Anniversaries of Science

December 25, 1642.—Birth of (Sir) Isaac Newton.

Regard the matter as we may, among moderns at least the first place by a sort of common consent of mankind, without regard to nationality or calling, is awarded to Sir Isaac Newton. Without doubt, if one were asked to point to a single volume through all the ranges of literature, whether ancient or modern, which exhibits in the highest degree the powers of the human mind, one would fix without further thought upon Newton's Principia. It is amazing to reflect that it was as sheerly a product of chance as any event to which one might point.

—Snyder: *The World Machine.*

December 25, 1757.—Halley's comet returned, according to Halley's prediction. He had identified the comet, which had previously been recorded by Apian in 1531 and Kepler in 1607 as the same which he observed in 1682.

One of the most remarkable periodic comets with which we are acquainted is that known to astronomers as Halley's. Having perceived that the elements of the comet of 1682 were nearly the same as those of two comets which had respectively appeared in 1531 and 1607, Edmund Halley concluded that all the three orbits belonged to the same comet, of which the periodic time was about 76 years. After a rough estimate of the perturbations it must sustain from the attraction of the planets, he predicted its return for 1757—a bold prediction at that time, but justified by the event, for the comet again made its appearance as was expected.

—Simon Newcomb: *Comet* in Enc. Brit.

December 25, 1497.—Vasco da Gama, rounding Africa on the way to India, reached and named Natal.

The Cape once rounded, the attaining of India was found an easy matter, as Cavilhao had written; and Vasco da Gama secured immortality upon terms as easy, perhaps, as any ever granted, either before or since. Guided by the pilot who had accompanied Bartholomew Diaz, he reached and named Natal on Christmas Day, 1497.

—Guillemard: *Life of Ferdinand Magellan.*

December 27, 1831.—Charles Darwin started on the 5-year cruise of the "Beagle" on which his observations of animals in all parts of the globe established in his mind the basis of his future views on evolution.

When on board H. M. S. Beagle, as naturalist, I was much struck with certain facts in the distribution of the organic beings inhabiting South America, and in the geological relations of the present to the past inhabitants of that continent. These facts, as will be seen in the latter chapters of this volume, seemed to throw some light on the origin of species—that mystery of mysteries, as it has been called by one of our greatest philosophers. On my return home, it occurred to me, in 1837, that something might perhaps be made out on this question by patiently accumulating and reflecting on all sorts of facts which could possibly have any bearing on it.

—Darwin: *Origin of Species.*

Science News-Letter, December 18, 1926

ZOOLOGY

Mountain Lion A Coward

The mountain lion is perhaps the least courageous of the larger wild animals and rarely shows fight unless wounded, says M. E. Musgrave of the U. S. Biological Survey in a report to the *Journal of Mammalogy.*

When sighted on the ground the mountain lion's first impulse is to escape. It makes for a tree where it stays until a hunter approaches, then it jumps to the ground and runs for another tree. After being run out of two or three trees it is about worn out, being very short winded, and refuses to leave. Hanging on to its perch on a limb with all claws dug into the bark it refuses to jump even though punched at with a stick. The author says that he has often climbed out on the branch of a tree and taken snapshots of a lion while sitting within six feet of it. Apart from hissing and growling it showed no signs of fight.

The mountain lion can run with express train speed for about 100 yards, and then it is winded and must take to a tree. Mountain lions have been known to spring from the ground and land twelve or fifteen feet above in a tree. They have also been known to jump to the ground from a height of fifty or sixty feet and land on their feet unhurt.

The mother lion will even desert her young when dogs draw near, though she rarely travels any distance from the cubs. After her first dash for safety she takes to a nearby tree and if chased out of that circles about in the vicinity, but does not approach the lair where the kittens are hidden.

This cowardice seems hard to reconcile in view of the fact that the average mountain lion weighs about 150 pounds, and is a very powerful animal. Horses weighing eight or nine hundred pounds have been killed and dragged thirty feet or more into the bushes. Deer and big calves have been carried off from the scene of the kill without any evidence of dragging.

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The largest searchlight in the world, with two billion candle power, is so strong that a man could read by its light 40 miles away.

PHYSICS

Variation in Cosmic Rays

That the penetrating rays from space, first observed by a German scientist, Dr. Werner Kolhoerster, and recently studied by Dr. R. A. Millikan, of the Norman Bridge Laboratory, Pasadena, Calif., undergo a daily variation is shown by experiments recently completed by Dr. Kolhoerster in Switzerland. These studies, which were conducted on the Jungfrau glacier, and in other mountainous regions, were made with the assistance of Dr. Gubert von Salis.

As a result of Dr. Millikan's observations, it was supposed that these rays, which are very short vibrations, similar to ordinary light and X-rays but far shorter than either, came in equal quantities from all regions of space, so that their intensity was the same at night as by day. But the new experiments show that they vary, not with the position of the sun, but with the aspect of the heavens. When the Milky Way is most nearly overhead, the intensity of the rays comes to a maximum. When the constellations of Hercules and Andromeda are best placed, the intensity is greater than at other times. This shows, in the opinion of the experimenters, that although the rays come from all parts of space, the chief centers of the rays that reach the earth are the Milky Way, and the constellations of Andromeda and Hercules.

The center of radiation in the constellation of Andromeda seems to be the great spiral nebula, which Dr. Edwin Hubble, astronomer at the Mt. Wilson Observatory in California, has shown to be a system of stars similar to that which makes up the Milky Way, and all the stars that we can see, including the sun, and which astronomers call the galaxy. It would therefore seem that Dr. Kolhoerster's and Dr. von Salis's experiments have provided a new proof of the similarity of these spiral nebulæ to our galaxy.

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The great tragedy of science—the slaying of a beautiful hypothesis by an ugly fact.—*Huxley.*

A Peruvian insect called the "traffic bug" carries a red light in its head and a green light in its tail.

It is considered likely that the islands of Japan had no human inhabitants until comparatively recent geologic times.