近代臺灣航空與軍需產業的發展及技術轉型（1920s-1960s）

摘要

1910 年代日本軍方開始陸續將航空科技引進臺灣後， 1920 年代起日本陸海軍航空部隊也開始在臺灣展開多次的飛行試驗與調查，這些經驗的累積對於日本航空科技的發展，產生一定程度的貢獻與意義。其次，第一次世界大戰後歐美列強開始重返亞洲，為求更快速連結東亞的殖民地，列強各國無不開始進行長距離的飛行試驗，甚至是難度極高環球飛行。臺灣也在世界飛行試驗浪潮下扮演一定的角色，並逐漸成為東亞區域重要的航點，以及 1930 年代日本推動南方航線時，唯一的空中交通動脈。

1931 年九一八事件後，中日關係的變化則深刻地影響著日本在亞太航線的布局，連帶也影響著「日臺航線」設置的變更。由此得知國際政治與軍事行動之間的連動及變數，深刻左右著航線設置與區域航空網的形成，而這也是戰前日本民用航線開設的主要特色。其次，是詳細勾勒 1930 年代後日本陸海軍駐臺航空兵力的建置、組織、作戰行動與性質，並說明駐臺航空部隊在中日戰爭的角色。同時，考察海軍航空基地的設置與高雄工業地帶的關聯，並探討臺灣工業化下所設定的金屬原料初階加工對日本整體航空產業的貢獻評估，以及臺灣本地資源能提供的航空軍需原料類型、產量與實際效益。

另外，1941 年太平洋戰爭爆發前後，臺灣因地理位置的關係，對於日本的空中運輸、開戰準備、航空作戰，以及後勤補修方面，均充分扮演重要的中繼角色。不過，臺灣所扮演的角色並非固定不變，而是隨著戰時整體戰略，而產生不同的動態發展。其次，則是以臺灣的海軍航空廠為例，探析戰時該廠的性質、業務與角色功能，並評估該廠因戰時應急處理而躍升的技術能力與形成的「產、官、學」合作模式，以及其培養的數萬本地航空技術人才，對臺灣所帶來的整體歷史意義。

1945 年日本戰敗，中國華民國空軍於是在戰後中美體制之下與美方合作進行對臺共同佔領與接收。其後，空軍因接收松山機場及物資，導致與陳儀當局產生派系鬥爭，並因二二八事件而產生連動性的深遠影響。特別是事件發生後臺籍飛行員及留用空軍的技術人員之介入與態度，在一定程度上影響國府的軍

事經靖行動，也因此導致後續政府對臺籍軍事人才的忌憚與防範，並直接影響戰後臺籍航空人才的流動與出路。

1948 年 9 月，共軍於徐蚌會戰大敗國軍後，空軍率先遷臺。其遷往臺灣的主因，與戰後空軍接收後所留用的臺籍空軍技術人員在製造練習機時所發揮的能力，以及臺灣本身所具備的後方條件有關。由此，進而影響層峰最後決定將空軍先行遷臺的決策。其次，1950 年代美國雖因韓戰而開始軍援臺灣，但美方為免臺灣反攻大陸，而開始藉由軍事援助來限制空軍獲取新式戰機，並對空軍後勤制度進行大幅改革，撤除空軍製造飛機的能力，改以後勤補修為主，故軍援政策與其說是援助，不如說是一種限制。而這些被裁撤的空軍飛機製造人才，則因此流向黨、公、民營單位，除成為政府在戰時軍事動員之下軍工體制的一環，也逐漸形成黨國裙帶政商關係為主的產業分工及發展構造。

關鍵字：飛行試驗、軍需產業、航空廠、戰後接收、軍援政策、軍工體制

The Development and Technical Transition of the Aviation Sector and the Military Industry in Modern Taiwan（1920s-1960s）

Summary

Following the gradual introduction of aviation technology into Taiwan by the Japanese armed forces from the 1910s onwards, the Japanese army and navy conducted multiple experimental flights and studies in the 1920s. The accumulative results were significant and contributed to the development of Japanese aviation technology. At the same time, European and American powers in the post-World War I era took on renewed interest in Asia, and conducted long-distance experimental flights and around-the-world challenges that were in part aimed to quicken the pace to connect their colonies in East Asia. Taiwan gained importance in East Asia under this wave of experimental aviation as a key intermediary node. In the 1930s, Taiwan became more important as it served as the only artery for Japan's Southern Advance.

The 918 Incident in 1931 led to fundamental changes in Sino-Japanese relations. Japanese authorities reshuffled its flight routes in the Asia-Pacific region, and the Japan-Taiwan route as well. Such background formed the primary trait of the Japanese civil aviation in the prewar period, namely that civilian air routes and regional aviation networks were largely defined by geopolitics and military actions. This paper delineates the position, structure, war plan, and nature of the Japanese land-naval air forces, and describe their roles in the Sino-Japanese War. Also discussed is the relationship between the Naval air force base and the Kaohsiung industrial zone, and an assessment on the contributions of Taiwanese industries to the Japanese aviation industry in respect to basic metallic materials processing. Also assessed are the significance of local resources from Taiwan to Japanese air force logistics, with consideration to their types, quantities of production, and actual impact.

Both before and after the outbreak of the Pacific War in 1941, Taiwan was a critical waypoint for Japanese air transport, war preparations, aviation warfare, logistics, and maintenance due to its unique geographical position. Taiwan's role remained dynamic throughout the war period, as it had to align with ever-shifting wartime strategic planning. An analysis on the nature, task, and role of the Naval Air Technical Arsenal in Taiwan, for example, shows that there were significant upgrades in its technical capabilities during this time. The synergy between industry,

government, and academia that was developed in response to wartime urgencies also created a significant amount of local aviation personnel. Such consequences have transformative and long-term significance to Taiwanese history.

Following the conclusion of the war in 1945, the the Republic of China Air Force took over Taiwan with the United States under a collaborative framework. The Air Force clashed with the interim authorities led by Chen Yi due to the takeover of the Songshan airport and associated resources. The feud intensified following the 228 incident, resulting in long-term consequences, particularly in matters concerning the retaining of Taiwanese pilots and technicians. The intervention and stance of the Air Force not only created a negative impact on the military pacification movement of the nationalist government, but also generated wariness towards Taiwanese military personnel that became embedded within the national bureaucracy, and directly affected the circulation and upward mobility of Taiwanese aviation personnel.

In September of 1948, after a major defeat of the nationalist forces at Xuzhou, the Republic of China Air Force became the first government branch to transition to Taiwan. The primary reason for the nationalist leadership to initiate the transition is related to the successful results produced by Taiwanese aviation technicians in manufacturing training aircraft after the takeover, as well as Taiwan's critical role as a home front. In the 1950s, the United States began to provide Taiwan with military assistance due to the Korean War, but also used the military assistance to prevent the Air Force from acquiring new fighter planes, and restructured its logistics system into a supply-and-support framework without aircraft manufacturing capabilities. Aircraft manufacturing personnel that were cut in the process migrated to the Kuomintang party as well as the public and private sectors, forming a key part of the mobilized wartime military-industrial complex, and gradually evolved into a division of labor and developmental structure of industries that were dictated by party-country nepotism embedded within politico-economic relationships.