

art of war presents great interest on account of the remarkable success with which they were used by the Parisians, in the late siege of their city. As early as 1793, an attempt was made to send news by a balloon across investing lines. During the wars of the French Republic, a school of aerostatics was established, and two companies of *aerostiers* were attached to the army. A young officer of the balloon corps was sent with two balloons to a distant division of the army. The General at first thought he was a lunatic, and threatened to shoot him, but was soon convinced of the importance of the invention. Napoleon took balloons to Egypt, but the English captured the filling apparatus. The Americans used them with advantage in their civil war, the signals being communicated to the earth by telegraph wires.

Paris, at the time of its investment, contained several experienced aeronauts. One of these, Godard, had made 800 ascents. The Government established a balloon post, and began the manufacture of a large number of balloons at the railway stations. It was easier, however, to make the vessels than to find captains for them, for experienced aeronauts are comparatively rare, and when once they had left Paris there was no returning. A large number of sailors were employed for this air voyaging. "Our topsail is high, sir," said a tar to his Admiral, "and difficult to reef, but we can sail all the same, and, please God, we'll arrive." The employment of some acrobats from the Hippodrome was less fortunate, as they made use of their skill, when in difficulty, to slip down the guide rope to the earth, leaving the passengers and dispatches to care for themselves.

From September to January, sixty-four balloons were sent off. Of these, fifty-seven fulfilled their mission, the dispatches reaching their destination. The total number of persons

who left was 155, the weight of dispatches was nine tons, and the number of letters, 3,000,000. A speed of eighty miles an hour was reached in a high wind. Gambetta was fired at by the Prussians, and narrowly escaped capture. Several balloons were brought down. The Uhlans gave chase whenever one came in sight, and rifled cannon were brought to bear on them. Thenceforth the ascents were made at night, which added greatly to their danger. The "Ville d'Orleans" drifted out over the sea. At day-break it was out of sight of land. To avoid falling into the water, the aeronauts threw out their dispatches. They scudded rapidly north, and approached land. It was covered with snow and dense forests. The first living creatures they saw were three wolves. They found themselves in Norway.

Two of the balloons drifted out over the Atlantic, and were never heard of more.

It was comparatively easy to send messages out of Paris, but how to get answers back—that was the question. Trusty foot messengers penetrated the Prussian lines with dispatches in cipher, concealed in hollow coins, in keys, inserted beneath the skin, or in a hollow tooth. A balloon took out some trained dogs, but they never reappeared. An attempt was made to connect the broken ends of the telegraph wires by almost invisible metallic threads, but without success. Divers and submarine boats were tried on the Seine; and little globes of blown glass, which it was impossible to distinguish from the bubbles on the water, were floated down the stream, but the frost set in and spoiled the surface of the river for this purpose.

The difficulty was overcome by the use of carrier pigeons. A pigeon post was organized with great success. The charge for private dispatches was about eight cents a word, but the Parisians were urged to send to their friends questions which could be answered by the