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Mars in the Schiaparelli-Lowell's correspondence

A. Manara[1]

Istituto Nazionale di Astrofisica – Osservatorio Astronomico di Brera, Via Brera, 28 I-20121 Milano, Italy e-mail: manara@brera.mi.astro.it

Abstract. In this article the correspondence between the famous italian astronomer Giovanni Schiaparelli and Percival Lowell, founder of the Flagstaff Observatory in Arizona is briefly presented.

Key words. Mars; Schiaparelli

1. Introduction

Giovanni Schiaparelli (1835-1910) and Percival Lowell (1855-1916) studied in detail the planet Mars, therefore the correspondence focuses on this topic. Thirtyfive unpublished letters (34 in French, one in English) written from 1896 until Schiaparelli's death are presented. The original letters from Lowell and some drafts by Schiaparelli are preserved in the archives of the Brera Astronomical Observatory; Flagstaff Observatory has kindly provided us with some of the original letters by Schiaparelli.

2. Subjects of the correspondence

The correspondence, nearly entirely on Mars a few cases except on Mercury and Venus, shows a remarkable friendship and the thrust of the relationship is that of a respectful successor to his very much admired guru. The epistolary exchange on Mars begins in 1896. In a series of letters in the spring of 1903, Lowell tells his mentor about discoveries that agree with prior determinations by Schiaparelli; he replies that some of the changes on Mars appear as repetitive pattern, and goes on to say that "...une longue maladie m'a rendu tellement faible..." and "...vers 1892 mon oeil commença à se déformer peu à peu, et mes observations à cette date ne sont plus comparables aux observations antérieures...en 1899 j'ai dû cesser non seulement les observations de Mars, mais toute observation astronomique...Maintenant mon oeil gauche, qui jadis a été si parfait, est presque complètement aveugle". For Lowell is always pleasant to observe again what Schiaparelli had already seen; the structures on Mars' surface are affectionately called "Votre Thot et Lacus Moeris..." Lowell is very sad for the eyes of the colleague, eyes that "...ont tant vus pour la science dans leurs jours heureux". Schiaparelli declares repeatedly his esteem for the studies of Lowell on Mars; for instance he thinks that his Memoria "The cartouches of the canals of Mars" is a new method to consider the Mars phenomena. Lowell defined "cartouche of a canal of Mars" its percentage of visibility in a certain date (the percentage of visibility was determined from numerous drawings available at that time for all the periods of the year). For Lowell it is always important to inform

Send offprint requests to: A. Manara

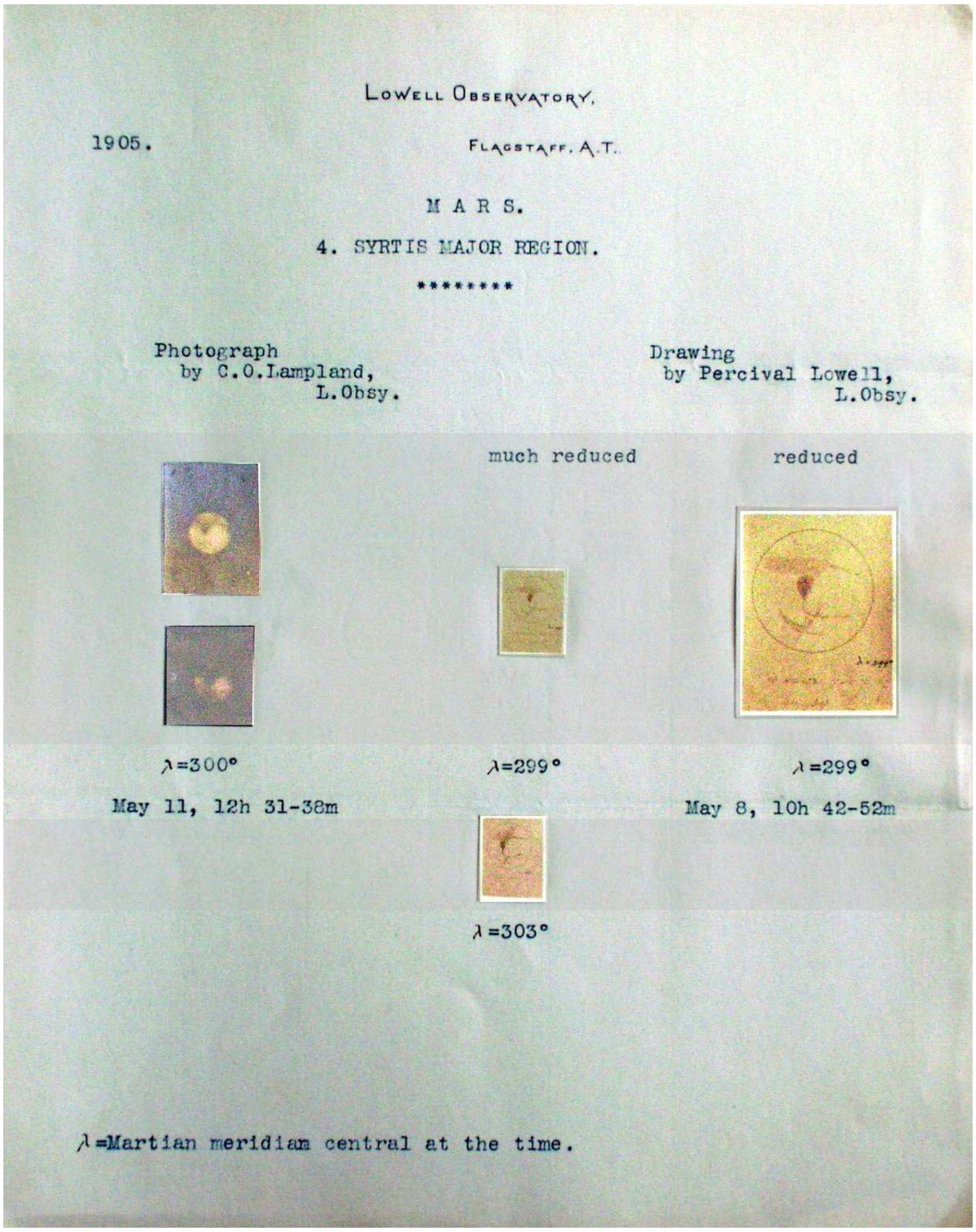

Fig. 1. Syrtis Major Region by Lampland's photograph and Lowell's drawing.

quickly Schiaparelli on the "news" of his observations: "...vous m'écriviez une fois qu'à l'avenir il vous fallait observer per les yeux des autres. En souvenir de cette triste déclaration je vous envoie les primeurs de mes observations de cette opposition de 1905". In the let-

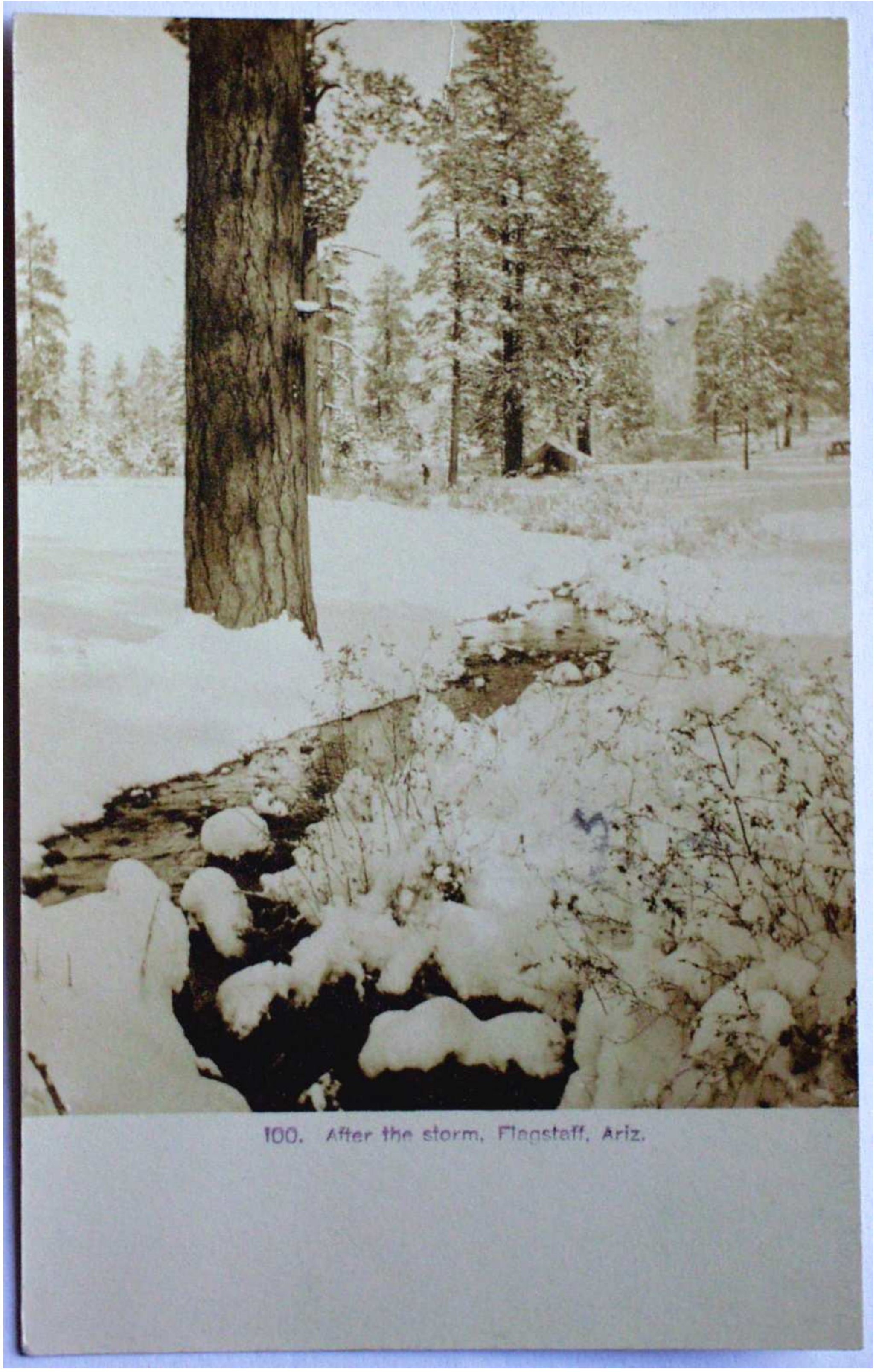

Fig. 2. Postcard of Flagstaff after a snow storm.

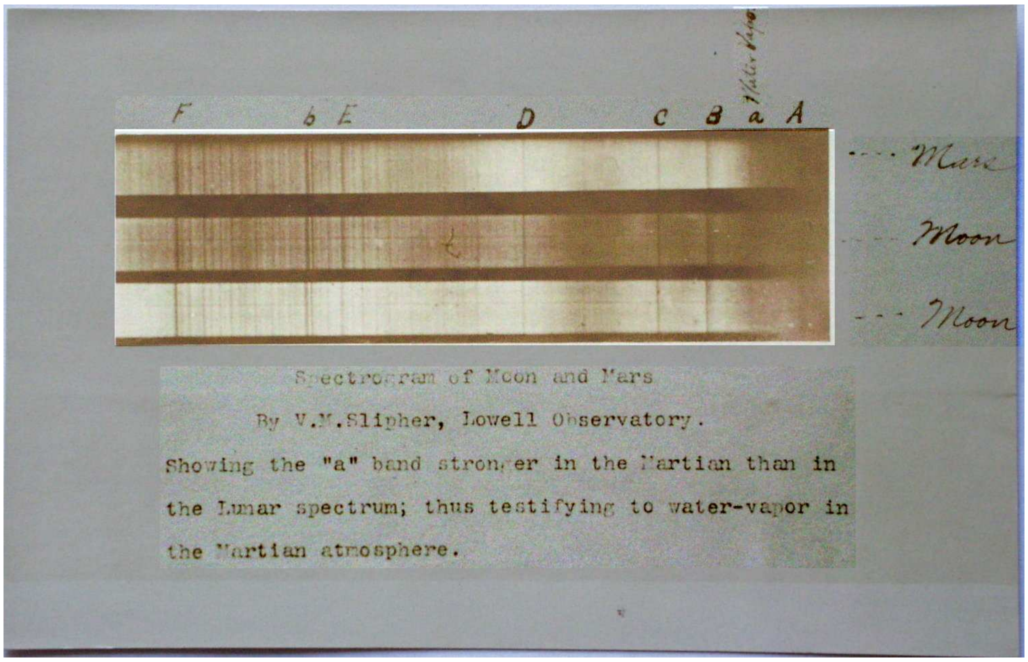

Fig. 3. Moon and Mars spectrograms taken by V.M. Slipher.

ter of August, 14th, 1905, Lowell sends five tables that report the results of observations of five regions of the Mars' surface, obtained visually from himself and photographically from Lampland (Fig.1 shows one of these tables).

In June of 1906, Lowell tells his mentor: "Je viens de mettre main à la conclusion d'un nouvel livre sur la planète Mars et je voudrai démontrer mon estime en le dédiant à vous à qui on doit les magnifiques primeurs de ces recherches". Schiaparelli agreed to accept the tribute. Interestingly the letter of Schiaparelli of March, 1907, about Mars' observations performed by Babylonians concludes: "...Cette planète (Mars) est vraiment precieuse. Elle a sortie les premiers essais de Babyloniens, avec son moyen Kepler a découvert ses deux premiers lois: maintenant elle va dévoiler le mystère de la vie sur un autre monde. C'est le Mars terrestre, c'est à dire la guerre, qu'il faut abolir." In Fig.2 we can see the postcard sent from Lowell to the italian astronomer in the spring of 1907 showing Flagstaff's Observatory after a snow storm. On march, 1909, Lowell replies to Schiaparelli, who suggested to show his photograph plates to Antoniadi before the issue:"Cher Maître Martien et honoré Collegue,...malgré ce que vous m'ecrivez de vos pauvres yeux, vous pouvez encore beaucoup voir que M. Antoniadi ou tout autre qui n'a pas bien ètudiè la planète." "... Faites cet honneur, je vous prie, à la Science". In the same letter is enclosed a spectrum (Fig.3), as a present for Schiaparelli birthday (14 March), taken by V. M. Slipher, showing the "a" band stronger in the Martian than in the Lunar spectrum, thus testifying to water-vapor in the Martian atmosphere. Schiaparelli 's last letter of 23th April, 1910, treats several subjects. First, he emphasizes that, a part from certainty given by mathematical and experimental proof, progress in knowledge may come also from possibility and probability, like "...l'oeuvre de Copernic, elle même, n'était pas elle fondée d'abord sur de simples probabilites? La certitude n'est arrivée que 150 ans plus tard". Afterwards the disquisition comes back on Mars; Schiaparelli waits for Lowell's photographies and therefore hopes to solve shortly the problems connected to the Mars's structures. At last Schiaparelli promises to send to Lowell his last issue, the VIII Volume of Mars' Memorie: "Hic cestus, artemque repone" and closes: "Malgré cela m'intéresserai toujours vivement aux grand progrès que l'Astronomie fait chaque jour, et dont quelques unes marqueront une belle époque dans l'histoire de cette science". Lowell's final letter of June, 14th, 1910, only three weeks before Schiaparelli's death, continued to discuss the canals but concludes "...From my heart, your devoted, Percival Lowell"; probably this letter was never read from the receiver because he suffered thrombosis on June, 22th. Schiaparelli died on July, 4th, 1910.

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