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It was then, suggests Mrs. Maunder, that this constellation was given its present name, Libra, the scales. The reason is rather obvious, because at this time of year day and night are equal in length. But they still kept on calling the two principal stars in the figure "the northern claw" and "the southern claw." These names survive in those which the stars bear today. They are Arabic, "Zuben Eschamali" and "Zuben Elgenubi." The first part, "zuben," means claw, while "eschamali" and "elgenubi" mean northern and southern, respectively.

Thus, in the stars we see overhead in the evening, we have the world's oldest picture book, where men have preserved the old stories, and also have recorded the knowledge of ages now past and forgotten.

PHYSICS

Cosmic Ray Particles Mostly Die on Trip to Earth

Mesotrons Are So Short Lived That Although They Travel 180,000 Miles a Second Many Die in 12,000 Feet

THE minute particles known as mesotrons, which are formed high in the air when the atmospheric atoms are struck by cosmic rays from outer space, die for the most part before they reach the ground. New evidence of this rapid decay has been obtained by Dr. R. A. Millikan of the California Institute of Technology, in collaboration with Dr. H. V. Neher and Dr. H. G. Stever, Dr. Neher told members of the American Physical Society meeting with the American Association for the Advancement of Science in Seattle.

Mesotrons are similar to electrons, but about 150 times heavier. They start with a speed of some 180,000 miles per second, nearly as great as that of light. Yet, so short-lived are they, that in traveling 12,000 feet, about 15% of them disintegrate spontaneously. From this it is calculated that they live, on the average, about 66 millionths of a second. In accordance with one of the consequences of the theory of relativity, an object moving at such a high speed shows a longer life than if it were at rest. The life of the mesotron at rest is calculated to be only

approximately 2.5 millionths of a second.

The scientists measured the intensity of the cosmic ray effects in two mountain lakes, one about 12,000 feet higher than the other, yet geographically close. In the upper lake, the apparatus was immersed about 12 feet deeper, so as to compensate for the fact that there was less air above this one. Thus, the total combined air and water absorption for each was the same.

Despite this, the readings in the lower lake were 15% lower than in the upper one. Dr. Millikan has concluded, therefore, that this is due to the fact that, in the extra time required for the mesotrons to reach the lower level, more have died. A life, at rest, of 2.5 millionths of a second, the same as that obtained theoretically, would give this difference.

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ENGINEERING

Cold Walls Get Dirty Faster Than Warm Ones

IF YOU want to keep the walls of your house clean, keep them warm. This advice is suggested from researches carried out by R. A. Nielsen, research engineer of the Westinghouse Electric and Manufacturing Company, described before the meeting of the American Society of Heating and Ventilating Engineers.

He investigated dirt distribution in suburban Pittsburgh homes during the winter, measuring wall temperatures with electric thermometers. "Thermal precipitation" is the name given to the effect, which often results in walls showing a pattern of the laths and framing behind them.

The molecules of oxygen and nitrogen in the air are in constant motion, the faster the higher the temperature. When the wall is warm there is a layer of warm air next to it, and these molecules move faster than those nearer the center of the room. Thus, they keep the dirt particles away. But when the room is hotter than the wall, Dr. Nielsen finds, the molecules near the cool wall are moving more slowly, and the dirt particles are driven against it.

Since the laths hold heat better than the plaster, the wall over the laths is somewhat warmer than the spaces between. Thus, the majority of the dirt particles are driven against the cooler regions, and a pattern of the laths is formed.

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Oiticica oil from a nut of a Brazilian tree is a rival of tung oil in the paint and varnish industry.