

RESEARCH ARTICLE

Jodhpur and the aeroplane: aviation and diplomacy in an Indian state 1924–1952

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Abstract

This paper is a study of the intersection between aviation and diplomacy in the semi-autonomous Indian state of Jodhpur in the final decades of British colonial rule in India. Jodhpur's Maharaja Umaid Singh established a major international aerodrome, patronized one of India's first flying clubs and collaborated with British authorities to make aviation laws for the Indian states. He would also serve in the Royal Air Force during the war and placed Jodhpur state's aviation resources at the disposal of the king-emperor. This paper argues that Jodhpur was able to leverage its aviation resources to wield substantial influence both within and beyond the British Empire through both war and peace. An analysis of Jodhpur's engagement with aviation diplomacy is also revealing of some of the limitations as well as possibilities for the deployment of science diplomacy frameworks, especially in non-Western contexts.

As war clouds gathered over Europe, Lord Linlithgow, the viceroy of India, addressed a glistening banquet thrown in his honour by Jodhpur State on 1 March 1939. He began by listing the princely state's many achievements.¹ Despite being an arid territory, Jodhpur could boast of a prosperous treasury totalling forty million rupees. The state was home to modern hospitals like the Windham Hospital and the New Female Hospital which could 'challenge competition with the most completely equipped of their kind in (British administered) India'. Jodhpur was also connected by an advanced railway system and watered by a fifty-five-mile-long canal system. Its medical, educational and police institutions were well funded and efficiently run. To this long list of achievements showcasing the 'material progress' of the state, Linlithgow added Jodhpur's attainments in the field of aviation. Linlithgow spoke glowingly of Jodhpur's 'up-to-date' aerodrome, which served as a major point on the trans-India air route. He also complimented the ruler of Jodhpur, Maharaja Sir Umaid Singh, for his keen personal interest in flying and for establishing the Jodhpur Flying Club. For his contributions to aviation and his assistance to the Royal Air Force, Viceroy Linlithgow announced that the king-emperor had conferred the honorary rank of air commodore of the Royal Air Force on Maharaja Umaid Singh.

The Jodhpur banquet is indicative of the role of aviation technology in advancing diplomatic relations between the Indian princely states and their colonial suzerain, the Government of India. Jodhpur deployed technology in general, and aviation in particular,

¹ The remainder of this paragraph draws from *The Report on the Administration of the Jodhpur State for the year 1938–39*, Jodhpur: Jodhpur Government Press, 1941, p. 148.

to gain recognition and legitimacy in the eyes of the colonial government. For its part, the Government of India came to see aviation not only as a means to more closely connect India with the British Empire, but also as a way of shoring up its relations with the princes at a time when it was threatened by onset of war abroad and nationalist agitations in India. Aviation offered a new avenue for diplomacy between the colonial Government of India and indirectly ruled Indian states like Jodhpur. This paper, then, will study the role of what I term 'aviation diplomacy' in shaping the relationship between Jodhpur and the Government of India. In doing so it will also make an argument for a more expansive understanding of the emerging field of science diplomacy which takes seriously the role of technologies, such as aviation, in moulding diplomacy outside Europe.

Jodhpur's engagement with aviation, like that of the wider Indian encounter with the aeroplane, differed markedly from that of scientifically and industrially advanced European states like Britain. Aeroplanes were not manufactured in India until the opening of the Hindustan Aircraft Ltd factory in 1940 and consequently had to be imported. Indians also had relatively little to do with the production of aeronautical science. In this context Jodhpur had to depend on foreign, predominantly British, sources for both aircraft and expertise. The state's mastery of science, then, would have to be demonstrated in technological terms, a strategy that has characterized much of the developing world's approach to science and technology.² In not producing aircraft or promoting aeronautical science, Jodhpur's experience with aviation conformed with that of most states in the world. Indeed, David Edgerton has recently argued 'science' is hardly a characteristic even of developed states since scientific institutions are highly concentrated in a handful of universities and research institutes.³ A narrow focus on 'science' in science diplomacy studies serves to exclude the experiences of peoples living outside the 'developed' world from the wider story of science, technology and diplomacy. This paper, then, seeks not only to decentre the experiences of wealthy, predominantly Western, states with science diplomacy but also to articulate a more expansive understanding of the field that is capable of accommodating a variety of interlinked practices from around the world.

Understanding the importance of science diplomacy in the context of the Indian states requires an appreciation of the unusual and highly unequal relationship between the Indian states and the 'paramount power'. Indirectly ruled Indian states constituted two-fifths of Britain's Indian empire. Indian rulers governed over ninety million subjects living in over half a million square miles of territory. The 'princes', as they were disparagingly referred to by the British, reigned over some six hundred-odd states.⁴ The Indian states pledged their allegiance to the paramount British power, ceding control of defence, communications and international affairs in return for internal autonomy. For the British, indirect rule over the Indian states offered many advantages. It reduced the costs of colonial administration and ensured support for the colonial state by indigenous elites. Less obviously, indirect rule served as an important ideological justification for colonialism since it helped contrast enlightened 'modern' direct rule with despotic 'native' rule. While the Indian states theoretically controlled their internal affairs, in practice the mechanism of indirect rule, called 'paramountcy', deliberately defined the limits of British power in India in vague terms.⁵ This left the affairs of the Indian states open to

² For a discussion of India's substitution of science with technology see Itty Abraham, *The Making of the Indian Atomic Bomb: Science, Secrecy and the Postcolonial State*, New Delhi: Zed Books, 1998.

³ David Edgerton, "'The supremacy of Uruguay': thinking with the periphery as method", keynote lecture delivered at the Fractured Skies: Aviation and the Global South Workshop, 29 June 2022.

⁴ The total number of Indian states remains contested since historians do not agree on the precise definition of what constitutes a princely state. Ian Copland, *The Princes of India in the Endgame of Empire 1917-1947*, Cambridge: Cambridge University Press, 1997, p. 1.

⁵ Barbara Ramusack, *The Indian Princes and Their States*, Cambridge: Cambridge University Press, 2003, p. 55.

arbitrary interference from the colonial government. The Indian states thus found themselves in a constant struggle with the colonial government to assert their limited autonomy. In this setting, science and technology emerged as a major field of contestation as well as recognition between the Indian states and the colonial government, not least because of their capacity to serve as a potent mode of legitimation. Given their fragmented sovereignty, the princes often embraced science and technology as a means of seeking both recognition and autonomy from the colonial government. Through fields such as education, science, medicine, industry and technology, the princes could assert new and often complex claims to the power that they, at least in theory, shared with the Government of India.⁶ The case of aviation in Jodhpur is indicative of some of the possibilities that emerged at the intersection of science and technology on the one hand, and of profoundly unequal power relations on the other.

Aviation helped raise Jodhpur to international prominence. The semi-autonomous princely state would emerge as a key node on the air route connecting Europe with Australia via South East Asia. Its flying school, the first in an Indian state, would serve as an important military centre during the Second World War. Less glamorous, but no less important, would be the state's contribution to the establishment of a legal framework governing flying in Britain's Indian empire. Jodhpur State's adoption of aviation was a result of policies pursued by its ruler, Maharaja Umaid Singh. An ardent pilot himself, the maharaja attempted to combine Rajput martial traditions with the modern appeal of the aeroplane. This new martial modernity could then serve to legitimate monarchical rule in a period of great political unrest. A study of aviation in Jodhpur is especially valuable because it represents the complex ways in which science and technology were received, mediated and internalized in a colonial context of 'fragmented sovereignty'.⁷ In Jodhpur, the aeroplane served not only as a means of traversing vast distances, underlining the ruling dynasty's modern outlook and as a key source of revenue. It also served to facilitate aviation diplomacy, which placed a semi-autonomous state in a position to conduct diplomatic negotiations with a powerful suzerain, with far-reaching consequences. Aviation diplomacy permitted Jodhpur to play an influential role on the imperial air route, in crafting colonial aviation regulations and in serving as a key wartime ally of the British Raj. It helped craft new means of manoeuvring through a system where the princely state's sovereignty was severely fragmented.

Science diplomacy scholarship has long acknowledged the need to interrogate state sovereignty, especially in the context of ever-expanding globalization which has provided new shared opportunities and common threats that require global scientific and technological cooperation.⁸ Despite this, however, the field continues to be dominated by a focus on the Cold War.⁹ This has meant, in effect, that most of the writing on science diplomacy privileges the period immediately after the Second World War, despite the rich possibilities offered by the framework stretching back at least to the nineteenth century. It has also had the consequence of minimizing the contributions of science diplomacy to the story of decolonization, which played out at the same time as the Cold War. Another

⁶ Manu Bhagwan, *Sovereign Spheres: Princes, Education and Empire in Colonial India*, Delhi: Oxford University Press, 2003, p. 4.

⁷ I borrow the term 'fragmented sovereignty' from Eric Beverly, who used it to describe the complicated nature of shared sovereignty in another princely state, Hyderabad. Eric Lewis Beverly, *Hyderabad, British India and the World: Muslim Networks and Minor Sovereignty, c.1850-1950*, Cambridge: Cambridge University Press, 2015.

⁸ Vaughan C. Turekian, Sarah Mackindoe, Daryl Copeland, Lloyd S. Davis, Robert G. Patman and Maria Pozza, 'The emergence of science diplomacy', in Lloyd S. Davis and Robert G. Patman (eds.), *Science Diplomacy: New Day or False Dawn*, Singapore: World Scientific Publishing, 2014, pp. 3-24.

⁹ Lif Lund Jacobsen and Doubravka Olšáková, 'Diplomats in science diplomacy: promoting scientific and technological collaboration in international relations', *Berichte zur Wissenschaftsgeschichte* (2020) 43(4), pp. 465-72.

issue that has continued to plague science diplomacy, which this study hopes to help correct, is the long-standing privileging of the nation state. An examination of aviation negotiations between princely Jodhpur and the colonial government serves to further highlight the extent to which the sovereign nation state was a product of very specific circumstances that enjoyed dominance of the international system for a period of a little over seven decades. The period before the Second World War was characterized by heterogeneous states exercising various types of sovereignty, including empires, mandates, chiefdoms and, in the Indian case, princely states. The present paper, then, aims not only to focus on science diplomacy in South Asia, a region that has often been marginal to the field, but also to decentre the sovereign nation state.

Examining the role of aviation in mediating diplomatic relations between the colonial Indian state and Jodhpur raises a number of questions. What does the emergence of Jodhpur State as a major hub for aviation tell us about the state of science and technology in the interwar years in India? What is the relationship between science and technology in a colonial context in which colonial subjects are posited as consumers rather than producers of technical knowledge? How did the aeroplane become a metonym for science, technology and modernity in the early twentieth century? In answering these questions, I draw on archival collections in both the United Kingdom and India, including the British Library, the National Archives of India and the Mehrangarh Museum Archives.

The last two decades have seen a heartening increase in the number of histories written about science and technology in India.¹⁰ While British rule in India was often justified on the basis of promoting technological advancement in India, in practice the colonial state had little interest in investing resources that might set India on the path to self-rule. If trains, dams and telegraphs introduced to India by the British transformed the country into a 'field of technics' it did so with the aim of increasing the extractive efficiency of colonialism.¹¹ The consensus in much of the literature on the Indian states is that they were able to emerge as alternative, if severely constrained, sites of autonomy in which colonial subjects were able to envision and sometimes enact alternatives to colonial rule.¹² The princely states emerged as important sites for the promotion of science and technology in a subcontinent where it was rarely encouraged, except where it directly served imperial interests. This is a point that will be directly borne out, in the case of aviation in Jodhpur, by the present paper.

¹⁰ See, for instance, David Arnold, *Science, Technology and Medicine in Colonial India*, Cambridge: Cambridge University Press, 2000; Arnold, *Everyday Technology: Machines and the Making of India's Modernity*, Chicago: The University of Chicago Press, 2013; Arun Mohan Sukumar, *Midnight's Machines: A Political History of Technology in India*, Gurgaon: Viking, 2019; Jahnavi Phalkey and Tong Lam, 'Science of giants: China and India in the twentieth century', *BJHS Themes* (2016) 1, pp. 1–11; Deepak Kumar, *Science and the Raj: A Study of British India*, New Delhi: Oxford University Press, 2006; Jahnavi Phalkey, *Atomic State: Big Science in Twentieth-Century India*, Ranikhet: Permanent Black, 2013; Roy Macleod and Deepak Kumar, *Technology and the Raj: Western Technology and Technical Transfers to India 1700–1947*, New Delhi: Sage, 1995; Dan Haines, *Rivers Divided: Indus Basin Waters in the Making of India and Pakistan*, Gurgaon: Viking, 2017; Haines, *Building the Empire, Building the Nation: Development, Legitimacy and Hydro-politics in Sind, 1919–1969*, Karachi: Oxford University Press, 2003.

¹¹ Gyan Prakash, *Another Reason: Science and the Imagination of Modern India*, New Delhi: Oxford University Press, 2000, p. 168.

¹² See, for instance, Robin Jeffrey, *People, Princes, and Paramount Power: Society and Politics in the Indian Princely States*, Delhi: Oxford University Press, 1978; Ian Copland, *The British Raj and the Indian Princes*, Bombay: Orient Longman, 1982; Barbara Ramusack, *The Princes of India in the Twilight of Empire*, Cambridge: Cambridge University Press, 2004. For an exception to this see Jahnavi Phalkey, 'Flights of freedom: German emigres, aeronautics and self-reliance in India', in Srinath Raghavan and Nandini Sundar (eds.), *A Functioning Anarchy: Essays for Ramachandra Guha*, New Delhi: Allen Lane, 2021, pp. 251–270.

Despite the growth in both histories of the Indian states and science and technology histories, there has been relatively little academic work on aviation in the Indian states.¹³ Priya Mirza has argued that the princely engagement with aviation constituted ‘an assertion of regal access to air, a visible statement of modernity and the occupation of a divine realm’.¹⁴ She traces the negotiations between the colonial government and the princes that enabled the latter to assert limited aerial sovereignty in 1931 and serve in a sense as the starting point of the present paper. The most comprehensive works on aviation in princely India continue to be Peter Vacher’s *The Jodhpur Flying Club* and Anuradha Reddy’s *Aviation in the Hyderabad Dominions*, both penned by aviation enthusiasts.¹⁵ This paper, then, seeks to contribute to the wider literature on aviation in the princely states in particular and across the global South in general. To do this I have drawn on classic works on the politics of aviation such as David Edgerton’s *England and the Aeroplane* and Uri Bialer’s *The Shadow of the Bomber*.¹⁶ I have also engaged with an emerging literature that looks at the legacy of aviation for post-colonial societies from Peru to Pakistan.

This paper will study the emergence of Jodhpur State as a pioneer in aviation in South Asia. In particular it will focus on the contributions of Maharaja Umaid Singh and his successor to aviation diplomacy, which granted the state a degree of both prominence and influence that it might otherwise not have experienced as a consequence of its semi-autonomous status. It is broadly divided into three parts. It begins by providing a brief background to the relations between the colonial Government of India and the Indian states, with a focus on aviation. The second part looks at the early establishment of aviation in Jodhpur by Maharaja Umaid Singh’s government. The final part examines the role of Jodhpur State in the Second World War, a conflict that transformed both India and aviation, before concluding with a discussion of Jodhpur’s integration with independent India.

Background: the Indian states and aviation diplomacy

The six hundred-odd states that made up the princely order had become vassals of the British through a series of treaties and arrangements in the eighteenth and nineteenth centuries that gave them varying levels of sovereignty. When excessive British interference in Indian states was recognized as a key cause of the Great Rebellion of 1857, Empress Victoria proclaimed that the borders of princely states would not be altered by the British ‘paramount power’ and that their internal autonomy would be respected. Though the British made few territorial changes in the following decades, interference in princely affairs continued.¹⁷ British officials justified the violation of princely sovereignty by claiming that they were using powers bestowed on them by ‘paramountcy’, a deliberately ill-defined concept that emerged from the colonial government’s position as representative of the ‘paramount power’. To define and therefore limit abuses of paramountcy the Indian princes organized themselves into a Chamber of Princes (CoP) after the First World War. The CoP proposed a federation of the Indian states and British India

¹³ For exceptions to this trend see Aparajith Ramnath, ‘International networks and aircraft manufacture in late-colonial India: Hindustan Aircraft Limited, 1940–47’, Working Papers 205, Indian Institute of Management Kozhikode; Priya Mirza, ‘Lessons from India’s long journey to gaining the right to fly’, *Caravan Magazine*, 30 April 2021.

¹⁴ Priya Mirza, ‘“Sovereignty of the air”: the Indian princely states, the British empire and carving out of air-space (1911–1933)’, *History and Technology* (2022) 38(1), pp. 62–83, 63.

¹⁵ Peter Vacher, *History of the Jodhpur Flying Club*, Ontario: Griffin Media, 2008; P. Anuradha Reddy, *Aviation in the Hyderabad Dominions*, Secunderabad: Avi-Oil, 2001.

¹⁶ David Edgerton, *England and the Aeroplane: Militarism, Modernity and Machines*, London: Penguin, 2013; Uri Bialer, *The Shadow of the Bomber*, London: Royal Historical Society, 1980.

¹⁷ Ramusack, op. cit. (5), p. 106.

in 1930 with the goal of establishing an Indian representative assembly that could finally secure their internal autonomy. The failure of the princes to produce the federation they had promised would severely strain relations between the colonial government until the Second World War. It was in this context that the colonial government began to discuss aviation policy with the princes.

The emergence of aviation presented new challenges to the established system of indirect rule. The aeroplane territorialized the skies above princely dominions, raising new questions on the nature of princely sovereignty. The princes could not own 'service aircraft' or set up their own air forces, since they had ceded defence to the colonial government. But serious questions emerged about aviation safety, the rights to prohibit flight over certain areas and the need to pass legislation in line with international standards. These questions grew increasingly urgent as Indian states began to invest more extensively in aviation in the 1920s. Indian princes had evinced interest in aviation early. The maharaja of Patiala, Bhupinder Singh, had dispatched his chief engineer to Europe in 1910 to purchase two Farman biplanes, thus becoming the first Indian to own a plane.¹⁸ Whereas aeroplanes were initially purchased for what Priya Mirza terms 'personal consumption', advances in aviation technology after the First World War and the signing of international aviation agreements following the war made negotiations between the colonial government and the Indian states a pressing matter.¹⁹

This heralded the first phase of what may be termed aviation diplomacy between representatives of the Government of India and the Chamber of Princes. As early as February 1923, the colonial government sought the approval of the Standing Committee of the Chamber of Princes for a statement of position on air navigation in the Indian states. While British military aircraft would be able to fly through princely India and international negotiations would be conducted by the British government, the 'international sovereignty' of the princely states would be recognized for such purposes as designating prohibited areas within their territories to protect their persons, residences and families. Indian states would also be permitted to collect existing taxes on aircraft landing in their states.²⁰ Negotiations between the Chamber of Princes and the colonial government continued until March 1931. The CoP was able to win key concessions in the negotiations, the most important of which was the admission by the colonial government that 'the sovereignty of the Rulers of the States – in whatever measure they possessed it – over their territories, embraces the Air space above these territories'.²¹ Outside war or emergencies British aircraft could not fly over prohibited areas and could only land at designated aerodromes. In return the princes promised to enact legislation necessary to keep aviation in line with colonial Indian laws and also to promote aviation. But although the Chamber of Princes and the colonial government were able to come to an agreement on air navigation in the Indian states, it was one that was far from comprehensive. As the case of Jodhpur, an Indian state that pioneered aviation, would show, settling on clear laws and regulations would prove to be both complicated and difficult.

Aviation in Jodhpur State

Jodhpur State was located in the Rajputana region in India's west. Its rulers, the Rathore dynasty, were Rajputs, a Hindu Kshatriya community famed for its courageous cavalry. The Rathores had emerged as a powerful force after taking control of the Marwar region

¹⁸ 'A Lane Farman biplane for a maharajah', *Flight Magazine*, 17 December 1910.

¹⁹ Mirza, *op. cit.* (13), p. 82.

²⁰ Proceedings of the Chamber of Princes, 1931, Mehrangarh Museum Archive, Mehrangarh (subsequently MMA), Mahakhma Khas (subsequently M-KHAS), Aviation No 23 P1 FN-C-9 BN-3 1929-32.

²¹ Resolution dated 8 August 1932, MMA, M-KHAS Aviation No 23 P1 FN-C-9 BN-3 1929-32.

in the fifteenth century. Jodhpur came under indirect British rule in 1818 when the state's rulers signed a treaty with the East India Company in order to obtain British protection from Pindari raiders and the violent dynastic conflicts that had rocked the state in the nineteenth century.²² The British frequently interfered in Jodhpur's affairs, appointing its prime ministers, limiting the powers of its maharajas and even placing the state under minority administration from 1895 to 1898.²³ Jodhpur's forces fought alongside the British during the Great Indian Rebellion of 1857, the Chinese Boxer Rebellion of 1900 and the First World War.²⁴

Maharaja Umaid Singh, the man most responsible for the emergence of aviation in Jodhpur, rose to the throne at the age of fifteen in 1918. The state he would begin to rule, when he came of age in 1923, was the third-largest Indian state in terms of area, rivalling Hungary in size. Much of the state was arid since it abutted the Thar desert and shortages of water explain the states' relatively small population; some 212,000 people in 1921. Umaid Singh's ascent to power coincided with a period of immense political upheaval. The First World War unleashed new ideas of political representation that made their way to the Indian states from British-ruled India. Popular organizations like the Marwar Seva Sangha (Marwar Service Union), the Marwar State People's Conference, the Praja Mandal (Subjects Board) and the Marwar Lok Parishad (Marwar People's Council) defied monarchical authority by campaigning for civil rights.²⁵ Though state forces were able to suppress political agitation, it became clear that the maharaja would have to find ways to legitimate his rule.

Confronted with the possibility of British interference from above and popular agitations from below, Maharaja Umaid Singh adopted a sophisticated strategy of modernization to entrench his rule. To borrow an argument that Janaki Nair made in the context of princely Mysore, the maharaja of Jodhpur made an attempt to substitute governance for representation.²⁶ Jodhpur's administration was reformed and rationalized.²⁷ Great monuments to the ruling dynasty, like the Umaid Bhawan palace, were built as a means of both exerting authority through architecture and providing Jodhpur's subjects with employment. A number of 'modern' facilities, including museums, stadiums, gardens and hospitals, were built during Maharaja Umaid Singh's reign. Care was also taken to improve access to water for people living in an arid state through the construction of the Umaid Sagar dam, the Jawai Bandh (reservoir), the Sumer Samandh Jodhpur water supply dam and Takhat Sagar Dam.²⁸ To this already substantial program of modernization, Umaid Singh added aviation.

Maharaja Umaid Singh formally assumed power in 1923 from the regency council led by his uncle, Sir Pratap Singh, which had run Jodhpur until he came of age.²⁹ A little over a year later the twenty-year-old maharaja established a Flying Department to promote aviation in his state. An ambitious process of aerodrome construction was commenced in 1924 and completed in 1931. One of India's most advanced aerodromes was erected at Jodhpur at the cost of 136, 830 rupees and a satellite aerodrome was built at Utterlai

²² Rima Hooja, *A History of Rajasthan*, New Delhi: Rupa & Co, 2006, p. 373.

²³ Nirmala M. Upadhyay, *The Administration of Jodhpur State, 1800-1947 A.D.*, Jodhpur: International Publishers, 1973, p. 63.

²⁴ Upadhyay, op. cit. (23), p. 64.

²⁵ Dhananjay Singh, *The House of Marwar*, New Delhi: Roli Books, 1994, p. 173.

²⁶ Janaki Nair, *Mysore Modern: Rethinking the Region under Princely Rule*, Minneapolis: University of Minnesota Press, 2011, p. 218.

²⁷ Sahdev Singh Kheeeche, *Economic Reforms of Maharaja Umaid Singh's Reign*, Jodhpur: Maharaja Mana Singh Pustak Prakash Research Centre, 2004, p. 29.

²⁸ Kheeeche, op. cit. (27), p. x (Introduction).

²⁹ Dhananjay Singh, op. cit. (25), p. 151.

at a cost of 9,610 rupees. This was supplemented by the construction of a large network of aerodromes throughout the state. By 1931 some fifteen landing grounds dotted Jodhpur's territories.³⁰ Jodhpur's substantial investments in aviation infrastructure are explained by a series of different factors. Maharaja Umaid Singh was passionate about flying, having graduated from the Royal Air Force Academy at Cranwell, and having earned both A and B flying licences from the Delhi Flying Club. This passion was shared by many members of the royal family, including the maharaja's son, Prince Hanwant Singh. As an observer once quipped, "There are probably more Jodhpur royals in the air than on the ground at any given point in time."³¹ In Jodhpur, as in many Indian states, the state was able to draw on the railways for existing expertise required for aviation. Jodhpur State Railway was one of the largest state-run enterprises and helped leverage the state's central location to generate revenues for a state that had little by way of agriculture thanks to its arid environment.³² Consequently it is highly likely that the state's investment in aviation was inspired by a realization of the importance of transport infrastructure. A network of aerodromes also enabled the maharaja to fly rapidly to different parts of the state to oversee his ambitious modernization programme. Thus, for instance, the maharaja was able to pay the city of Ladnu a flying visit on 14 November 1938 in order to supervise famine relief work.³³ This use of aviation to project power across vast and often inhospitable terrain bears striking similarities to a broader set of strategies that ruling elites across the globe were experimenting with during the interwar years. Halfway across the world, in Peru, Cuzqueno elites were attempting to use the aeroplane to consolidate their vast territories in roughly the same period.³⁴ Finally, and perhaps most importantly, Jodhpur aerodrome enabled the state to carve out a unique niche as both a pioneer and a leader in the field of aviation, enabling it to engage in aviation diplomacy with both the colonial government and foreign airlines.

Jodhpur aerodrome's central location on the trans-India air route from Karachi to Calcutta made it extremely important at a time when aircraft were much slower than they are today and had to make multiple stops. As such Jodhpur was a key stop on the Delhi-to-Karachi segment of the Indian State Air Service (ISAS) established by the colonial government in 1929.³⁵ Passengers landing at Jodhpur aerodrome could pick up lunch as their plane was being refuelled. When the ISAS collapsed, due to government mismanagement, mails continued to be flown from Karachi to Delhi by the Delhi Flying Club, making Jodhpur part of what was arguably the first Indian-operated air route.³⁶ The aerodrome also emerged as a critical point on the route connecting Europe to South East Asia and Australia. Airlines from the three major European colonial empires in Asia, Britain, France and the Netherlands, stopped at Jodhpur for maintenance and refuelling. This was significant not only because it placed Jodhpur in a wider network of imperial air routes but also because it added the city of Jodhpur's name to a distinguished list of major air hubs, including Cairo, Hong Kong and Sydney. Passengers from KLM, Air France and Imperial Airways could spend the night at a hotel constructed next to the aerodrome that was adorned 'with appropriate carving winged horses'.³⁷ Though clear

³⁰ Kheeche, *op. cit.* (27), p. 19.

³¹ Anvar Ali Khan, 'The real Zubeida', *Rediff.com*, January 2001, at www.rediff.com/movies/2001/jan/17zub.htm (accessed 17 July 2016).

³² Kheeche, *op. cit.* (27), p. 93.

³³ Kheeche, *op. cit.* (27), p. 19.

³⁴ Willie Hiatt, *The Rarefied Air of the Modern: Airplanes and Technological Modernity in the Andes*, New York: Oxford University Press, 2016 (ebook).

³⁵ Air mail postal notice, MMA, M-KHAS AVIATION-NO-11 P-1 FN-C-3 B-NO-02-YEAR-1929-39.

³⁶ 'Indian air mails', *Flight Magazine*, 8 December 1932.

³⁷ 'The log of the Astraea', *Flight Magazine*, 16 November 1933.

figures are unavailable, by the late 1930s the state was earning substantial revenues from the increasing volume of international air traffic transiting its aerodrome. By 1937, the aerodrome was servicing 877 aircraft a year.³⁸ In addition to the civil aircraft passing through the region came a steady stream of Royal Air Force aeroplanes travelling along the trans-India air route that connected Britain with India and the empire's eastern possessions.³⁹ Jodhpur's emergence as an important aerial centre helped distinguish the state from other Indian states in the Rajputana region and beyond. It also provided opportunities for the state to play host to a number of distinguished individuals passing through it, such as Sir Philip Sassoon, the undersecretary for air who was received at a lavish party by the Jodhpur Durbar on 15 October 1928.⁴⁰ Face-to-face interactions with high-ranking imperial officials strengthened the authority of the maharaja in a princely system in which personal intimacy often shaped diplomatic relations. It also granted Jodhpur state greater 'soft power' within imperial and international hierarchies.

Jodhpur state also had the distinction of being the first Indian state to establish a flying club. Maharaja Umaid Singh had been closely involved with the Delhi Flying Club and moved to establish a flying club in Jodhpur on an experimental basis in 1931. The club was paid for partly by the maharaja from his own privy purse and partly from the state's treasury.⁴¹ Geoffrey Godwin, a South African pilot who had previously been in the RAF, was appointed the club's chief instructor, an interesting example of intra-imperial cooperation between a white dominion and an Indian state. A number of modifications including longer runways, a moat to keep away wild pigs and a raised platform from which royal women might see the airfield while maintaining the Rajput practise of *purdah* (veiling) were made to the airfield next to the maharaja's Chitar palace.⁴² Starting with only two aircraft, including the maharaja's Gypsy Moth, the club would grow to include six aircraft, including a Leopard Moth and a Waco F, by 1937.⁴³

Jodhpur received recognition as the Indian state that had pioneered aviation from the colonial government when the director of civil aviation met with representatives of the Jodhpur State government to help evolve a mechanism to regulate aviation. Despite the resolution on air navigation in the Indian states adopted by the Chamber of Princes in March 1931, enacting rules for air navigation remained difficult. Several questions about aviation pertaining to the division of rights and responsibilities between the Indian states and the colonial government remained unanswered. Would Indian states or the colonial government choose sites for airfields that the Indian states had consented to provide the colonial government for the development of aviation? Who was responsible for investigating air accidents if they happened in the princely states? How would fees and taxes levied on aircraft for using aerodromes in princely India be shared in an equitable manner with the Indian government? As one official complained, coming up with aviation rules for the Indian states was 'a hopelessly complicated problem that is bound to take many years to clear up'.⁴⁴ The root of the problem lay in the anomalous legal status of the Indian states under both colonial and international law. The British Empire was

³⁸ *The Report on the Administration of the Jodhpur State for the year 1938-39*, op. cit. (1), p. 150.

³⁹ Office order, 1 March 1929, MMA, M-KHAS AVIATION NO-1 P-1 FN-C-1 B-NO-01-YEAR-1928-31.

⁴⁰ Rajputana States Residency to Col. Windham, 9 October 1928, MMA, M-KHAS AVIATION NO-1 P-1 FN-C-1 B-NO-01-YEAR-1928-31.

⁴¹ Finance member, State Council, to member-in-waiting, State Council, 26 August 1931, MMA, Household Records, File No. 2.

⁴² Vacher, op. cit. (15), p. 15.

⁴³ Report on the progress of civil aviation for the year 1938, MMA, M-KHAS AVIATION-NO-31 P-1 FN-C-18 B-NO-04-YEAR-1937-42.

⁴⁴ Superintending engineer, Public Works Department, Jodhpur, to judicial member, State Council, Jodhpur, 24 September 1931, MMA, M-KHAS AVIATION-NO-23 P-1 FN-C-9 B-NO-03-YEAR-1929-32.

required to pass aviation laws in keeping with its international obligations under the 1919 Warsaw Convention and the 1929 Paris Convention. This included regulations on registering aircraft, licensing pilots and investigating air accidents. In India the process of updating aviation laws to reflect international agreements proceeded at a glacial pace. Progress was also slowed by the fact that British officials were awaiting the creation of a new Indian federation.

The Indian princes had proposed the setting up of a federation that would include both their states and the British-ruled provinces of India. They hoped that a combined Indian legislature would help limit British interference in their affairs. The British, for their part, were keen on a federation that would include the princes, whom they saw as a counterweight to the increasingly powerful Indian National Congress.⁴⁵ The possibility of federation likely slowed the Indian government's own legislation on aviation since the passage of different laws in the Indian states might necessitate fresh negotiations on aviation when they joined the federation. Indeed, the princes were instructed not to pass any legislation on aviation.⁴⁶ Consequently, rules and regulations on aviation remained extremely unclear.

British officials sought to clarify the situation through negotiations with Jodhpur. A meeting was held between colonial officials and members of the Jodhpur Durbar (court) on 16 November 1931. The colonial government was represented by, among others, Frederick Tymms, director of civil aviation, one of the most important figures in the history of Indian aviation, and J.A. Shillidy, the Secretary for the Department of Industries and Labour. Jodhpur's representatives included and was led by Raja Narpal Singh, the vice president of the Council, and Gordon Godwin, the secretary of the flying club and the state's leading expert on aviation. An informal agreement was reached whereby Jodhpur would in practice follow the aviation procedures laid out by the colonial government while not formally codifying them into law. The state would jointly investigate accidents with officials from the colonial government. It would require its aviators to follow the same rules as those followed in British India with regard to air call signs, certificates of airworthiness and the licensing of both pilots and aerodromes.⁴⁷ Initial attempts were also made to divide the fiscal gains from aircraft using aerodromes in Jodhpur State. Though the meeting went some way towards standardizing aviation rules in India, many issues with dividing responsibilities, rights and revenues from aviation remained unresolved. An ad hoc approach to regulating aviation in the princely states would continue to characterize the interwar years. Nevertheless, the agreement between Jodhpur and the colonial government served to provide a wider framework for agreements with other Indian states. Though Jodhpur itself would turn against federation and eventually pass the Jodhpur Carriage by Air Act of 1935, the informal arrangements adopted there would govern aviation for much of the decade in other Indian states.⁴⁸ Early investments in aviation therefore positioned Jodhpur to influence aviation rules in colonial India. It is also representative of the long-term nature of negotiations surrounding aviation diplomacy. Aviation regulation in colonial India did not emerge overnight as a fiat of the colonial government but was instead co-crafted through long-drawn-out and often messy negotiations between the government and the princes. Aviation technology and international aviation law complicated colonial rule, raising

⁴⁵ Copland, *op. cit.* (4), p. 80.

⁴⁶ Superintending engineer, Public Works Department, Jodhpur, to judicial member, State Council, Jodhpur, *op. cit.* (44).

⁴⁷ General principles for flying in Jodhpur, National Archives of India, New Delhi Foreign & Political-Reforms Branch-72 (21)-R/1931.

⁴⁸ Secretary to the resident to chief secretary of Mysore State, 22 June 1940, Karnataka State Archive, Bangalore, General and Revenue Secretariat File 26.

new questions about the fragmented sovereignty enjoyed by the princes. Aviation thus served not only as a strategic and ideological asset but also as an important diplomatic resource for Jodhpur.

Jodhpur and the Second World War in the air

The outbreak of the Second World War found the colonial government unprepared. The conflict would see the unprecedented deployment of science and technology in a colony that had done little to develop either science or technology for military purposes. British refusals to invest in aerodrome construction, aircraft production and the expansion of the tiny Indian Air Force meant that India found itself in no position to defend itself from air attack. In these conditions existing aviation infrastructure in the Indian states would have to be mobilized. Hyderabad State would emerge as an important training centre while Mysore would become the site of India's first aircraft factory.⁴⁹ Jodhpur, for its part, would see not only its aerodrome and flying school serve the air war effort but also its maharaja.

The Rajputs had been historically famed for their valour, especially on horseback. For the British, the Rajputs were a 'martial race' suited to the rigours of war.⁵⁰ Umaid Singh's brother and predecessor Maharaja Sumer Singh had led the Jodhpur Imperial Service Lancers to battle at Flanders at the age of seventeen.⁵¹ It is therefore no surprise that Umaid Singh wished to ride the new cavalry of the skies into battle during the Second World War. As an honorary commodore of the Royal Air Force, the maharaja hoped to serve in combat but his request to do so was turned down by the British for whom the death or captivity of a faithful ally might have had grave consequences. A bitterly disappointed Umaid Singh would go on to serve in a staff position in the RAF under Air Marshal Sir Richard Peirse. He was joined in this role by another famous royal aviator, Nawab Hamidullah of Bhopal. Together the two Indian rulers served as key representatives and advocates of the fledgling Indian Air Force (IAF). Air Commodore Maharaja Umaid Singh would travel the length of the country meeting IAF men and would, along with Hamidullah, represent their concerns to Air Headquarters (India).

A comprehensive report by the two monarchs painted an abysmal picture of the conditions of Indians in the Indian Air Force. As royals, the nawab and the maharaja were able to make a battery of concerns heard. These included poor salaries and living conditions, substandard military aircraft and poorly implemented recruitment policies being implemented by the British. Above all, the report by the two monarchs would point to the extent to which British racism was undermining the Indian Air Force and therefore the war effort. Indian officers in the Indian Air Force were not being promoted. Indian personnel's salaries were lower than those of their British counterparts and overt racism towards Indians was commonplace.⁵² In addition to lobbying Air Headquarters (India) for better treatment, Umaid Singh also did what he could to promote the Indian Air Force. He regularly addressed public gatherings and the passing-out parades of IAF men. He also paid a hundred thousand rupees into the welfare funds of the IAF and the Royal Air Force to be divided equally, a quarter of which was from his own privy

⁴⁹ For a detailed discussion of aviation in Hyderabad see Reddy, *op. cit.* (15).

⁵⁰ The 'martial-races theory' was a pseudoscientific discourse constructed by the British to justify racial hierarchies and colonial recruiting practices. For a detailed critique of the martial races theory see Gajendra Singh, *The Testimonies of Indian Soldiers and the Two World Wars: Between Self and Sepoy*, London: Bloomsbury Academic, 2014.

⁵¹ Singh, *op. cit.* (50), p. 148.

⁵² Their Highnesses of Bhopal and Jodhpur, report on Indian Air Force, MMA, Household Record No. 6.

purse.⁵³ The maharaja's tireless work for the Air Forces in India was recognized by the British when they granted him the title of air vice marshal of the Royal Air Force, making him the first Indian to reach the rank.⁵⁴

Jodhpur State's aviation resources were fully mobilized for the war in the air. The state's aerodrome became a Royal Air Force base in 1942. The state's importance as a link between East and West became even more important as the United States Army Air Force used it as a maintenance stop to fly aircraft eastward for the large 'Hump' operations to fly supplies from India to China. Chinese air and ground crews became a not uncommon sight in this air station in western India.⁵⁵ The stately hotel next to the aerodrome was reserved for air force personnel based out of Jodhpur Air Force Station.⁵⁶ Meanwhile Jodhpur Flying Club was handed over to the Indian Air Force, which designated it the No. 2 Elementary Flying Training School.⁵⁷ Interestingly, the school ranked second only to Hyderabad, home of No. 1 Elementary Flying Training School, in size.

Jodhpur's commitment to the air war effort is explained by a number of factors. The system of indirect rule was premised on Indian states rendering military service and Jodhpur had a long tradition of fighting the British Empire's wars. Ian Copland has suggested that the Indian princes were also keen to seek a favourable position in negotiations around Indian independence that were certain to follow the war.⁵⁸ Jodhpur's support of the air war can also be read as a continuation of the aviation diplomacy of the interwar period, as the state was able to leverage its aviation resources in a way that granted it a higher profile than its wealth and location would otherwise afford. Indeed, the war arguably placed Umaid Singh in closer proximity to imperial officials than ever before. Air force service also helped the maharaja craft a new martial modernity, whereby he simultaneously embodied both the authority of Rajput tradition and the modernity of aviation. This helped entrench the Rathore dynasty's right to rule at a time of immense political change, in the eyes both of the British, who granted the maharaja the distinction of becoming the first air vice marshal of the RAF, and of the people of Jodhpur, who, as we shall see, remained loyal to the Rathore dynasty after independence.

The end of the war brought critical changes to aviation in Jodhpur. Rapid wartime advances in science and technology increased the range of aircraft, reducing the number of stops they needed to make on long journeys. This reduced Jodhpur's significance as a stopping point on the trans-India air route since aircraft could now simply fly over the state.⁵⁹ If Jodhpur's significance as an international air centre was on the decline after the war, then the Durbar could take solace in its increasing prominence as an important destination for Indian commercial airlines. After the war Indian civil aviation went through a major boom, as the United States Army Air Force sold off much of its transport fleet. Freshly demobilized pilots from the Royal Indian Air Force were also available to Indian commercial carriers in very much larger numbers.⁶⁰ This led to spectacular growth in the number of Indian airline companies, some of whom were keen to operate out of

⁵³ Vacher, *op. cit.* (15), p. 118; Upadhyay, *op. cit.* (23), p. 197.

⁵⁴ India: regulations regarding the grant of honorary commissions in the RAF, The National Archives (subsequently TNA), London, Air Ministry Files (subsequently AIR) 2/4912.

⁵⁵ Operations Record Book (ORB), Royal Air Force Station Jodhpur, 28 August 1942, TNA, AIR 28/406.

⁵⁶ Operations Record Book (ORB), Royal Air Force Station Jodhpur, 11 August 1942, *op. cit.* (55).

⁵⁷ Vacher, *op. cit.* (15), p. 100.

⁵⁸ Copland, *op. cit.* (4), pp. 187–9.

⁵⁹ Chief engineer, Jodhpur, to Development Secretary, Jodhpur, 6 May 1947, MMA, M-KHAS AVIATION-NO-13 P-3 FN-C-3 B-NO-02-YEAR-1947.

⁶⁰ The Indian Air Force was given the title 'royal' by the king-emperor in recognition for its wartime service in 1945.

Jodhpur. Ambica airlines, for instance, applied to state authorities in order to fly the air route from Bombay to Lahore via Jodhpur.⁶¹

The war also unleashed key political changes that would culminate in the ending of British rule in India and the creation of two new independent dominions in 1947; India and Pakistan. Like many other Indian states, Jodhpur aimed to maintain and perhaps even deepen its autonomy once the British departed from the subcontinent.⁶² This, however, was not to be. Maharaja Umaid Singh died on 9 June 1947 of a ruptured appendix at the age of forty-four. He was succeeded by his twenty-four-year-old son, Hanwant Singh. Maharaja Hanwant Singh was no less passionate about flying than his father. He was also no less committed to protecting the Rathore dynasty and defending Jodhpur's autonomy.

Despite his state's overwhelming Hindu majority, Maharaja Hanwant Singh famously considered, and discussed with Mohammed Ali Jinnah, the possibility of joining Pakistan, a state explicitly created as a Muslim homeland, instead of India.⁶³ It is beyond this paper's scope to analyse the wider negotiations between Pakistan and Jodhpur, but it is possible to speculate that the young maharaja was casting about for ways to maintain his dynasty's hold on power and his state's autonomy in the larger national frameworks emerging in South Asia. Even after negotiations with Pakistan ended, Hanwant Singh held on to the possibility of resisting integration into the new Indian Union. Jodhpur would make abortive preparations to fight Indian forces. Under immense pressure from the Indian Ministry of States, Hanwant Singh would finally agree to sign an instrument of accession that integrated Jodhpur with India. At this final moment of submission, a crestfallen and enraged Hanwant Singh would famously threaten India's chief negotiator, V.P. Menon with a gun fitted inside his pen.⁶⁴

A measure of the success of the Rathore dynasty can be seen in Hanwant Singh's subsequent electoral victory against the Indian National Congress to become Member of Parliament for Jodhpur at the peak of Congress popularity after independence. To be sure, the Rathores' rule was legitimated by their governance in a slew of infrastructural programmes and social reforms. While any study of Rathore popularity must not exaggerate the role of the aeroplane, it is worth noting that aviation helped project the dynasty's rule over the state and granted it a degree of prestige that it is unlikely to have otherwise enjoyed. Tragically Hanwant Singh did not live to see his dynasty's popularity after independence. He died along with his wife, the film actress Zubeida Begum, on 26 January 1952, when his Beechcraft Bonanza aircraft crashed, on his way to check the election results.⁶⁵

Conclusion

Historians of science and technology in India have long claimed that the 'transmission' of science from the imperial metropole to the colony was far from being a straightforward process.⁶⁶ For the British Empire's Indian subjects, making claims on science and technology meant mobilizing new discourses and reinterpreting old symbols. The case of Jodhpur offers us a glimpse of how aviation diplomacy offered colonized peoples a means of asserting their agency. It is also demonstrative of the limits of this agency, as shown by the

⁶¹ Political agent, Rajputana States, to prime minister, Jodhpur, MMA, M-KHAS AVIATION-NO-13 P-3 FN-C-3 B-NO-02-YEAR-1947.

⁶² Singh, op. cit. (25), p. 177.

⁶³ A.G. Noorani, *The Kashmir Dispute*, Karachi: Oxford University Press, 2014, p. 7.

⁶⁴ Dominic Lapierre and Larry Collins, *Freedom at Midnight*, London: Granada, 1983, p. 242.

⁶⁵ Hooja, op. cit. (22), p. 1143.

⁶⁶ Arnold, op. cit. (10), p. 9.

state's decline as a centre for international transport, as planes became capable of flying for longer periods.

Jodhpur's engagements with aviation offers a series of insights on the wider politics of aviation technology in colonized states. Colonized peoples were constrained from engaging with science and technology on their own terms by colonial authorities. However, semi-autonomous states like Jodhpur were able to mitigate and, in some cases, overcome techno-scientific constraints, albeit by closely aligning their policies with those of the British Empire. Jodhpur's transformation into an important link on the imperial air route ensured that it received the support of the Government of India, which was unwilling to support civil aviation elsewhere. As seen above, the close alignment between Jodhpur and the colonial government in peace and war not only helped the state to develop its aviation sector but also enabled a relatively weak state to mobilize technology to improve its negotiating position with a strong one. The construction of a distinct martial modernity in Jodhpur is also reflective of the wider adoption of aviation by polities across Asia in the years after the First World War. Diverse Asian states from imperial Japan, to Jodhpur, to Burma adopted the aeroplane and did so at the same time as many European societies.⁶⁷ The Jodhpur case is reflective of an openness and indeed an eagerness among Asian societies to adopt new technologies in the early twentieth century.

A study of the role of the aeroplane in shaping relations between Jodhpur and the Government of India is also valuable from the perspective of truly expanding the range of contexts in which a science diplomacy framework can be adopted. Much of the scholarship on science diplomacy has been rooted in the context of the Cold War and has privileged interactions between nation states. This has, among other things, had the effect of reifying the nation state, which is both a historically recent and a contingent institution. Aviation in Jodhpur serves as a case study of an alternative time period and state configuration. It signals the more fragmented forms of sovereignty that have characterized multi-ethnic empires for much of human history. Furthermore, by shifting focus from science to technology this paper has also attempted to redefine science diplomacy in more expansive ways since a failure to do so is likely to severely limit the many contexts in which technology was a key driver of diplomacy. Jodhpur's experience with aviation is also indicative of the technological continuities between colonial India and its independent successor(s). Jodhpur aerodrome served as the Indian Air Force flying college until 1965. Its strategic importance to India arguably increased after the Partition of 1947, which placed it on India's border with Pakistan. Aircraft based out of the station are tasked with defending India's western frontier adjoining Kashmir and Punjab. The Jodhpur Flying Club also continues to function to this day. Continuities between Jodhpur and independent India and Pakistan cannot be limited merely to the institutional realm but must also take into consideration the continued salience of aviation diplomacy. Waqar Zaidi's work, for instance, points to intriguing continuities in the use of what I have termed aviation diplomacy by a South Asian state, Pakistan, in negotiations with far wealthier American and British partners.⁶⁸ This is also true of independent India's often fraught negotiations over air routes with the United States of America.⁶⁹ In both cases states in positions of severe disadvantage relied on aviation technology,

⁶⁷ Jane M. Ferguson, 'Flight school for the spirit of Myanmar: aerial nationalism and Burmese-Japanese cinematic collaboration in the 1930s,' *South East Asia Research* (September 2018) 26(3), pp. 268–82.

⁶⁸ Waqar Zaidi, 'Pakistani civil aviation and U.S. aid to Pakistan, 1950 to 1961', *History of Global Arms Transfer* (2019) 8, pp. 83–97.

⁶⁹ BL, IOR/V/27/770/5, Agreement between the Government of India and the Government of the United States of America Relating to Air Services (New Delhi, 1946).

geographical location and, above all, diplomacy to attempt to even the field. Significantly, however, these negotiations would take place between fully sovereign states.

Aviation diplomacy offered Jodhpur State new opportunities to remake its position in the world. While it is important not to overstate the impact of aviation, which was merely one part of a wider programme of modernization, the aeroplane enabled the state and its maharaja to embody a new martial modernity. It represented a sophisticated political policy aimed at seeing off challenges to dynastic authority and was remarkably successful in this regard, both before and after independence. A look at Jodhpur's engagement with the aeroplane, then, not only serves as a corrective to science diplomacy scholarship's narrow focus but also serves to underline the extent to which the modern sovereign nation state was and is a product of specific historical conjunctures.

Acknowledgements. I would like to extend my thanks to Ms Krishna Shekhawat, my research assistant, who was responsible for gathering archival materials from the Mehrangarh Museum Archive.