans' bureau in Washington, it is said.

WOMAN KILLED IN MYSTERIOUS BLAST

Rear of Portland Home Is Demolished in Tragedy.

By United Press

PORLAND, Ind., April 3.—Mrs. Clara Gregory, 55, was killed instantly early today when a mysterious explosion demolished the rear of her home here.

Relatives found the body clothed in a night dress. They were unable to explain her presence in the kitchen long before her usual hour for arising.

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