

# Aerial Social Spaces and State Power

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Civil aerial networks crisscross the globe and are a significant feature of the modern technological landscape. Although there is a diffuse sense that they contribute to the national economy, increase soft power outside the state's boundaries, and contribute to globalization, their relationship to the state, and particularly state power, remains undertheorized. The enduring visual cartography of these networks is that they girdle the world in thin lines, binding peoples, nations, and cultures together through almost frictionless mobility: the circulation of peoples, goods, commerce, and ideas. In this essay I suggest that they are better and more usefully conceptualized as broader "aerial social spaces" which can (and often do) extend, produce, and reproduce state power. Their creation and maintenance require large resources both on land and in the air. Although they do not achieve the vision of frictionless point-to-point travel that underpins them, these spaces nevertheless often include discourses that help convince others that they are frictionless. The same aerial network can be embodied in multiple aerial social spaces that produce and reproduce state power in different ways. This article highlights two such pathways: the first through cultural and the second through logistical impact. In support the essay presents two case studies based on the expansion of civil aviation in the developing world in the 1940s and 1950s: the International Civil Aviation Authority (ICAO)'s interventions in the Middle East, and US involvement in Saudi Arabian aviation.

The expansion of state power through civil aviation is well established in the historical literature. In the national sphere, historians have noted that the air was transformed into regulated and governed airspace in response to the perceived threats to the state and society from the unfettered airplane (Banner 2008; Seyer 2021). Internationally, Jenifer Van Vleck has shown that civil aviation brought for the United States access to markets, cultural and ideological influence, an "empire without imperialism" (Van Vleck 2013: 5–6). Works on international relations often imagine international civil aviation as a line-and-point network, a "pointillist cartography," through which aviation impacts international affairs (Rankin 2016: 4, 281; Immerwahr 2019).

A growing anthropological literature, however, tells us that one critical part of aerial networks, airports, are not spaceless points or frictionless places where peo-

ple and goods flow in and out. They have an expanse, an internal complexity, a situatedness and connectivity to their surroundings—that is, a local geography. They occupy a physical space in which a multitude of things happen, and in fact generate their own unique forms of lived experiences (Adey 2010; Crang 2002; Cresswell 2006: chap. 9). More broadly a growing literature on other types of infrastructural networks also hints at the rich lived experiences and complex politics of these built spaces (Anand, Gupta, and Appel 2018). Moreover, airspace itself, being the mapped cartography that allows for space navigation, is not a natural property of our atmosphere, or of the expanse above the ground. It is instead a socially produced medium whose production and reproduction requires legibility, coordinatization, mapping, and ultimately navigation. It is a medium inextricably tied to the land (and thus is in actual fact a land/air hybrid), and to wider social, political, and financial forces. It is a medium of and for exploitation (Budd 2009: 115–34; Lawless 2020; Simonsen 2018).

If aerial activities are much farther reaching than the narrow and clinical lines suggested by pointillism, how do we make sense of the messy tangle of the political, social, and economic that constitute such activities? I suggest, first, that we can imagine these processes as coming together to form a *social space*. I borrow the term from Henri Lefebvre, Thomas Faist, and others, and use it to suggest that aerial activities create and sustain a space that encompasses many of these forces and elements discussed above (Lefebvre 2009: 224–25; Faist 2004; Pries 2001). The space includes geographical and material spaces: spatial “airspace” is thus part of this “aerial social space.” But so are airports, support industries and infrastructures, travel agents, air navigation systems, flying norms and laws, and the national and international organizations that sustain them. It also includes social and cultural aspects, as well as linkages between actors, actants, and material and institutional infrastructure—a semi-stable configuration of heterogeneous actors, elements, and processes held together as an assemblage (Robbins and Marks 2010). Like Lefebvre’s social spaces, this aerial social space is also fragmented and hierarchized; its coherence comes from its relative centeredness around aerial activities, and an overarching functional tendency to structure or manage them.

To explore these connections I turn to two examples. The first is a study of the technical assistance activities of ICAO which, I argue, were part of attempts to create air routes by managing and organizing vast airspaces and technical and physical structures on the ground. ICAO regulation, I suggest, attempted to bound the air and the ground together in one system or space, as homogeneous as possible, so as to promote the extension and development of air routes. The second is a study of the US-managed airbase and airport at Dhahran in Saudi Arabia, and of Saudi aviation

more broadly, which I use to illustrate the complex nature of the grounded aspects of aerial social spaces, and their role in bolstering state logistical and cultural power.

## Organizing Airspace

ICAO (or PICA0, the Provisional International Civil Aviation Authority, as it was known during its early phase) was formed in 1945 to regulate aviation activities in order to “foster the planning and development of international air transport.”<sup>1</sup> What that meant in practice was that it helped establish international technical standards for aircraft operation and design, crash investigation, the licensing of personnel, telecommunications, meteorology, air navigation equipment, ground facilities for air transport, and search-and-rescue missions. It also promoted international aerial agreements and the establishment of international aviation law.

PICA0 began with the vision that global aerial rules, regulations, and standards should be as uniform as possible (e.g., *CAA Journal* 1946b). It was recognized from the very beginning, however, that uniformity would take time to achieve, and that norms, needs, and resources varied vastly from region to region and country to country. So in 1946 PICA0 split global aviation into ten navigation regions, and soon formed regional secretariats with their own headquarters and conferences to set region-appropriate standards for air navigation and better assist countries in the implementation of these standards. Such a system, it was reasoned, would more efficiently and effectively nurture global aviation through to eventual global uniformity (Schenkman 1955).

The ten regions were the Middle East, the European-Mediterranean, the North Atlantic, the Caribbean, the Southeast Asia, the American-Indian Ocean, the South Atlantic, the South American, the South Pacific, and the North Pacific (Schenkman 1955: 233–34).<sup>2</sup> It is noteworthy that the regions partially overlapped in order to ensure a smoother transition from the standards and rules of one region to the next for aircraft flying from one to the other; and that regions did not map exactly onto current or even contemporaneous geographical groupings as they were generally understood. The Middle East region, for example, extended well into what we would now consider South Asia, as well as parts of East Africa. The Soviet Union was excluded from this airspace schematic, as it refused to join PICA0/ICAO until 1970.

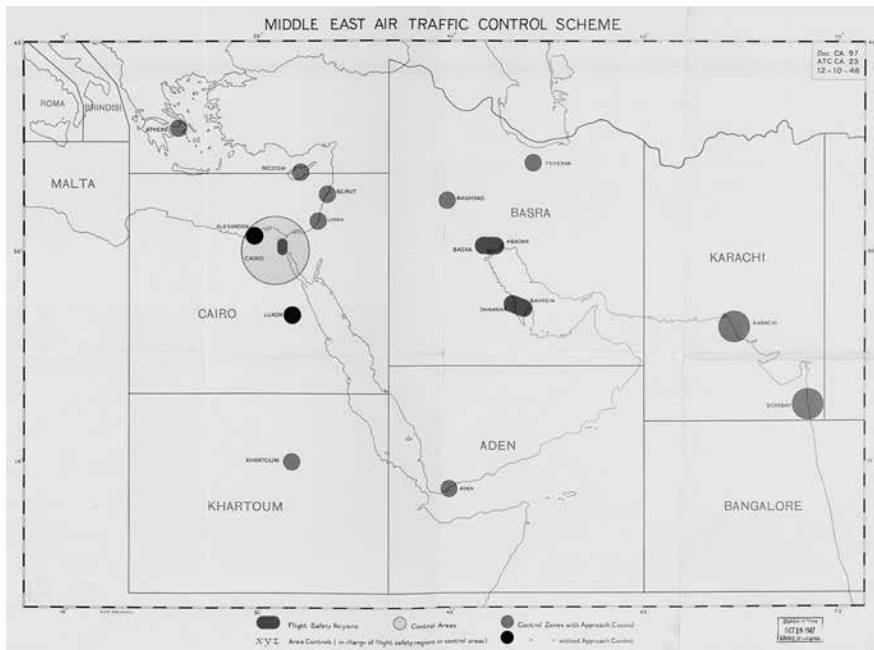
1. ICAO, Article 44, *Convention on International Civil Aviation*, 2006, 9th ed., [www.icao.int/publications/Documents/7300\\_cons.pdf](http://www.icao.int/publications/Documents/7300_cons.pdf) (accessed September 8, 2023).

2. Skybrary, “ICAO Regions.” [www.skybrary.aero/index.php/ICAO\\_Regions](http://www.skybrary.aero/index.php/ICAO_Regions) (accessed September 8, 2023).

The first Middle East meeting took place at Cairo in October 1946. The assembled delegates were tasked with the creation of systematic and uniform standards for flight operation, air traffic control, and telecommunications for the region (PICAO 1946a: 8; PICAO 1946b: 2-4; PICAO 1946c: 7, 12). In order to map, systematize, and make navigable the airspaces of the region, the delegates planned large networks of overlapping ground and air infrastructure. Within the Middle East the meeting designated five flight safety zones for traffic control (with control centers at key zone airports), six regional rescue coordination centers, and a large number of rescue centers and meteorological facilities. Twenty-one airports (and their alternates) were earmarked for long-range operations, and a further number for shorter-range transport. Approach control was recommended for thirteen locations. In total the meeting listed fifty-two regular land aerodromes, eight alternate aerodromes, and six regular water aerodromes for international civil use in the region. Each airfield was assigned a PICAO reference letter to indicate the international standard to which it had to be brought (*PICAO Monthly Bulletin* 1946; *CAA Journal* 1946a). It was recognized that this regional systematization of airspace required physical coordination on the ground, and so in 1947 PICAO/ICAO established a permanent regional office in Cairo (United Nations 1947; *PICAO Monthly Bulletin* 1946).

As figure 1 (the air traffic scheme agreed at the 1946 Cairo conference) suggests, the spaces that needed to be created, connected, and governed in order to create and sustain international air routes were huge. Traffic control regions spanned out for hundreds of square miles, as did rescue centers, which had differing geographical zones that did not map exactly onto those of traffic control. Airports required secondary airfields nearby for emergency landings and diversions. Regional differences mean that route inhomogeneity (a long-standing feature of international air routes) was officially accepted and incorporated into ICAO planning. An airliner flying from the United States across Europe and to the Middle East (for example) would not only have to deal with many different national peculiarities in terms of language and local navigation but also differing international standards as it moved between ICAO regions.

These regional schemes quickly ran into political difficulties, technical issues, and resource constraints. In particular, poorer states struggled to create and sustain the air facilities that were agreed to at these conferences, and that were required for the operation of modern airlines to and from their airports. So, for example, when the Egyptian air authorities in late 1945 indicated that they wished to designate Almaza Airport as Cairo's main international airport, a survey by the US airline TWA showed that it did not have the requisite runway length and communications



**FIGURE 1** “Middle East Air Traffic Control Scheme.” Library of Congress Geography and Map Division, Washington, DC. [hdl.loc.gov/loc.gmd/g7421p.ct003824](http://hdl.loc.gov/loc.gmd/g7421p.ct003824).

Downloaded from <http://read.dukeupress.edu/public-culture/article-pdf/35/3/101/1457/2081029/457zaidi.pdf> by guest on 22 June 2024

required for the airline’s service to the city.<sup>3</sup> These issues were recognized early in regional meetings such as the 1946 meeting in Cairo, which noted that states lacked facilities and personnel, and suggested that no date be set for the implementation of the air traffic control plan. To assist with implementation, the conference also recommended the establishment of air traffic control training schools. States that did not have adequately trained personnel were asked to request experts on loan from other states, or to send their staff to train in the United States, Britain, and India (PICAO 1946c: foreword, 43). Later, in 1951, ICAO initiated a technical assistance program funded and fulfilled by the wealthier European and North American countries. The program ballooned in size and scope over the 1950s and 1960s as country after country requested assistance to develop its national aerial network (MacKenzie 2010: 187–89).

3. Cecil B. Lyon, chargé d’affaires at the Cairo Legation of the United States, to State Department, October 19, 1945, 883.796/10–1945, Central Decimal File 1945–49, RG 59, National Archives and Records Administration, College Park, Maryland.

## Airspace Logistics and Cultural Power

Along with widespread geographical spaces and weblike connections stretching across continents, nodes in international aerial networks, although often reduced to a point in histories of US bases and international relations, were themselves in fact complex and varied geographical space connected to the wider aerial social spaces in the region and internationally. To illustrate this point I now turn to the Dhahran airport/airbase in Saudi Arabia.

The United States negotiated rights to build and operate a joint military airbase and civilian airport in the Saudi Arabian oil town of Dhahran in 1945. During the first phase of its existence (from 1946 to its handover to Saudi control in 1962), the airbase/airport included both a large US air force base and a civilian airport. In those years the base emerged as one of the largest US airbases in the region and served as a crucial node in the US overseas airbase network: the Second Air Division was based there, and for a while it functioned as a significant Strategic Air Command facility from which nuclear strikes could be launched toward the Soviet Union (Compere 1959: 311). But it also served as a civilian airport managed by US officials. Hundreds of US government officials, TWA personnel, and civilians from around the world worked to sustain air routes and airspaces extending from and around the airport. The airport was run (almost) to US standards and so followed US technical aerial guidelines. A huge amount of technical equipment, requiring constant maintenance, was imported from the United States and installed on the base. US military and civilian personnel who worked at and lived close to the base/airport were sustained by food and other resources imported from across the world.

Dhahran airbase/airport was also the operational headquarters of the domestic national airline Saudi Arabian Airlines. The hangars, aviation fuel depots, maintenance facilities, and offices at the airbase/airport allowed the airline to fly to destinations across the country and the Middle East. The airline was entirely operated and managed by the TWA, with a small but increasing number of local staff from the 1950s onward. Other than regularly scheduled flights, its largest responsibilities were flying pilgrims for the annual Hajj pilgrimage to Mecca, and flying state officials (especially the king, his family, and his entourage). Dhahran served other airlines too, and remained for many decades Saudi Arabia's most important air link to the outside world. The airbase/airport's location was chosen for its proximity to Aramco-operated oil fields, and retained strong connections to the US oil company, which relied heavily on the facility for its logistics.

Dhahran was also embedded in wider political and economic relations between the United States and Saudi Arabia. US military use of the airbase was allowed in

return for political support and military and technical assistance to the host country. Rather than a one-off negotiation, maintaining this relationship required constant negotiation and renegotiation between the two states, and so was tied to the changing landscape of US-Saudi political, military, and economic relations in the postwar decades. The 1951 renewal of the US base treaty, for example, went hand in hand with a Mutual Defense Assistance Treaty and a \$75.5 million assistance program for the Saudi military. The 1956–57 base treaty renewal was allied to \$33 million of arms sales, a training program for the Saudi military, and an expansion of Dammam port (Gresh 2015: 62, 64, 69). US forces largely left in 1963, though they returned in force following Saddam Hussein's invasion of Kuwait in August 1990, when the airbase/airport served as an important staging point for the war against Iraq (Mizobuchi 2021).

There are clearly several ways to think about this jumble of activities and intersecting processes. We could for example explore the lived experience of laborers and US expats (Vitalis 2007) or understand Dhahran as part of the wider ups and downs of US-Saudi relations in the early Cold War period, or as part of the wider politics of oil in Saudi Arabia and the Middle East (Anderson 2014). I would suggest that a particularly productive way of thinking about the relationship of state power to the Dhahran airbase/airport and its associated aerial networks is to consider them as consisting of a number of intersecting aerial social spaces. Here I explore two: one that produces and reproduces US power, and the other Saudi sovereignty. These spaces spread spatially across the base and airport and beyond toward the Aramco oil fields, to the residential compounds, and to the residences and lives of the workers who physically built the airbase and maintained it. They even spread as far as the royal household and government offices, and internationally along aerial networks.

Aerial social spaces produce different types of power and power configurations. Here I focus on two types of state power configurations: the cultural and the logistical. I define *logistical power* as the ability to move material objects and ideas in ways that further the financial, political, and other objectives of the state. By *cultural power* I mean the status, prestige, and cultural influence that accrues to the state because of its association with modern civil aviation. The modern is particularly significant because many states had existing aerial networks (sometimes from the colonial era) that they could conceivably have developed in a more incremental manner. There was often no pressing need to upgrade to the latest aircraft or large airports at the speed at which many third world states did after World War II. The prestige and spectacle of modernity clearly played a role in incentivizing these developments.

One illustration of the celebration of the nation's modernity and the creation of cultural capital through Dhahran and the aerial social space around it is the issu-

ance of stamps and bank notes. A set of five stamps issued in 1963 (shortly after the opening of the airport's new terminal building), a 1968-issue one-Riyal banknote, and a 1976-issue one-Riyal banknote depicted the terminal building with a Saudi Arabian Airlines (later Saudia) jet aircraft. The terminal building, built at huge cost and designed by US architect Minoru Yamasaki (who would later design the World Trade Center in New York), itself accrued positive publicity for the Saudi state and its airline, and had a significant influence on "modern Arab" architecture in the region (Gyure 2017: 146). The United States, by contrast, accrued far less legitimacy, status, or cultural capital from these Saudi-centered aerial spaces as they had little visibility domestically and were usually of little interest in domestic politics (Immerwahr 2019). That is not to say that Dhahran was entirely invisible in the United States. For a while it came to represent US global reach. It featured in maps and firsthand accounts celebrating US civilian and military round-the-world flights in the late 1940s and 1950s (*New York Times* 1947; *New York Times* 1957; Gannett 1947: 19–21). The airbase/airport later became a symbol of the vagaries of US military power in the Middle East: celebrated domestically as the lynchpin for peace and security in the region through its use as a launchpad for US air strikes against Iraq during the First Gulf War (1991), but also notorious as a magnet for discontent following the bombing of US personnel based there five years later (Henderson 1996).

Logistically, the United States used Dhahran to project power in the Middle East both through its continuous presence at the airbase/airport and through heightened use during times of crisis. The first use of Dhahran in crisis was the airlift of arms, ammunition, and other equipment to the US ally King Hussein of Jordan in 1957 as rumors abounded of a possible coup or revolution (Donovan 1974: 82). A second occurred in 1963 when the US jet fighters, support aircraft, and military personnel were moved to the airbase to deter possible Egyptian aggression (Nardulli 2002: 387–439). In the first (1991) and second (2003) Gulf Wars Dhahran served as a central link in the logistical chain supplying US forces in the region. The airbase/airport also continued to serve as an important logistical lifeline for the growing Aramco oil facilities nearby. In later decades, even as Aramco passed from US to Saudi state control, oil exported from these facilities continued to feed the United States' growing appetite for oil. Although oil processing and export is now spread across the country, Dhahran remains Aramco's operational headquarters (Clark and Tahlawi 2006: 274–75).

Following Chandra Mukerji (2010), logistical power can also work to install, stabilize, and define political and state regimes and governance. This form of state power can be intertwined with the cultural power of aerial spaces: the state may, for example, accrue legitimacy directly from aerial activities that increase the state's



ability to govern or reach into greater parts of the country. In the case of Saudi Arabia in the 1950s the legitimacy of the state rested, at least partially, on its ability to satisfy the consumption needs of the elite on whom it relied for support. Aviation played an important role in this. For example, according to one State Department estimate, by 1952 the bulk of Saudi Arabia's gold and perishable foodstuffs were imported by air (Kardahji 2015: 15–17). The paucity of paved roads (in the early 1950s there was no paved road connecting Jeddah and Riyadh, the two largest cities in the kingdom) meant that air freight played a significant role in intra-Saudi trade and transport (Davies 1995: 24). Legitimacy also rested on the state's ability to bring pilgrims to Mecca, a process in which the country's aviation facilities played an increasingly significant role from the 1950s onward (Piscatori 2005; Davies 1995: 38).

Cultural and logistical routes to state power can also intertwine in other ways. The currency notes mentioned above, for example, point us to Manu Goswami's formulation of official discourses around infrastructure (in her case, railways) "ideologically encoding" postcolonial countries (in her case, India) as "state spaces" (Goswami 2004: 104). Before the Saudi state came to rely on highways for internal transport, aviation served its ruling elites (and especially the ruling family) as both a key signifier of the unity of the country and a crucial technology for its unification. One of the uses of King Abdulaziz bin Abdul Rahman Al Saud's personal aircraft in the early 1950s, for example, was to regularly shift his court from the main capital at Riyadh to the summer capital at Taif. Aircraft transport was thus a central aspect of the governance of his far-flung kingdom. Photographs from the period show lines of guards and other subjects of the king ceremoniously waiting for him to board his aircraft, as well as lines of cars shifting portions of his court by road—an example of the simultaneous homogenization and differentiation pointed out by Goswami (2004: 104). Even as the king boards the aircraft in a symbolic, political, and infrastructural act of unification of the country, he is differentiated from his subjects through his privileged access to this key technology of unification. A few subjects can enter and interact with the aerial social space of the airport, but not board the aircraft (*Illustrated London News* 1952: 24).

## Concluding Thoughts

The case of ICAO shows that it was difficult to form air routes without great systems of governance and legibility that incorporate national and transnational physicalities which are much larger than a point-and-line image might suggest. Technical assistance and training, alongside external funding, was needed to create physical, social, and technical structures that could support this airspace. These processes

created a web of connections that stretched far beyond the territories of particular sovereign states and were distinct from scheduled air routes.

Reconceptualizing these webs as social spaces allows us to appreciate that it is not the airport, the airline, and nearby facilities that produce and reproduce state power. Rather it is these factors working together, not as a system, but as an assemblage with a physicality and a geography beyond just air routes. Although at its heart sit aircraft, air routes, and airports, physically this space extends out beyond airports to all types of aerial zones and ground facilities, and wider still through social, political, and economic connections. This space, rather than just being constructed, needs to be continuously maintained: produced and reproduced through technical, material, social, and military resources. Rather than a neutral tube or highway funneling or concentrating power from foreign countries or institutions, this airspace produces and reorganizes (often local or regional) political, social, and economic forces. It produces aviation, and with it, power.

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