

**THIS ISN'T TRUE**

But you can resolve this mathematical absurdity and procure a balanced equation by changing the position of one match.

problem suggested this to you although a second reading will show you that nowhere is this requirement stated. Let your pencil go beyond the limits of the square and you will have much less difficulty.

With the match problem, you were probably trying to change the numbers. If you rid your mind of this intention the problem changes. Try moving the match so as to change the mathematical symbols, and see how easy the solution becomes.

Racial Predilections

The British psychologist, Prof. F. C. Bartlett, not long ago performed some ingenious experiments with memory. He found that an individual's race, habits, and social background strongly affected the way in which he would remember. One of Prof. Bartlett's tests consisted of a chain affair something like the old-fashioned game of gossip. A story was read to one person and he was asked to write it out from memory. Then the second person was given, not the original version but the first subject's transcription. And so it went throughout the chain. The final version bore little resemblance to the original, but the changes made depended upon the character of the group contributing to them. With Indian students, the revision was in an entirely different direction from what it was when the chain was circulated among English students.

Prof. Bartlett also found that when a person tries to memorize a scene or object briefly glimpsed, he forms a vague general impression of it and then tends to fill in details that his mind tells him belong to that impression. One person, for example, looked at a photograph and jumped to the conclusion it was a portrait of a typical "Tommy Atkins." Later that person "remembered" a bushy mustache and other details not present in the original photograph but which are

customarily a part of the cartoon versions of the typical British soldier. Thus do your education and your attitudes affect your memory.

In similar fashion they affect your thinking. Given the same problem and the same set of facts, the college professor is likely to arrive at a different conclusion from that of the business man. The Republican's solution will differ from that of the New Dealer. The artist's will differ from the plumber's.

By the same token, different individuals who have been brought up together with similar background and habits of thought are likely to arrive at very similar solutions to their problems.

When you find yourself confronted with a problem that refuses mastery by your ordinary lines of thought, that is when you need to shake yourself loose

from them—to tackle the matter from an entirely new viewpoint. If you haven't enough imagination to do that, it will help to get another person to analyze the problem for you. Sometimes just a word or two from another will be enough to suggest the new attitude to you and place the solution within your grasp.

Suppose your problem is the familiar one of a payment coming due on your automobile with no cash on hand to meet it. Unexpected illness in your family has drained your bank account of the funds you had reserved for this purpose. You consider borrowing at the bank, but that is not desirable because it might affect your credit in connection with a loan you want to make later for your business. In addition, the matter of the required en- (Turn to Page 236)

CHEMISTRY

New Research Casts Doubt on Discovery of Element No. 87

THE MARCH of scientific research, continually seeking truth above all else, has reopened the question of the discovery of chemical element 87. Reporting in the technical magazine of the American Physical Society, *The Physical Review*, F. R. Hirsch, Jr., of Cornell University, presents new evidence which may indicate that the announcement by Prof. Jacob Papish and Eugene Wainer in 1931 regarding the discovery of the element was unfounded.

Prof. Jacob Papish and Eugene Wainer of Cornell's chemistry department, in that year announced their discovery of this element by using X-ray analysis. In the method X-rays from a target supposedly containing element 87 were reflected by a crystal of calcite and the resulting spectral lines fitted into positions predicted for the then unknown element.

Now, F. R. Hirsh, Jr., also of Cornell, has performed essentially the same experiment and used the identical calcite crystal which was a basic part of Prof. Papish's apparatus.

He finds that the supposed characteristic X-ray lines of element 87 are really produced by the surface irregularities of the crystal itself. Mr. Hirsh has been able to obtain the crucial and important lines when a plain copper target was substituted for the sample in which he was trying to detect element 87.

By a technique called "rocking the crystal" Mr. Hirsh was able also to make the key lines vanish, which proves that the effect was due to the peculiarities of the crystal.

Of course, experiments by one investigator alone do not settle the matter conclusively but if the work is repeated with the same results by an independent and competent research scientist, the whole question of the discovery of element 87 will again be thrown open.

In this connection it is recalled that the X-ray detection of element 87 by Prof. Papish and Mr. Wainer came at a time when Prof. Fred Allison and Dr. E. J. Murphy at Alabama Polytechnic Institute were claiming the discovery by the magneto-optic method.

To many workers in science, at least, the Allison-Murphy method has remained "questionable", as Mr. Hirsh expresses it in his current report to the *Physical Review*. Thus, the Cornell chemists with their X-ray technique seemed to have the inside track on claims to the discovery. Now, however, as scientist Hirsh puts it: "The search for element 87 is still open."

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In Switzerland, fossil walnut trees have been found that grew around lakewellings on Swiss lakes in the New Stone Age 7000 B. C.