

SIGNALS TO AND FROM MARS

IS THE RUDDY PLANET INHABITED?

THE OPINIONS OF FLAMMARION, LOWELL, SCHMOLL, GALTON AND OTHER ASTRONOMERS.

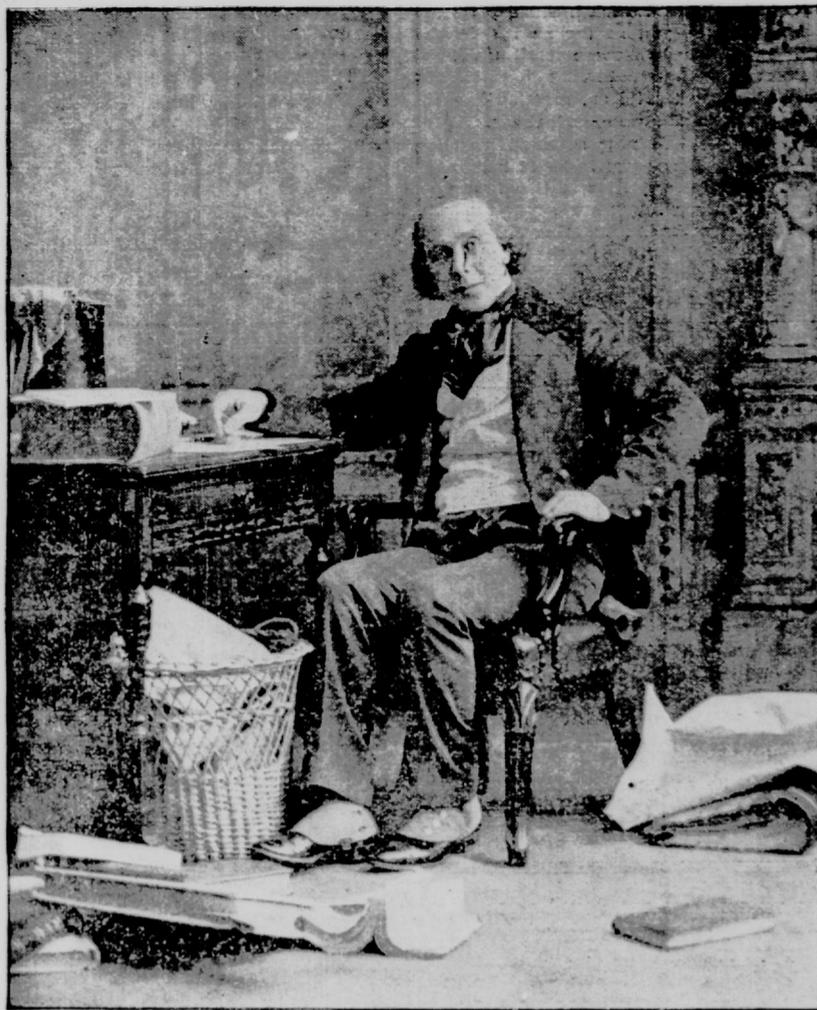
The recent cable dispatch from Paris, briefly announcing Camille Flammarion's opinion regarding the interchange of signals between Mars and the earth, directs attention afresh to a possibility which is peculiarly fascinating to a good many people. The topic is one, like the theory of evolution, which appeals not simply to the devotees of one department of science, but to intelligent humanity in general. The suggestion that another of the planets may be inhabited by creatures endowed with the same faculties as man, and that communication may be established between them and the inhabitants of the earth, captivates the fancy the instant it is put forward.

There is this much to be said in favor of any such idea. Mars is one of the two nearest neighbors of the earth in the solar system. Venus, whose orbit is next inside that of the earth, seems to be almost completely shrouded in clouds, which would interfere with observation and communication by her inhabitants, if she had any. Mars, our neighbor in the opposite direction, is differently conditioned in this respect. The very complicated markings on her surface, although not any too distinct, are fairly definite, and, what is more, are substantially permanent. The astronomers are satisfied that they see the solid structure of the planet, not an opaque envelope. Moreover, there are indications that the climate on Mars is pretty much like ours. The appearance and disappearance of white caps at the poles leads to the belief that there is a succession of winter and summer there, closely imitating terrestrial phenomena. Indeed, it is conceded that Mars affords better evidence of a condition of habitability than any other planet in the solar system. Further than this the thoroughly scientific man cannot go. Indeed, he is obliged to note Professor Campbell's spectroscopic researches, which show that Mars has a much more attenuated atmosphere than the earth. So that if our ruddy neighbor is really peopled at all it must be with creatures that can get along with a good deal less air than we need.

The inferences drawn from the so-called canals on Mars are so imaginative that one must look at them as pure speculation, not as scientific evidence. When Schiaparelli first discovered these singular markings he named them "canals," because that term admirably described their appearance, but he took pains to disavow any opinion as to their nature. Almost the only man who has been at all active in astronomical work, and who entertains the opinion that these lines are of artificial origin, is Percival Lowell of Boston. He has a private observatory at Flagstaff, Ariz., and is convinced that Mars is inhabited by creatures endowed with sufficient intelligence to employ irrigating canals to raise crops. But scarcely any other astronomer has been willing to commit himself to this opinion. If an actual interchange of signals should be effected at any time, the subject would instantly assume a new phase.

A suspicion that the hypothetical Martians were attempting to open communication of this kind was excited several years ago by the sudden appearance of a particularly bright spot on the ruddy planet. One of the interpretations put upon the incident was that artificial illumination was being employed on a scale grand enough to attract attention millions of miles away. Another conclusion regarding that incident and several others of the same kind, which have occurred more recently, is that some large mountain top on Mars caught the sunlight at just such an angle as to produce an especially brilliant reflection. The rotations of the planet on its axis, however, would make the phenomenon temporary, so that its appearance could be easily explained. This latter theory is now pretty generally accepted. The great trouble with the flashlight doctrine was that the alleged signals took no intelligible form. There was simply one prolonged glare and nothing else. Still, the incident set people talking and thinking about the subject.

Obviously, the question of the best mode of establishing a system of signals is not an astronomical one; at least, not to any great extent. It is a psychological problem, rather. Assuming for the moment that Mars was inhabited by beings possessing minds like ours, it becomes necessary to inquire just how their minds would work in an undertaking of this sort. Francis Galton, the venerable and eminent English anthropologist, outlined an ingenious plan in "The Fortnightly Review" six or seven years ago. He did not enter into mechanical details at all, but considered merely the code which might be employed. He believed that by combinations of light flashes of three different lengths an almost unlimited vocabulary might be built up. The first messages to be sent should be reiterations of certain elementary facts supposed to be known on both planets. Those might include a table of addition and other mathematical statements. Thus the observer would get the signs for the numerals. The distances of the planets from the sun and their radii would open the way for giving the names of those bodies. And a development of the same general system would lead to an identification of the words for circles, triangles, polygons and irregular forms, the names and properties of metals, the colors of



E. S. WILLARD AS TOM PINCH.
Garden Theatre.

the rainbow, and many other well known facts. In the recent Paris dispatch Professor Flammarion was represented as commenting on a scheme of Dr. Schmoll for opening up communication. The latter has suggested the outlining on the earth's surface of certain well known constellations, like the Great Bear and Orion. Should these be imitated on Mars, it would be evident that the ruddy orb was inhabited by people as smart as we are. The Frenchman expressed himself favorably in regard to the scheme, and announced a lecture to be given on the subject next month. Inasmuch as the earth will pass Mars on the celestial racecourse in February, this is the best time to display signals if the attempt is to be made at all.

DECOLORATION OF JEWELS.

From The Jewellers' Circular-Weekly.
The decoloration of precious stones when they have been exposed to the air for a long time is considered one of the most frequent maladies. Among the colored stones, the emeralds, rubies and sapphires are those which remain intact best. Nevertheless, they are not exempt from changes, as has been proven by many experiments recently made in Paris. Two rubies of the same size and shade were kept for two years, one in a showcase and the other away from all light. At the end of this term a comparison revealed that the first had become somewhat lighter in color.

The influence of light makes itself felt more

plainly on topazes and garnets. The garnet turns much paler in a short time, while the topaz assumes a darker shade and even loses the brilliancy possessed by it when freshly cut.

The most sensitive stone in this respect is the opal. This stone draws its marvellous rainbow reflections from numerous little clefts, which allow the light to pass and reflect it in different directions. Often the opal stands the manipulation of cutting and polishing well, and all of a sudden it splits. It suffers always by excess of heat. Owing to its chemical composition, it is sensitive to all the changes of temperature.

Pearls deteriorate very easily. In the fire they are transformed into a piece of lime. Placed in contact with an acid they behave as lime or marble would under the same conditions. It sometimes happens that during the work, if the hand touching them is very sweaty, they lose their lustre or break, being attacked by the acid of the perspiration.

Since pearls are composed of concentric layers of mother of pearl, it is sometimes possible to repair them by taking off the outer layer, but this operation is extremely difficult and delicate. If the interior colors are injured there is no remedy.

Diamonds are less sensitive; still it is not prudent to take them too near the fire.

A CONTINUOUS PERFORMANCE DUEL.

From The Belgian Star.
At Venice this week there was a duel with swords between two non-commissioned officers of the engineers. There were no less than twenty-seven assaults, with short intervals between them, and the duel lasted nine hours. Finally one of the sergeants was wounded in the face.

A NEW DICKENS PLAY.

E. S. WILLARD AS TOM PINCH.

MISS EDNA MAY RETURNS IN A MUSICAL PIECE—BILLS AT OTHER THEATRES.

E. S. Willard will begin the second week of his engagement at the Garden Theatre to-morrow evening. All the evenings of the week will be devoted to "Tom Pinch," which Mr. Willard has never before played in Manhattan. It had a few performances some time ago in Brooklyn. At the matinees, on Wednesday and Saturday, "David Garrick" will be repeated. Next week will be devoted to "The Middleman," with matinee performances of "Tom Pinch," and the week following, the last of the engagement, to "The Rogue's Comedy."

After a considerable absence from the city, Miss Edna May will return to-morrow night, and will appear at the Herald Square Theatre in a new musical farce called "The Girl from Up There." The piece has a book by Hugh Morton and music by Gustave Kerker. It has been played for a few weeks out of town, by way of getting the company used to it and of discovering any weak spots which may be strengthened or removed before it is seen in New-York.

Miss Ada Rehan has been welcomed back to New-York at the Knickerbocker Theatre with an enthusiasm seldom manifested in the greeting to an actor long absent. To-morrow night she will begin the second week of her engagement in "Sweet Nell of Old Drury."

One week only remains of the run of "The Gay Lord Quex," with John Hare in the title part, at the Criterion Theatre. Mr. Hare will be followed there, as has been frequently announced, by Miss Julia Marlowe, who will appear as Mary Tudor, in "When Knighthood Was in Flower."

The brief career of "The House That Jack Built" has closed at the Madison Square Theatre, and that theatre will be occupied on Tuesday evening by Herbert Kelcey and Miss Effie Shannon. They are to appear in a new play by Mrs. Madeleine Lucette Riley, called "My Lady Dainty."

This week at the American Theatre will be devoted to a production of "Quo Vadis?" New scenery and costumes have been provided. The cast will include Ralph Stuart, Miss Isabelle Evesson, E. L. Snader, Miss Georgina Wells, Miss Julia Blanc, Thomas J. Keogh and every other member of the stock company. The management of the American Theatre has arranged with Schnell & Foster, vaudeville managers, to give a series of Sunday night concerts at that house, beginning to-night, when several artists new to this country will make their appearance.

The other production of "Quo Vadis?" with the cast headed by Wilton Lackaye and Miss Elita Proctor Otis, is continued at the Academy of Music. There were several extremely large audiences last week. The version used is that which was seen at the New-York Theatre last season.

Chauncey Olcott will begin his annual engagement at the Fourteenth Street Theatre to-morrow night, and will present a new play entitled "Garrett O'Magh," which has been written for him by his manager, Augustus Pitou. The story



HERBERT KELCEY.

EFFIE SHANNON.

In "My Lady Dainty," Madison Square Theatre.