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Gregory Crouch, *China's Wings: War, Intrigue, Romance and Adventure in the Middle Kingdom during the Golden Age of Flight*. New York: Bantam Books, 2012. Pp. xix, 498. ISBN 978-0-553-80427-0.

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*China's Wings* tells the story of an airline, its planes, and its people, including William Langhorne Bond, through whose eyes we see the turbulent 1930s and 1940s in China, with all the “war, intrigue, romance, and adventure” that the book's jacket promises. The saga of the World War II “Hump” flights—over the Himalayas between India and China—is well known to aviation buffs and others interested in wartime China. Not so well known is aviation's evolution there during the 1930s, before Pearl Harbor.

The book's author, West Point graduate Gregory Crouch, after service as an army ranger, left the military to follow other interests, notably, international alpine mountain climbing. His writing has appeared in the *Atlantic*, *National Geographic*, and other periodicals. His book, *Enduring Patagonia*,<sup>1</sup> on his climbing expeditions in the Argentine and Chilean Andes, has garnered wide praise. For the present work, he has consulted contemporary accounts and extensive interviews with surviving participants, as well as tapping records in university collections and private hands, most significantly, Bond's voluminous letters and unfinished autobiography.

Bond arrived in Shanghai on St. Patrick's Day 1931 to assume responsibility for running an airline. Thirty-seven years old, “He didn't know much about China except where to find it on a map. Nor for that matter did he know much of anything about airline operations” (14). He had worked in heavy construction all his life. In 1927, when “the entire nation went airplane crazy after Lindberg's flight” (11), he began to consider a career change to aviation. A relative, George Conrad Westervelt, was supervisor of airplane factories for the Curtiss Company, one of four conglomerates competing to dominate the aircraft industry. Bond was hired by Curtiss for construction work, just as it merged with Wright and Keystone aircraft, suddenly becoming an employee of America's biggest aviation company.

One of Curtiss-Wright's major problems was in China, where it held a 45 percent interest in the China National Aviation Corporation (CNAC), in partnership with Chiang Kai-shek's Nationalist Government, which also collaborated with Lufthansa in the Eurasia Aviation Corporation. Both airlines were intended to provide a “quick fix” for China's “atrocious transportation networks” (25). But not all was well with the airline. Westervelt identified the most critical of many serious problems:

Infected by the outrageous disrespect most foreigners living in Shanghai manifested toward the Chinese, many of the Americans Curtiss-Wright shipped to China treated the airline's Chinese employees with arrogance and overt prejudice, utterly disregarding the fact that the company was a partnership in which the Americans held a minority interest.... Curtiss-Wright needed a new man in China, someone who could lead by example and work with the Chinese as partners.... Considering how much stock the Chinese culture placed on courtesy, the airline needed not only a man possessing common sense and business acumen, it needed one with good manners. (14)

Westervelt asked the company to send Bond. Though he had no pertinent experience when he arrived in Shanghai, he was blessed with an uncommon degree of common sense and the other qualities indispensable for the job. In May 1931, he became the senior American executive in CNAC. He promptly fired the airline's operations manager—an American with all the wrong qualities—and made the job his own. This gave him direct access to the pilots and other personnel who made the airline function.

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1. NY: Random House, 2001.

CNAC's aircraft comprised six Loening Air Yachts, "ungainly biplane flying boat[s] knit together by an intricate cross hatch of struts and wires" (29). The aircraft carried six passengers up and down Route One, the Yangtze River between Shanghai and Hangkow. "China had few airports, but many rivers, and any flat-water stretch could serve as a base for flying boats" (29).

Bond thought aviation could help unify China, but to expand CNAC operations, he needed the Chinese government to be more engaged. He soon gained the respect of the Chinese and established "a toehold in the top echelon of China's governmental power" (33). But the political situation was growing more complex, as Chiang Kai-shek strove to consolidate power against warlords and communists, and the Japanese moved to annex more of the country. The Imperial Japanese Army occupied Manchuria in September 1931 and marched into Shanghai the following January. CNAC ceased operations for eight days, but then "flew right over the problems, washing away any doubts about what civil aviation could do for China" (32).

Things were going well for CNAC despite the ongoing conflict, when Harold M. Bixby arrived. This "aviation missionary" for Pan American Airways" (33) was sent to persuade "the Chinese government to grant Pan Am the right to land its as-of-yet-nonexistent transpacific flying boats in China" (35). When the Chinese balked, Pan Am believed it had found a solution by buying the Curtiss-Wright subsidiary that owned the American shares in CNAC. This dubious transaction caused ill feelings and prompted the Chinese to bring an end to the airline. Pan Am responded by expanding CNAC service, bringing in new aircraft and pilots and retaining Bond, who knew "he'd survive only if he proved valuable on both sides of the table" (60).

"The Pan American people were cocksure and confident" (56), moving quickly to open new routes before they were "proofed." When two aircraft were lost, Bond was left to handle damage control and "take the rap" for an accident he had nothing to do with, while neither the Chinese nor Pan Am lost face. Both parties appreciated Bond's skill in managing the crisis. In April 1934, he was summoned to New York and placed in charge of Pan Am's CNAC operation. Good times had arrived. In early 1935, the DC-2, "the best airliner in the world" (73), came to China, and CNAC "passenger traffic increased 300 percent" (74). The M-130 *China Clipper* made the first trans-Pacific run, after Pan Am secured landing rights in China—"the political cards for an air service from San Francisco to Shanghai had finally fallen into place" (81).

The Marco Polo Bridge incident in summer 1937 triggered a conflict that soon engulfed Shanghai. CNAC moved its main base to Hong Kong, but "the airline's planes and people were scattered all over China" (103). By December, the Japanese were in Nanking, and CNAC schedules often had to be revised to avoid bombing raids and Japanese fighters. The airline often shuttled evacuees, as cities were abandoned by the Nationalist government. "The airline gave its pilots enormous latitude to decide when planes should take off and what routes they would fly" (217). Its operations were expanding and "On paper, the airline was doing surprisingly well" (196).

Because Japan controlled the coastal areas, China was being supplied overland via the Burma Road and a CNAC air route to Rangoon. As a British colony, Burma seemed secure.

Bond wasn't so sure, however. He understood too well how vulnerable the Burma Road and his airline's routes into China from Rangoon were to interdiction from the new Japanese bases in Indochina, and an actual ground attack on Yunnan or southern Burma no longer struck Bond as beyond the realm of possibility. To hedge against those risks and the possibility that Japan would close his access to Hong Kong, Bond wanted to develop a less vulnerable air route from Kunming across the top of Burma to Calcutta. (223)

Bond explored China-Burma sectors by auto and train, flew over other parts of the route, and talked the British into building a new, intermediate, airfield in north Burma. "No aircraft had ever flown the route, but it seemed viable" (223). Bond was prescient: in the next few years, that route became extremely valuable to China.

Japanese bombers appeared over Hong Kong's Kai Tek airport just as word of Pearl Harbor was reaching the city. Five CNAC aircraft on the field were destroyed; three in a hangar escaped damage (241). Bond immediately arranged for evacuation flights to start as soon as darkness fell, and airline staff and senior

Chinese government officials were shuttled to safety. The *New York Times* and *Washington Post* hailed the Hong Kong evacuation “as the most perilous bit of work in the history of commercial aviation” (258).

As the British Empire came under attack, the Burma Road was threatened. Bond, after trying for months to obtain the British colonial government’s permission to fly in and out of Calcutta to establish the air route, in the end simply announced an inaugural flight from Chungking to Calcutta. The director of Indian civil aviation met him at Dum Dum airport on his arrival and “without a raised eyebrow ... granted his every request” (264).

Throughout 1942, CNAC’s “planes labored constantly, moving the airline’s scattered support structure to Calcutta, making passenger and mail runs in and out of China, and flying support for Chennault”<sup>2</sup> (264) and later the Chinese Army. The US Army Air Corps established an India-China Ferry Command to keep China supplied via the five hundred-mile air route CNAC had pioneered. Initial results were dismal, as inexperienced pilots confronted the vile weather, “underdeveloped airfields,” and rugged Himalayan mountain terrain of “the Hump.” And Japanese fighter planes waited on the southern side of the route.

The CNAC flew regardless of weather and deliberately overloaded its aircraft. Comments by the Army’s top man in China are telling: “[Lt. Gen. Joseph Warren] Stilwell noted ... in his diary: ‘No attention to capacity. CNAC 4,700 lbs., USA, 3,500 lbs. CNAC flying regularly when weather keeps us grounded.’ Ferry Command had 35 planes, and it flew 73 tons into China in July [1942]; CNAC flew 136 tons, using 9 aircraft” (289–90). As for safety: “The India-China Wing had 38 major crashes in November [1943]; CNAC had one” (336).

It was largely a matter of experience: most Army pilots were fresh from their training; CNAC’s original fifteen pilots were “vastly experienced commercial pilots.... Sixteen pilots from Chennault’s AVG joined in the summer of 1942” (313). The Army’s effort improved considerably over time, but CNAC always flew more tonnage more safely in all weather. Cargoes to China included everything from bullets and gasoline to men, mules, and money. Coming from China were commodities like tungsten, silk, wood, and even the hog bristles the US Navy favored for its paint brushes. American financial assistance once came in the form of gold “stowed in little barrels resembling beer kegs. CNAC employees rolled the kegs into ten transports, ... three tons of it per plane” (367).

The overall Hump operation was officially closed on 15 November 1945. CNAC moved back to Shanghai and reestablished its prewar route structure, until April 1949, when the Nationalist government fled to Taiwan. The airline relocated to Hong Kong, where the “government reneged on its promise to allow CNAC use of Kai Tak airport—for all practical purposes putting the airline out of business. Its 56 airplanes sat idle at Kai Tak” (381). On 31 December 1949, William Bond and the other CNAC directors met in Hong Kong and signed the airline out of existence, “thus dissolving the most successful Sino-American partnership of all time” (383).

CNAC’s role in the Hump airlift was, Crouch writes, “one of the great aviation accomplishments of all time. The Hump was the world’s first strategic airlift, and it had evolved into America’s main effort of the Second World War on the Asian mainland. CNAC proved the Hump could be done, and by the time the airlift was officially closed after the Japanese surrender, the airline had flown it more than thirty-five thousand times and carried approximately ten percent of the total cargo” (385).<sup>3</sup>

But, Crouch asks, was it all worthwhile? “In retrospect, it seems the United States reaped little tangible reward for the colossal effort it expended, and the transport aircraft committed to the operation could have done much to ameliorate the supply shortages that stalled the Allied advance toward the German frontier in the late summer and fall of 1944” (386). On the other hand, the Hump flights kept China in the war, tying up a large Japanese force that did not fight against the Americans in the Pacific or the British in Burma and

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2. See Daniel Ford, *Flying Tigers: Claire Chennault and His American Volunteers, 1941–1942*, rev. ed. Washington: HarperCollins/Smithsonian Books, 2007, reviewed by Jiu-Hwa Lo Uphsur at *MiWSR* 2009.02.01 – [www.miwsr.com/2009/20090201.asp](http://www.miwsr.com/2009/20090201.asp).

3. John T. Correll, “Over the Hump to China,” *Air Force Magazine* 92.10 (2009): “In all, the Hump airlift had carried 650,000 tons of gasoline, supplies, and men to China.... The results had come at a great price. During the operation, 509 aircraft from Air Transport Command and other organizations were lost. The total crew members known dead was 1,314, with 345 listed as missing. Almost 1,200 had been rescued or walked out to safety.” – [www.miwsr.com/rd/1310.htm](http://www.miwsr.com/rd/1310.htm).

India. Expectations beyond that were not realistic: Chiang Kai-shek “was content to let America and Britain do the fighting required to defeat Japan. His primary goal was to emerge from the conflict as the dominant political force in China...” (275).

Could the Hump aircraft have been put to better use in Europe? Crouch quotes Secretary of War Henry Stimson’s assertion that “The amount of effort which we have put into the ‘Over the Hump’ airline has been bleeding us white in transport airplanes. [It] bids fair to cost us an extra winter in the main theater of war” (358). But the stalled Allied advance in Europe that Crouch cites involved more factors than lack of fuel. Additional aircraft would not necessarily have resolved the problem. Besides, the planes had been “committed to India and China early in the war. It was impossible to redeploy them to Europe” (358).

Crouch tells the history of the China National Aviation Corporation exceptionally well, shedding much light on a very turbulent time in China. His writing is clear and vivid, particularly when he recounts the unbelievable exploits of CNAC pilots, bold, colorful personalities—among them the unforgettable Chinese-American Moon Fun Chin. *China’s Wings* will both inform specialists and captivate casual readers.