

INTRODUCTION

In the autumn of 1909, as the planet Mars swung away from its closest approach to Earth in seventeen years, two astronomers got into a fight. It was over the control of news from Mars. Both men were senior figures in their field, and both wanted the exact same thing: to secure for their own observatories exclusive control over the distribution of telegraphic bulletins reporting breaking astronomical news. With victory in this battle came the responsibility to collect observers' reports, adjudicate what counted as newsworthy, and then broadcast this selected information around the world, transmitting it to all subscribing observatories and news agencies, sometimes within hours of its receipt. Since 1882 Harvard College Observatory had performed this task in North America, partnering with the Royal Observatory in Kiel, Germany, to collect and rapidly redistribute announcements of planetary, asteroid, satellite, and nova discoveries.¹ But after a quarter century of uninterrupted broadcasts, Harvard College Observatory's director, Edward Charles Pickering, found himself and his institution facing down a coup. Two and a half thousand miles away, high on the desolate Colorado Plateau, Percival Lowell plotted a takeover.

At the heart of this battle was a disagreement over a single fundamental question: was there evidence of life on Mars? Lowell thought that the answer was yes, and in 1894 he had built a state-of-the-art observatory in Flagstaff, Arizona, with the express intention of proving it. Pickering disagreed, and his frustration with Lowell's bold claims

about intelligent Martian life was soon exacerbated by their growing popular appeal. Lowell's success, Pickering realized, was predicated in part on his rival's access to Harvard Observatory's bulletin service, which simultaneously linked the Flagstaff astronomer to his colleagues and to the world's mass media. So Pickering wrote to Lowell to inform him of a change of service. Harvard Observatory would no longer redistribute any reports relating to Mars sent in to Cambridge from Flagstaff, ostensibly on the grounds that they were not time sensitive. But as Lowell knew very well, the rare close approach of Mars in 1909 put the planet in a prime position for making fresh observations and perhaps even revealing new details about its inhabitants. Reports of this work would very much be news, and their value as such would depend upon their ability to fit the time-critical demands of a telegraphically networked press. As far as Lowell was concerned, there could be no question that Pickering's move was anything other than a deliberate act of media sabotage, which could only be countered in kind. So in a cabled notice sent simultaneously to the press and to his American colleagues, Lowell "issued notice . . . that by an arrangement with the Centrale Stelle at Keil, Germany, the Lowell Observatory instead of Harvard hereafter will be the distributing center for planetary news in America."² Pressed by local journalists for a response, Pickering simply stated that no such takeover had occurred and that Harvard Observatory would continue to provide its own bulletin service as usual. In a bullish interview with the *Boston Journal*, the Harvard director openly conceded that this was a fight about news from Mars: "I presume the cause of the [takeover bid] can be found in my refusal to accept or reject Professor Lowell's claims relating to the habitation of Mars." In this matter, Pickering retorted, Lowell "is as safe from denial of his claim as is the man who has offered \$1,000 for proof that under the old Charles River Park is the center of the world."³

This contest was defined by two intertwined problems. One was about Mars, and the other was about media. This book tells the story of this entanglement, why it happened, and what it meant for the practice of astronomy in that era. It explores the birth of two closely related new disciplines—astrophysics and planetary science—and argues that these disciplines' formative years can only be understood in relation to the cultural marketplace in which they were situated. As Lowell's fight with Pickering suggests, this marketplace was characterized, above all, by new, powerful, transnational forms of mass media. Both these new kinds of astronomy and these new forms of media grew up together

from the 1860s, and neither, this book argues, can be fully appreciated separate from the other. I trace this symbiotic history through four detailed case studies, moving chronologically from the advent of astrophysics (1860s and 1870s), through early interest in evidence for a living Mars (1880s), into the heyday of debates over the planet's enigmatic "canals" (1890s to 1900s), and conclude with the slow decline of theories of life on the red planet (1910s and 1920s). As this chronology suggests, Lowell's fight with Pickering comes near the end of my story. Neither man could agree about the physical constitution and appearance of Mars, nor about the appropriate ways in which planetary news should be shaped and circulated through the media. This book explains why these two issues came to become inseparable from one another and why it mattered so much for these astronomers.

The narrative of this book is tightly periodized, being contingent upon two contemporaneous disciplinary moments. The first is the advent of astrophysics and, with it, what much later came to be called "planetary science." It is important to clarify up front that in the period studied here, from around 1860 to around 1910, neither of these appellations were in common use. "Planetary science" was used not at all, and "astrophysics" appeared only occasionally and inconsistently, alongside cognate terms like "solar physics" and "the physics of astronomy." As such, I have adopted in my title an actors' category that encompasses both of these disciplines-in-the-making and which more accurately captures the novel astronomical practices then emerging. Writing in 1885, the commentator Agnes Mary Clerke noted a recent phenomenon, "a so-called 'new astronomy'" that had recently "grown up by the side of the old."⁴ Whereas the old astronomy took the movement and mathematical relations of the celestial bodies as its purview, this new astronomy deployed a suite of novel tools and instruments to interrogate the physical constitution of those same objects. Following the canonical spectroscopic work of Robert Bunsen and Gustav Kirchhoff in the early 1860s, astronomers had at their disposal what this pair called an "entirely new method of qualitative chemical analysis" capable of determining many of the elements and compounds present in the sun, stars, nebulae, and planets. As one London observer put it, astronomers could now "come to the chemist" if they "want to know something of the constituents of the heavenly bodies."⁵ Concomitant efforts to increase the size and power of telescopes also gave those astronomers hopes of scrutinizing the physical appearance—and therefore physical