

All Around the Moon

By

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PRELIMINARY CHAPTER,

RESUMING THE FIRST PART OF THE WORK AND SERVING AS AN
INTRODUCTION TO
THE SECOND.

A few years ago the world was suddenly astounded by hearing of an experiment of a most novel and daring nature, altogether unprecedented in the annals of science. The BALTIMORE GUN CLUB, a society of artillerymen started in America during the great Civil War, had conceived the idea of nothing less than establishing direct communication with the Moon by means of a projectile! President Barbican, the originator of the enterprise, was strongly encouraged in its feasibility by the astronomers of Cambridge Observatory, and took upon himself to provide all the means necessary to secure its success. Having realized by means of a public subscription the sum of nearly five and a half millions of dollars, he immediately set himself to work at the necessary gigantic labors.

In accordance with the Cambridge men's note, the cannon intended to discharge the projectile was to be planted in some country not further than 28° north or south from the equator, so that it might be aimed vertically at the Moon in the zenith. The bullet was to be animated with an initial velocity of 12,000 yards to the second. It was to be fired off on the night of December 1st, at thirteen minutes and twenty seconds

before eleven o'clock, precisely. Four days afterwards it was to hit the Moon, at the very moment that she reached her perigee, that is to say, her nearest point to the Earth, about 228,000 miles distant.

The leading members of the Club, namely President Barbican, Secretary Marston, Major Elphinstone and General Morgan, forming the executive committee, held several meetings to discuss the shape and material of the bullet, the nature and position of the cannon, and the quantity and quality of the powder. The decision soon arrived at was as follows:

- 1st--The bullet was to be a hollow aluminium shell, its diameter nine feet, its walls a foot in thickness, and its weight 19,250 pounds;
- 2nd--The cannon was to be a columbiad 900 feet in length, a well of that depth forming the vertical mould in which it was to be cast, and
- 3rd--The powder was to be 400 thousand pounds of gun cotton, which, by developing more than 200 thousand millions of cubic feet of gas under the projectile, would easily send it as far as our satellite.

These questions settled, Barbican, aided by Murphy, the Chief Engineer of the Cold Spring Iron Works, selected a spot in Florida, near the 27th degree north latitude, called Stony Hill, where after the performance of many wonderful feats in mining engineering, the Columbiad was successfully cast.

Things had reached this state when an incident occurred which excited the general interest a hundred fold.

A Frenchman from Paris, Michel Ardan by name, eccentric, but keen and

shrewd as well as daring, demanded, by the Atlantic telegraph, permission to be enclosed in the bullet so that he might be carried to the Moon, where he was curious to make certain investigations. Received in America with great enthusiasm, Ardan held a great meeting, triumphantly carried his point, reconciled Barbican to his mortal foe, a certain Captain M'Nicholl, and even, by way of clinching the reconciliation, induced both the newly made friends to join him in his contemplated trip to the Moon.

The bullet, so modified as to become a hollow conical cylinder with plenty of room inside, was further provided with powerful water-springs and readily-ruptured partitions below the floor, intended to deaden the dreadful concussion sure to accompany the start. It was supplied with provisions for a year, water for a few months, and gas for nearly two weeks. A self-acting apparatus, of ingenious construction, kept the confined atmosphere sweet and healthy by manufacturing pure oxygen and absorbing carbonic acid. Finally, the Gun Club had constructed, at enormous expense, a gigantic telescope, which, from the summit of Long's Peak, could pursue the Projectile as it winged its way through the regions of space. Everything at last was ready.

On December 1st, at the appointed moment, in the midst of an immense concourse of spectators, the departure took place, and, for the first time in the world's history, three human beings quitted our terrestrial globe with some possibility in their favor of finally reaching a point of destination in the inter-planetary spaces. They expected to accomplish their journey in 97 hours, 13 minutes and 20 seconds,

consequently reaching the Lunar surface precisely at midnight on December 5-6, the exact moment when the Moon would be full.

Unfortunately, the instantaneous explosion of such a vast quantity of gun-cotton, by giving rise to a violent commotion in the atmosphere, generated so much vapor and mist as to render the Moon invisible for several nights to the innumerable watchers in the Western Hemisphere, who vainly tried to catch sight of her.

In the meantime, J.T. Marston, the Secretary of the Gun Club, and a most devoted friend of Barbican's, had started for Long's Peak, Colorado, on the summit of which the immense telescope, already alluded to, had been erected; it was of the reflecting kind, and possessed power sufficient to bring the Moon within a distance of five miles. While Marston was prosecuting his long journey with all possible speed, Professor Belfast, who had charge of the telescope, was endeavoring to catch a glimpse of the Projectile, but for a long time with no success. The hazy, cloudy weather lasted for more than a week, to the great disgust of the public at large. People even began to fear that further observation would have to be deferred to the 3d of the following month, January, as during the latter half of December the waning Moon could not possibly give light enough to render the Projectile visible.

At last, however, to the unbounded satisfaction of all, a violent tempest suddenly cleared the sky, and on the 13th of December, shortly after midnight, the Moon, verging towards her last quarter, revealed herself sharp and bright on the dark background of the starry firmament.

That same morning, a few hours before Marston's arrival at the summit of Long's Peak, a very remarkable telegram had been dispatched by Professor Belfast to the Smithsonian Institute, Washington. It announced:

That on December 13th, at 2 o'clock in the morning, the Projectile shot from Stony Hill had been perceived by Professor Belfast and his assistants; that, deflected a little from its course by some unknown cause, it had not reached its mark, though it had approached near enough to be affected by the Lunar attraction; and that, its rectilinear motion having become circular, it should henceforth continue to describe a regular orbit around the Moon, of which in fact it had become the Satellite. The dispatch went on further to state:

That the elements of the new heavenly body had not yet been calculated, as at least three different observations, taken at different times, were necessary to determine them. The distance of the Projectile from the Lunar surface, however, might be set down roughly at roughly 2833 miles.

The dispatch concluded with the following hypotheses, positively pronounced to be the only two possible: Either, 1, The Lunar attraction would finally prevail, in which case the travellers would reach their destination; or 2, The Projectile, kept whirling forever in an immutable orbit, would go on revolving around the Moon till time should be no more.

In either alternative, what should be the lot of the daring adventurers? They had, it is true, abundant provisions to last them for some time, but even supposing that they did reach the Moon and thereby completely establish the practicability of their daring enterprise, how were they ever to get back? Could they ever get back? or ever even be heard from? Questions of this nature, freely discussed by the ablest pens of the day, kept the public mind in a very restless and excited condition.

We must be pardoned here for making a little remark which, however, astronomers and other scientific men of sanguine temperament would do well to ponder over. An observer cannot be too cautious in announcing to the public his discovery when it is of a nature purely speculative.

Nobody is obliged to discover a planet, or a comet, or even a satellite, but, before announcing to the world that you have made such a discovery, first make sure that such is really the fact. Because, you know, should it afterwards come out that you have done nothing of the kind, you make yourself a butt for the stupid jokes of the lowest newspaper scribblers. Belfast had never thought of this. Impelled by his irrepressible rage for discovery--the furor inveniendi ascribed to all astronomers by Aurelius Priscus--he had therefore been guilty of an indiscretion highly un-scientific when his famous telegram, launched to the world at large from the summit of the Rocky Mountains, pronounced so dogmatically on the only possible issues of the great enterprise.

The truth was that his telegram contained two very important errors:

1. Error of observation, as facts afterwards proved; the Projectile was not seen on the 13th and could not have been on that day, so

that the little black spot which Belfast professed to have seen was most certainly not the Projectile; 2. Error of theory regarding the final fate of the Projectile, since to make it become the Moon's satellite was flying in the face of one of the great fundamental laws of Theoretical Mechanics.

Only one, therefore, the first, of the hypotheses so positively announced, was capable of realization. The travellers--that is to say if they still lived--might so combine and unite their own efforts with those of the Lunar attraction as actually to succeed at last in reaching the Moon's surface.

Now the travellers, those daring but cool-headed men who knew very well what they were about, did still live, they had survived the frightful concussion of the start, and it is to the faithful record of their wonderful trip in the bullet-car, with all its singular and dramatic details, that the present volume is devoted. The story may destroy many illusions, prejudices and conjectures; but it will at least give correct ideas of the strange incidents to which such an enterprise is exposed, and it will certainly bring out in strong colors the effects of Barbican's scientific conceptions, M'Nicholl's mechanical resources, and Ardan's daring, eccentric, but brilliant and effective combinations.

Besides, it will show that J.T. Marston, their faithful friend and a man every way worthy of the friendship of such men, was only losing his time while mirroring the Moon in the speculum of the gigantic telescope on that lofty peak of the mountains.

CHAPTER I.

FROM 10 P.M. TO 10 46' 40".

The moment that the great clock belonging to the works at Stony Hill had struck ten, Barbican, Ardan and M'Nicholl began to take their last farewells of the numerous friends surrounding them. The two dogs intended to accompany them had been already deposited in the Projectile. The three travellers approached the mouth of the enormous cannon, seated themselves in the flying car, and once more took leave for the last time of the vast throng standing in silence around them. The windlass creaked, the car started, and the three daring men disappeared in the yawning gulf.

The trap-hole giving them ready access to the interior of the Projectile, the car soon came back empty; the great windlass was presently rolled away; the tackle and scaffolding were removed, and in a short space of time the great mouth of the Columbiad was completely rid of all obstructions.

M'Nicholl took upon himself to fasten the door of the trap on the inside by means of a powerful combination of screws and bolts of his own invention. He also covered up very carefully the glass lights with strong iron plates of extreme solidity and tightly fitting joints.

Ardan's first care was to turn on the gas, which he found burning rather

low; but he lit no more than one burner, being desirous to economize as much as possible their store of light and heat, which, as he well knew, could not at the very utmost last them longer than a few weeks.

Under the cheerful blaze, the interior of the Projectile looked like a comfortable little chamber, with its circular sofa, nicely padded walls, and dome shaped ceiling.

All the articles that it contained, arms, instruments, utensils, etc., were solidly fastened to the projections of the wadding, so as to sustain the least injury possible from the first terrible shock. In fact, all precautions possible, humanly speaking, had been taken to counteract this, the first, and possibly one of the very greatest dangers to which the courageous adventurers would be exposed.

Ardan expressed himself to be quite pleased with the appearance of things in general.

"It's a prison, to be sure," said he "but not one of your ordinary prisons that always keep in the one spot. For my part, as long as I can have the privilege of looking out of the window, I am willing to lease it for a hundred years. Ah! Barbican, that brings out one of your stony smiles. You think our lease may last longer than that! Our tenement may become our coffin, eh? Be it so. I prefer it anyway to Mahomet's; it may indeed float in the air, but it won't be motionless as a milestone!"

Barbican, having made sure by personal inspection that everything was in

perfect order, consulted his chronometer, which he had carefully set a short time before with Chief Engineer Murphy's, who had been charged to fire off the Projectile.

"Friends," he said, "it is now twenty minutes past ten. At 10 46' 40", precisely, Murphy will send the electric current into the gun-cotton. We have, therefore, twenty-six minutes more to remain on earth."

"Twenty-six minutes and twenty seconds," observed Captain M'Nicholl, who always aimed at mathematical precision.

"Twenty-six minutes!" cried Ardan, gaily. "An age, a cycle, according to the use you make of them. In twenty-six minutes how much can be done! The weightiest questions of warfare, politics, morality, can be discussed, even decided, in twenty-six minutes. Twenty-six minutes well spent are infinitely more valuable than twenty-six lifetimes wasted! A few seconds even, employed by a Pascal, or a Newton, or a Barbican, or any other profoundly intellectual being

Whose thoughts wander through eternity--"

"As mad as Marston! Every bit!" muttered the Captain, half audibly.

"What do you conclude from this rigmarole of yours?" interrupted Barbican.

"I conclude that we have twenty-six good minutes still left--"

"Only twenty-four minutes, ten seconds," interrupted the Captain, watch in hand.

"Well, twenty-four minutes, Captain," Ardan went on; "now even in twenty-four minutes, I maintain--"

"Ardan," interrupted Barbican, "after a very little while we shall have plenty of time for philosophical disputations. Just now let us think of something far more pressing."

"More pressing! what do you mean? are we not fully prepared?"

"Yes, fully prepared, as far at least as we have been able to foresee. But we may still, I think, possibly increase the number of precautions to be taken against the terrible shock that we are so soon to experience."

"What? Have you any doubts whatever of the effectiveness of your brilliant and extremely original idea? Don't you think that the layers of water, regularly disposed in easily-ruptured partitions beneath this floor, will afford us sufficient protection by their elasticity?"

"I hope so, indeed, my dear friend, but I am by no means confident."

"He hopes! He is by no means confident! Listen to that, Mac! Pretty time to tell us so! Let me out of here!"

"Too late!" observed the Captain quietly. "The trap-hole alone would take ten or fifteen minutes to open."

"Oh then I suppose I must make the best of it," said Ardan, laughing.

"All aboard, gentlemen! The train starts in twenty minutes!"

"In nineteen minutes and eighteen seconds," said the Captain, who never took his eye off the chronometer.

The three travellers looked at each other for a little while, during which even Ardan appeared to become serious. After another careful glance at the several objects lying around them, Barbican said, quietly:

"Everything is in its place, except ourselves. What we have now to do is to decide on the position we must take in order to neutralize the shock as much as possible. We must be particularly careful to guard against a rush of blood to the head."

"Correct!" said the Captain.

"Suppose we stood on our heads, like the circus tumblers!" cried Ardan, ready to suit the action to the word.

"Better than that," said Barbican; "we can lie on our side. Keep clearly in mind, dear friends, that at the instant of departure it makes very little difference to us whether we are inside the bullet or in front of

it. There is, no doubt, some difference," he added, seeing the great eyes made by his friends, "but it is exceedingly little."

"Thank heaven for the some!" interrupted Ardan, fervently.

"Don't you approve of my suggestion, Captain?" asked Barbican.

"Certainly," was the hasty reply. "That is to say, absolutely. Seventeen minutes twenty-seven seconds!"

"Mac isn't a human being at all!" cried Ardan, admiringly. "He is a repeating chronometer, horizontal escapement, London-made lever, capped, jewelled,--"

His companions let him run on while they busied themselves in making their last arrangements, with the greatest coolness and most systematic method. In fact, I don't think of anything just now to compare them to except a couple of old travellers who, having to pass the night in the train, are trying to make themselves as comfortable as possible for their long journey. In your profound astonishment, you may naturally ask me of what strange material can the hearts of these Americans be made, who can view without the slightest semblance of a flutter the approach of the most appalling dangers? In your curiosity I fully participate, but, I'm sorry to say, I can't gratify it. It is one of those things that I could never find out.

Three mattresses, thick and well wadded, spread on the disc forming the

false bottom of the Projectile, were arranged in lines whose parallelism was simply perfect. But Ardan would never think of occupying his until the very last moment. Walking up and down, with the restless nervousness of a wild beast in a cage, he kept up a continuous fire of talk; at one moment with his friends, at another with the dogs, addressing the latter by the euphonious and suggestive names of Diana and Satellite.

"Ho, pets!" he would exclaim as he patted them gently, "you must not forget the noble part you are to play up there. You must be models of canine deportment. The eyes of the whole Selenitic world will be upon you. You are the standard bearers of your race. From you they will receive their first impression regarding its merits. Let it be a favorable one. Compel those Selenites to acknowledge, in spite of themselves, that the terrestrial race of canines is far superior to that of the very best Moon dog among them!"

"Dogs in the Moon!" sneered M'Nicholl, "I like that!"

"Plenty of dogs!" cried Ardan, "and horses too, and cows, and sheep, and no end of chickens!"

"A hundred dollars to one there isn't a single chicken within the whole Lunar realm, not excluding even the invisible side!" cried the Captain, in an authoritative tone, but never taking his eye off the chronometer.

"I take that bet, my son," coolly replied Ardan, shaking the Captain's hand by way of ratifying the wager; "and this reminds me, by the way,

Mac, that you have lost three bets already, to the pretty little tune of six thousand dollars."

"And paid them, too!" cried the captain, monotonously; "ten, thirty-six, six!"

"Yes, and in a quarter of an hour you will have to pay nine thousand dollars more; four thousand because the Columbiad will not burst, and five thousand because the Projectile will rise more than six miles from the Earth."

"I have the money ready," answered the Captain, touching his breeches pocket. "When I lose I pay. Not sooner. Ten, thirty-eight, ten!"

"Captain, you're a man of method, if there ever was one. I think, however, that you made a mistake in your wagers."

"How so?" asked the Captain listlessly, his eye still on the dial.

"Because, by Jove, if you win there will be no more of you left to take the money than there will be of Barbican to pay it!"

"Friend Ardan," quietly observed Barbican, "my stakes are deposited in the Wall Street Bank, of New York, with orders to pay them over to the Captain's heirs, in case the Captain himself should fail to put in an appearance at the proper time."

"Oh! you rhinoceroses, you pachyderms, you granite men!" cried Ardan, gasping with surprise; "you machines with iron heads, and iron hearts! I may admire you, but I'm blessed if I understand you!"

"Ten, forty-two, ten!" repeated M'Nicholl, as mechanically as if it was the chronometer itself that spoke.

"Four minutes and a half more," said Barbican.

"Oh! four and a half little minutes!" went on Ardan. "Only think of it! We are shut up in a bullet that lies in the chamber of a cannon nine hundred feet long. Underneath this bullet is piled a charge of 400 thousand pounds of gun-cotton, equivalent to 1600 thousand pounds of ordinary gunpowder! And at this very instant our friend Murphy, chronometer in hand, eye on dial, finger on discharger, is counting the last seconds and getting ready to launch us into the limitless regions of planetary--"

"Ardan, dear friend," interrupted Barbican, in a grave tone, "a serious moment is now at hand. Let us meet it with some interior recollection. Give me your hands, my dear friends."

"Certainly," said Ardan, with tears in his voice, and already at the other extreme of his apparent levity.

The three brave men united in one last, silent, but warm and impulsively affectionate pressure.

"And now, great God, our Creator, protect us! In Thee we trust!" prayed Barbican, the others joining him with folded hands and bowed heads.

"Ten, forty-six!" whispered the Captain, as he and Ardan quietly took their places on the mattresses.

Only forty seconds more!

Barbican rapidly extinguishes the gas and lies down beside his companions.

The deathlike silence now reigning in the Projectile is interrupted only by the sharp ticking of the chronometer as it beats the seconds.

Suddenly, a dreadful shock is felt, and the Projectile, shot up by the instantaneous development of 200,000 millions of cubic feet of gas, is flying into space with inconceivable rapidity!