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SPECIAL FACT SECTION

Featuring

"THE ABOMINABLE SNOWMAN"
by ivan t. sanderson

Two thousand Years of SPACE TRAVEL

by SAM MOSKOWITZ

SINCE HIS most primitive days, man has gazed at the moon and the stars and speculated endlessly as to their nature and meaning. When civilization advanced to the point where there were written languages, these conjectures were recorded by scribes on parchment.

Observations that the moon may actually be another inhabited world like our own appear in Greek writings, specifically those of Anaximander, Philolaus and Plutarch. Lucian of Samosata, a Syrian who wrote in Greek is generally credited with writing the first interplanetary speculations. He penned two tales of trips to the moon, *The True History* and *Icaro-Menippus*, both in within a 50 year period after his birth, which was estimated to have occurred about 125 A. D.

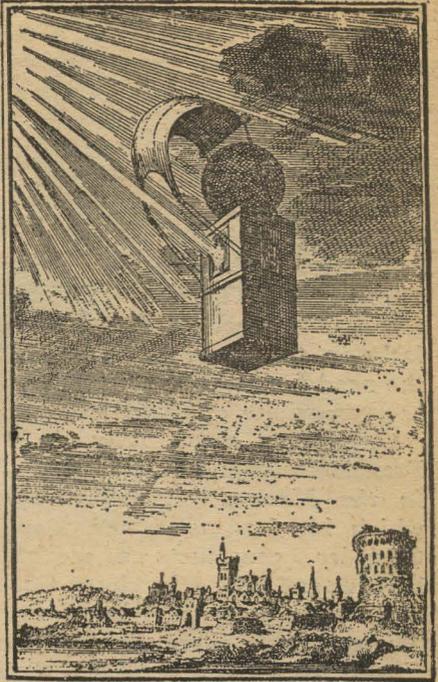
Before Lucian, the Travel Tale, as best exemplified by Homer's *Odyssey* enjoyed great popularity. Literally thousands of such adventures were written, of which relatively few

survive today. A large part of those tales were, in the purest sense, what we today would term as science fiction. The world outside the Mediterranean basin was unexplored. The extent of the continents and the oceans were unknown. All an author had to do to create the atmosphere for imaginative romance was to embark by ocean or trek by land just a few hundred miles beyond the boundaries of the cradle of civilization and *anything* was possible.

With so vast, so unlimited an horizon for adventure, other worlds than ours were completely extraneous when it came to the exercise of human imagination. There may have been a number of stories about trips to the moon before Lucian's day, but record of only one has been found. That one is said to have been included in a collection of travel stories by the Greek philosopher Antonius Diogenes (famed searcher with the lamp for an honest man) titled *Of Wonderful Things Beyond Thule*.



The belief that some birds, when they leave the northern lands for the winter, might hibernate in the moon led Francis Godwin in his book *Man in the Moone*, to construct a device in his narrative whereby Domingo Gonsales, the leading character, was carried to the moon by a flock of birds called Gansas. An attempt was made to lend scientific conviction to the passage.



The trip to the moon was achieved by traveling far enough North overland. No copy of this tale, which was written centuries before Lucian, is known to exist.

Nevertheless, this walk to the moon by Diogenes points up the fact that interplanetary stories are merely an imaginative extension of the old Travel Tales, with another globe instead of an unexplored area of sea or land as a locale. In this sense, ancestry of the interplanetary story is one of the oldest of all literary themes.

Lucian's ideas of the best methods of reaching the moon were a bit more realistic than Diogenes. In *The True History*, a whirl-wind seizes a ship and blows it to the moon. In his second tale, *Icaro-Menippus*, his character flies up with wings cut from an eagle and a vulture.

Readers of science fiction tend to chaff impatiently when Lucian is mentioned as an early exponent of

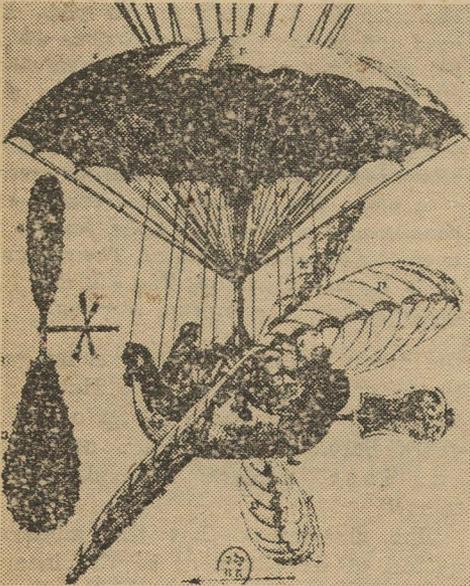
Cyrano de Bergerac was more than a character in Rostand's famous play. He lived and wrote scientific excursions which brought him fame. In his unfinished novel, *Voyage to the Sun*, he proposed the space ship shown. Power was derived from the rays of the sun shining upon concave mirrors which united the rays in the center of a globe. The resulting heat caused expansion of the air in the globe, forcing it to stream out through a vent. The reaction drove the vessel onward. The sail was for power failure or emergency steering.

the moon voyage. "What has he got to do with today's science fiction?" they ask. "Isn't there a gap of 1400 years between his stories and the earliest modern interplanetary tales?"

The answer is that the modern period of development of the interplanetary story dates from the first good translation of Lucian's works into English by Francis Hickes in 1634. Previous to that time, Ludovico Ariosto utilized a heavenly Saint to usher his character to the moon in *Orlando Furioso*, written in 1516. Even the well-known scientist Jo-

hannes Kepler proved scarcely less original when he employed a demon to accomplish the same purpose for him in *Somnium*, originally written in 1608, but not published until 1634. The truth is that no modern gap exists between Lucian and his followers at all. As far as today's world is concerned, Lucian might just as well have been published for the first time in 1634. The measure of his influence has been profound, particularly in the sense that he stressed the need for some mechanical agency as prerequisite of space travel.

Only four years later, in 1638, Francis Godwin had published *Man in the Moone*, a lunar voyage in which his lead character, Domingo Gonsales, constructs a mechanical harness and seat whereby a flock of birds may carry him to the moon. The same year there appeared a non-fiction work titled *A Discovery of a New World* by John Wilkins, Bishop



The engraving here, made in France, purports to be a ship capable of reaching the moon. The object on the left is apparently a screw-propeller device for manually driving the vessel forward. The featherlike objects on the ship do double duty as steering devices and "air oars."

of Chester, which evaluated problems of space travel, including distance, supplies, airlessness and temperatures. This book suggested three major methods of making such a voyage: 1.) Attaching wings to a man; 2.) Taming the giant birds known in legend as "Rocs", providing such birds actually existed; 3.) Construct a flying chariot of undetermined design.

In fiction, Cyrano de Bergerac was even more fertile with suggestions in *Voyage to the Moon*, first published in 1657. These ranged all the way from ridiculous and perhaps facetious suggestions of dew-filled bottles strung around the waist (since everyone knows dew rises when the sun strikes it) and rubbing one's self with bone marrow (since everyone knows that the Sun draws bone marrow aloft) to brilliant notions such as utilizing the rocket (the first man to make such a suggestion in recorded history), the ramjet principle and the internal combustion machine.

Despite Cyrano's good example, imitators were negligent about scientific flight methods for awhile, one well known author, Gabriel Daniel in *A Voyage to the World of Cartesius* published in 1690 exerting no more effort than wishing his soul to the moon.

Fortunately for the development of science fiction, France was then entering upon a period, encompassing several centuries, when she would be pre-eminent in scientific advancement and her citizens were fertile sources of new ideas. Though scarcely feasible, the idea of David Russen in *Iter Lunare: or, A Voyage to the Moon* issued in 1703, had an element of novelty. He suggested a catapult be constructed with proper pulleys and springs, which springs would stretch to the moon when released. This could be fastened upon arrival and when the passenger



A cross section of a giant enclosed space vessel, lifted by a balloon and evidently propelled by the expulsion of air or liquid enclosed in barrels, is shown in this print taken from a book, published in Paris, entitled *Sur son projet de voyager avec la Sphere Aero-statique* de M. de Montgolfier.

wished to return, he merely unfasened it and let himself be drawn back to Earth by the spring.

The renowned author of *Robinson Crusoe*, Daniel Defoe displayed a mite more practicality when in 1705 he published *The Consolidator* which described a machine with giant wings, fifty feet wide, made from bird's feathers and manipulated by a power source similar to an internal combustion machine.

Samuel Brunt in 1727, decided that space travel was for the birds (to put it in the vernacular) and he had our fine feathered friends act as motive power. Striking a little note of originality was his thinking that the human passenger would be carried in a "palanquin," a container lined with feathers and pointed at both ends to cut down air resistance! In this manner was made *A Voyage to Cacklogallinia*.



This creation, was virtually a flying city, was a brainstorm of Robertson (le physicien) and was published in Vienna. It should be pointed out that, virtually until the mid-nineteenth century, the differences in problems of atmospheric and space flight were regarded as merely ones of degree: bigger balloons, greater precautions, etc.

Though he is initially swept to the moon by a whirl-wind a la Lucian, Murtagh McDermot in *Trip to the Moon* published in 1728, had a plan for returning to Earth involuolent reaction. Placing himself inside a series of 10 hooped barrels, he is blown free of the moon's gravitation through the propelling force of 7,000 pounds of gunpower and floats safely down to Earth with the aid of wings he has thoughtfully constructed in advance.

Apparently McDermot supplied the pattern for an anonymous author who in *A New Journey to the World in the Moon*, written sometimes previous to 1741 and which was popular enough to go into several editions, merely wished himself to the moon but compensated by effecting real ingenuity in getting back. He had

the Lunarians help him construct an air-tight vessel with an internal combustion engine and wheels. He also showed some understanding of the problems of vacuum and gravity.

Ralph Morris disdained all this expensive gadgetry, however, and in 1751 penned *A Narrative of the Life and Astonishing Adventures of John Daniel*, wherein the moonship consisted of a winged wooden platform with a pump handle to pump the wings up and down.

A do-it-yourself movement in reaching the moon was advocated by the athletic hero of Reverend Miles Wilson's *The Man in the Moon* who



The term space ship is commonly used today, but Rudolph Eric Raspe quite literally conveyed the famous Baron Munchausen to the moon in a full-rigged sailing vessel, borne on the back of a whirl wind. The method, copied from an early moon story by Lucian, was an improvement over a previous Baron Munchausen moon voyage astride a fast-growing bean stalk.

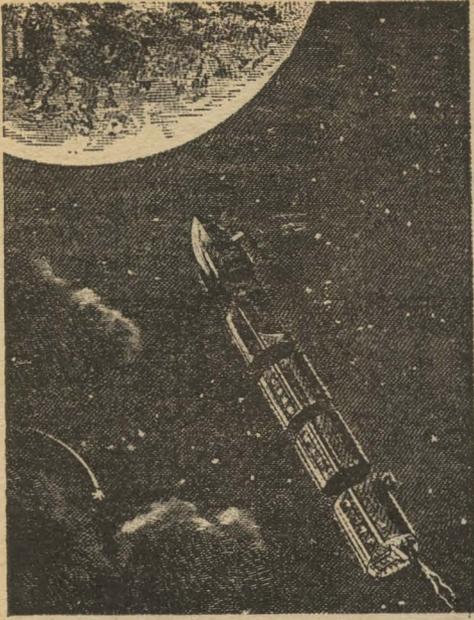
nonchalantly began climbing up to that satellite on a rope ladder in 1757. He's probably still on his way and if he's lucky might be able to hitch a ride on the first rocket to the moon.

The famed Baron Munchausen made two trips to the moon, records of which were carefully collected by his redoubtable biographer Rudolph Eric Raspe in *The Surprising Adventures of Baron Munchausen* issued in 1785. The first trip he journeyed there riding on a fast-growing bean stalk. The second time, having concluded his reading of Lucian, he let a whirl-wind carry his ship aloft and nestle it in a snug harbor on the moon.

Though *A Voyage to the Moon* by Aratus published in 1793 is scarcely a distinguished literary effort, it was one of the earliest, if not the earliest interplanetary to use a balloon to travel through space. A similar conveyance, this time double-sized, was also approved by a gentleman writing under the pseudonym of Nicholas Lunatic, F. R. S. for a short story *A Voyage to the Moon*, included as part of a collection titled *Satiric Tales* published in London in 1808.

The earliest known American interplanetary story is George Fowler's *A Flight to the Moon*; or, *The Vision of Randalthus* published in Baltimore in 1813. The use of angels as a vehicular method at that late date is exasperating, except that Fowler partially redeems himself through the presentation of many scientific ideas provocative for his time.

Much more advanced were a series of 19 sketches done in 1815 by E. F. Burney, sister of Fanny Burney, popular British novelist of the period. These sketches include the earliest known illustrations of a space suit, very similar to those being contemplated today with helmet, eye-ports and oxygen feed. The voyager is blasted to the moon on a platform

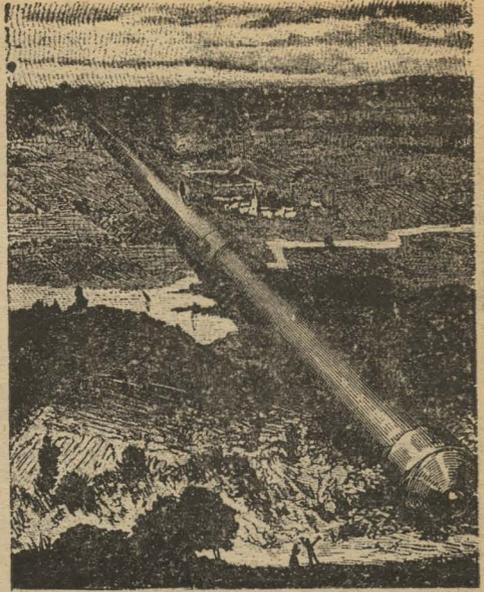


The space ship conceived by Jules Verne for his novel *From the Earth to the Moon* as the vessel of tomorrow is unique among space ships since it is segmented into joined cars like a train. Here the space train is pictured approaching the moon. This concept was not used in the action of the novel, however, an ordinary shell-like vehicle being utilized.

with an umbrella-like parachute for descent by the use of multiple cannon. Another method of shooting to the moon involves precipitating a volcanic explosion which force provides the necessary motive power.

Making a second American contribution to the interplanetary story in 1827, Prof. George Tucker, chairman of the faculty of the University of Virginia, writing under the name of Joseph Atterly projected *A Voyage to the Moon* which incorporates what may be the pioneer thinking on anti-gravity. A space ship is built, employing a metal which the author calls "Lunarium" since it is drawn to the moon.

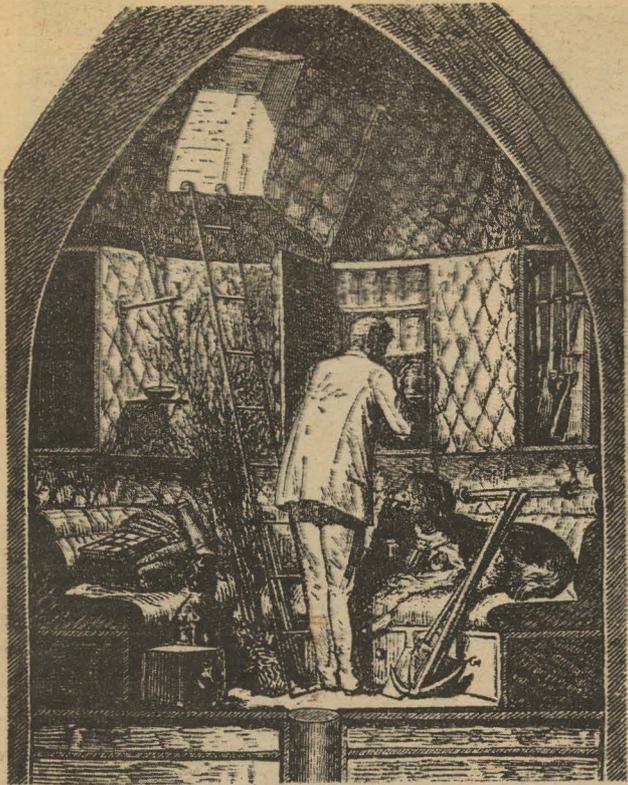
Edgar Allan Poe is known to have read and been influenced by this novel whose author's school he at-



Verne's space train was to be shot from this tremendous cannon, stretching across counties, towns and rivers. The gun that fired the space shell which Verne actually used was imbedded deep in the earth with only the muzzle showing. Money to build it was raised by public subscription under the auspices of the Gun Club of Baltimore. The barrel was laid and the projectile fired near Tampa, Florida.

tended as a youth. However, Poe decided to work on the theory that there was some air in space, perforce extremely tenuous and he conceived of inventing a gas 37.4 times lighter than hydrogen to convey a balloon to the moon. His story, *Hans Phaall—A Tale*, which appeared in 1835, is distinguished by the methodical scientific manner in which Poe deals with the problems encountered, including the emergency construction of an air-tight compartment in flight.

An early, perforce a very tenuous approach to matter transmission for space travel is made by Sidney Whiting in his novel *Helionde—Adventures in the Sun* published in 1855. The rays of the sun break a man's body down into basic atoms and draws it across space. A good try at plausi-



The interior of Verne's space vessel is depicted by an early artist. Note that there are compartments into which things are fastened. The interior is all heavily padded, both for insulation and to minimize the shock of abrupt movements. There is a gas jet on the left to provide illumination. The equipment carried includes guns, digging tools, a camera, blankets, rope, and several dogs.

bility is made in accounting for the sun's habitability.

One of the most carefully thought out interplanetary voyages of the 19th century was *A Voyage to the Moon*, written by an English clergyman, Cryostum Trueman in 1864. At least 60% of the novel is devoted to detailed discussions of the construction of the space ship (which utilizes an anti-gravity metal) and a day-by-day documentary of its flight to the moon, including notations on a growing lightness the further away the ship moves from the Earth. The use of iron screens which are manipulated to block the effects of the

anti-gravity matter and control take-offs and landings of the ship almost incontrovertibly establishes this novel as the direct genesis of H. G. Well's screen-controlled anti-gravity device in his later *The First Men in the Moon*.

The cannon utilized by Jules Verne to propel his characters into space in a shell is now known highly impractical. However, Verne's scientific attempts at versimilitude, patterned after the manner of Edgar Allan Poe, made the concept believable at that time. We know, of course, that Verne did not necessarily think of the idea first, since, as has been recounted, Murtagh McDermot used a similar means in his previously reviewed novel of 1728. Despite the fact that Verne's *From the Earth to the Moon* published in 1865 and its sequel *Around*

the Moon which followed five years later in 1870 make dull reading today, they nevertheless still continue to be reprinted and even presented on cinema.

The same year Verne's first moon novel was published saw the appearance in France of Achille Eyroud's *Voyage A' Venus*, a very rare book which has carved a niche for itself in the archives of space travel because of the fact that it is the second known work, after Cyrano de Berac, to use the reaction-engine principle in order to traverse stellar distances.

The French were at the forefront of nations conducting experiments with balloons in 1877, when Verne's

PLUCK AND LUCK

COMPLETE
STORIES OF ADVENTURE

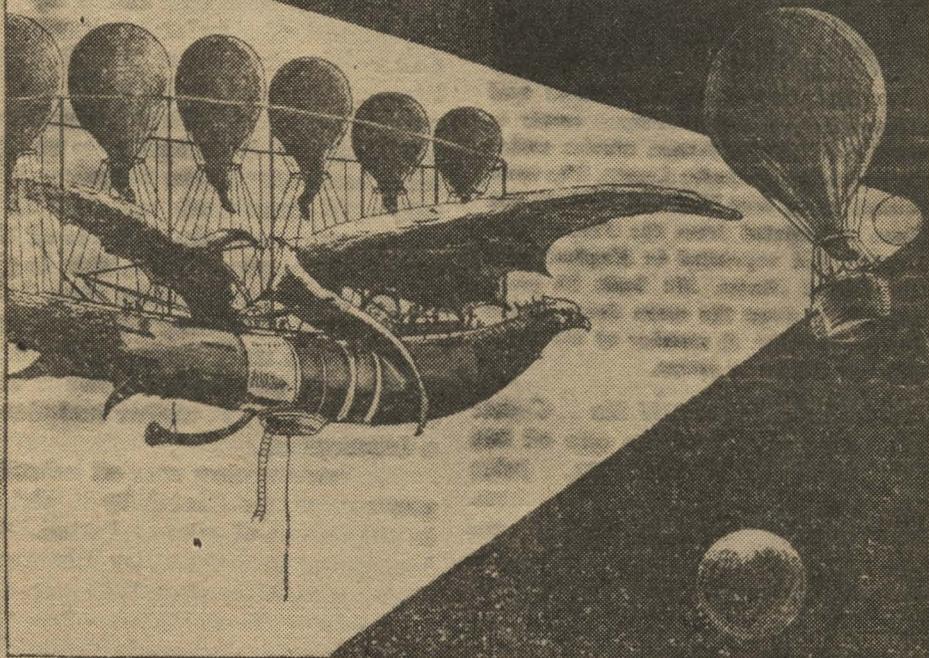
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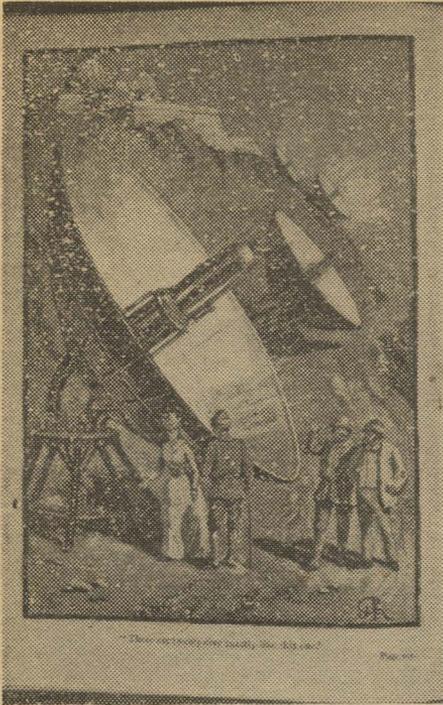
TWO BOYS' TRIP TO AN UNKNOWN PLANET.

By RICHARD R. MONTGOMERY.



Darkness everywhere, save in one place far ahead, where the sun's rays seemed to penetrate in one gigantic beam which shone directly upon the mysterious air-ship, bringing out every detail with startling effect. Filled with awe, the boys gazed upon it.

Rarely has an author in a science fiction story attempted so much with so little knowledge as Richard R. Montgomery in his novel *Two Boys' Trip to an Unknown Planet*. The strange craft in the foreground with the six balloons and the flapping wings is an interstellar ship from a planet revolving around the star Sirius. Commerce between the planets was commonplace. Originally this story appeared as a serial in *Frank Tousey's Boys of New York*, starting August 17, 1889! The author evaded spacial problems by surmising that if there were no air, one could get along without breathing.



Paschall Groussett, close friend and collaborator of Jules Verne, wrote a number of science fiction stories under the pen name of Andre Laurie. The most famous story was *The Conquest of the Moon*, translated from the French into English and reprinted in England and the United States. He built 25 giant magnets to drag the moon down to the Earth's surface. A number of the magnets are shown in action.

Hector Servadac, or Off On A Comet made its appearance. In one of his least scientific excursions, Jules Verne has his characters, who have been mysteriously swept off the Earth by a side-swiping comet, return through the use of a balloon.

The all-but-unknown *Fifteen Months in the Moon* by G. H. Ryan, published by the author, probably about 1880, is distinctive on several counts. Teleportation based on "sound scientific principles" is employed for a trip to the moon (which makes this story's theme, ironically, right up to the minute as far as today's fashion in science fiction is concerned) and it also touches, prob-

ably for the first time anywhere, upon the necessity for gravity re-adjustment upon return to Earth of a man who has been on the moon for a prolonged period of time.

The same year produced the very famous *Across the Zodiac* by Percy Greg, a two-volume interplanetary adventure which was eventually translated into a number of other languages. Greg seems to have been overpoweringly influenced by Crysostum Trueman, for he adopts the device of anti-gravity, which he calls *Apergy* and loads the vessel up with plant life to absorb waste and refresh the air. His major contribution to the art seems to have been to pioneer towards moving away from the over-used moon as a locale for space adventure in favor of Mars.

The year 1886 was noted by the appearance of *Aleriel; A Voyage to Other Worlds* by Rev. W. S. Lach-Szyma, who distinguishes himself in a book (which went into a number of editions) by introducing a winged alien from space, who disguises himself as a hunchback and travels as an observer amid the peoples of this planet. In a space vessel, that is given no more explanation than being termed "an ether ship", this creature visits Mars and Venus as well as Earth and obligingly draws a map of both which the author includes as a frontispiece.

The accelerating rate of scientific progress was reflected by a pick-up in the output of science fiction. Four interesting interplanetary adventures that appeared during the year 1889 were Hugh MacCall's *Mr. Stranger's Sealed Packet* concerning a trip to Mars on an anti-gravity ship; Andre Laurie's *The Conquest of the Moon*, in which he disdains space ships and instead, builds giant magnets which drag the moon down to the earth; Richard R. Montgomery's dime novel, *Two Boys' Trip to an Unknown*

(Please turn to page 79)

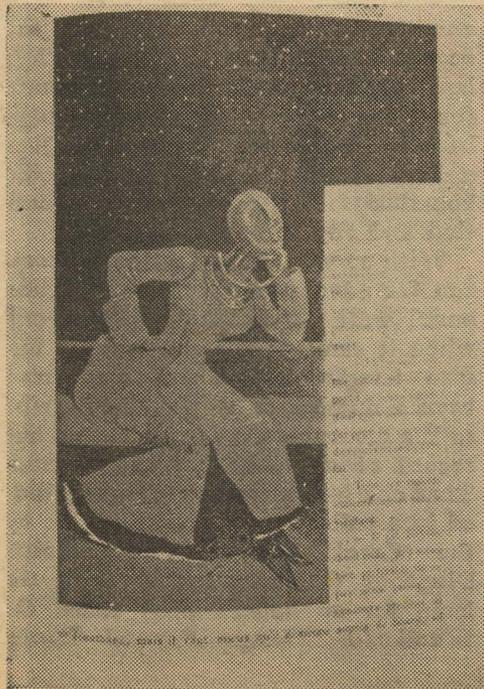
There is a definite ecological pattern throughout the fantastic universe, and, while, we on earth have admitted to the purpose and function of all other species in the balance of nature, Man, alone, has yet to discover his place and purpose in the scheme of things. This is the one great message of our visitors from outer space...that Man has purpose and, whether or not the ecology of Man is at present discussed in biological circles, mankind is the seeder of the universe. It is he, who is the emigrant to distant

planets bringing improvements, adaptations, and more advanced life forms to planets which are ready in their evolutionary scale to receive these improvements. This is the reason for sudden upsurges in evolution—ethnic and cultural developments of a specie, race, or planet. This is man's ecological nature—that he is the sower, the reaper, and the colonizer; thus he has his place in the grand plan of evolution.

NOTE: Permission to use the material relating to the films and informaton about the life form from outer space, was finally granted by Howard Menger after months of persuasion by his wife, Marla Baxter.

TWO THOUSAND YEARS OF SPACE TRAVEL

(continued from page 88)



One of the earliest space suit illustrations and certainly the first to show women's styles in this department. A drawing by R. Vincrot, who illustrated (in 1889) the two-volume Adventures Extraordinaires d'un Savant Russe of G. Le Faure and H. de Graffigny. The characters were shot to the moon from a cannon similar to that described by Jules Verne.

*Planet, involving interstellar voyages; and last but not least the remarkable two volume illustrated French work by collaborators G. Le Faure & H. de Graffigny titled respectively *The Savant Russe* and *Le Soleil et les Petites Planetes*. The first volume is a trip to the moon and the second a trip to the asteroids. The ship is shot from a cannon like Verne's and features clearly drawn space suits which are unusually advanced for their period.*

Note: The illustrations are from the private collection of the author.