

Folder 5, box 92

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Folder 5, box 92

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This short paper is concerned with a map of central Japan that the later University of Chicago Professor of Geography, Chauncy Harris, drew in September 1944, when he was assigned as an US Army Private to work at the headquarters of the Research and Analysis Branch, Office of Strategic Services. The map provided a functional classification of Central Japanese cities, highlighting those that specialized in manufacturing. It was precisely these set of cities that were targeted for firebombing by the US Airforce from March 1945.

Key words: Chauncy Harris, Second World War, the Office of Strategic Services, Japan, firebombing.

Introduction

I was at the end of the third and last day of my visit to the University of Chicago's Special Collections Research Center having trawled through more than a hundred boxes of the 'Chauncy D. Harris Papers 1893–2003'.¹ It was four in the afternoon, and the library closed at 4:45 pm. I was not coming back. I ran my eye down the collection's finding aid one more time.² Darn! Or some words to that effect. I had missed Folder 5, Box 92, 'Map of Japan with detail on size and functional type of its cities, 1944'.³ It sounded interesting. The ultra-efficient, smart University of Chicago library promised delivery within 30 min (many archives in other university libraries require a

day's notice). With a few mouse clicks the order was dispatched. But when the box arrived, there was nothing in the folder. No, not true. The two pages in it had been pressed flat against the side of the file, stuck together, making it seem on first look as if the folder was empty. Likely, they were untouched since the archivist placed them there. Or maybe Chauncy Harris inserted those pages. From his correspondence, I knew that he was a man keenly concerned with the organization and presentation of his own collection, working on it almost until the day he died, Boxing Day, 2003.⁴

The first page, and the focus of this short paper, was a map of central Japan (Figure 1). Dated 30 September 1944, it had an identifi-

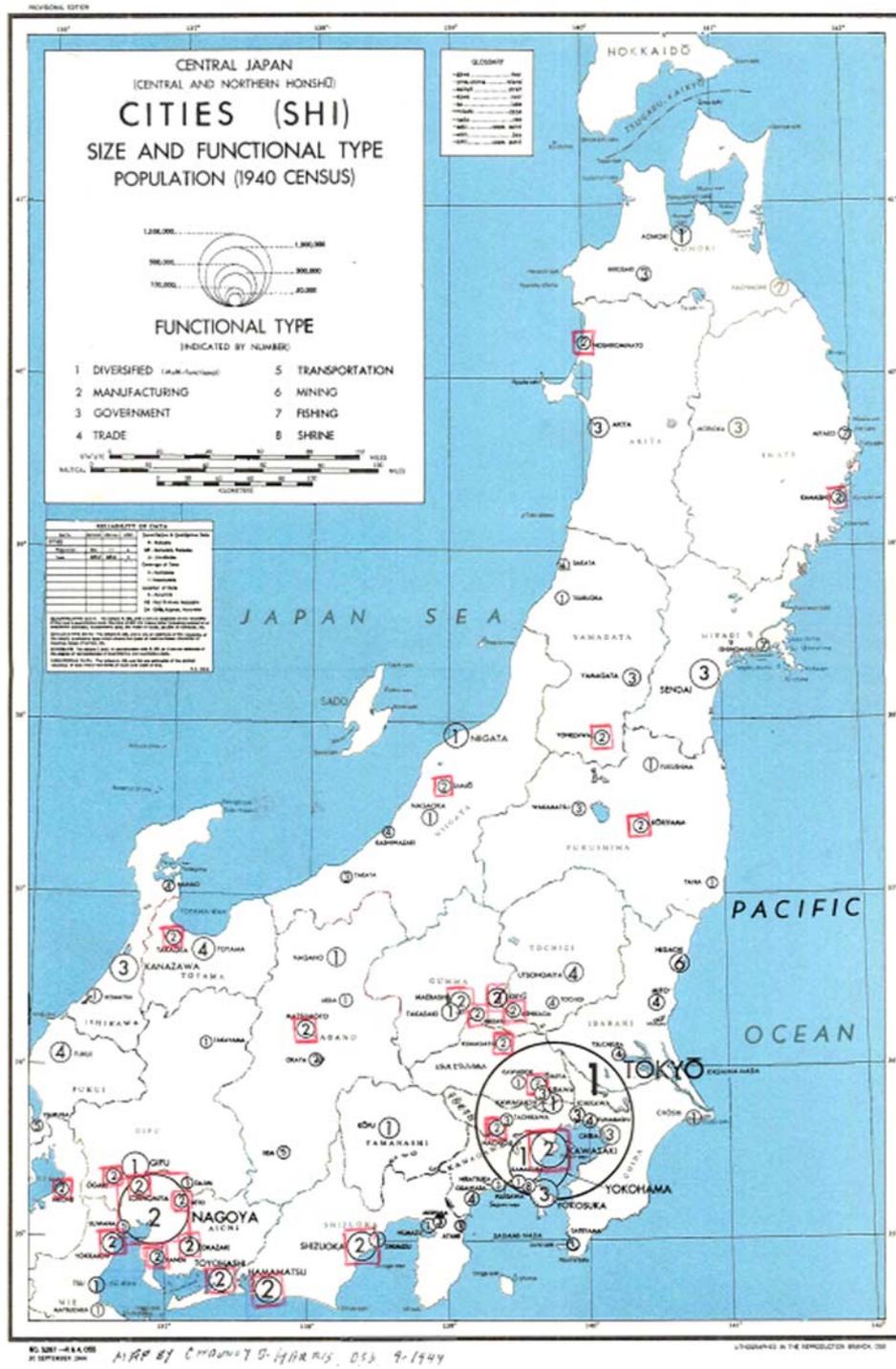


Figure 1 Chauncy Harris's map of cities of central and northern Japan, 30 September 1944.

cation number, '5297', followed by the initials 'R&A OSS'. Each of the cities on the map was marked by a circled number which according to the legend in the upper left corner corresponded to the size of the city's population (given by the magnitude of the circle) and its functional (economic) specialization (given by the numeral). If 'shrine' counted as an urban specialization, eight functional categories were recognized. One of them, though, was given special treatment on the map: 'manufacturing', assigned number 2. All cities marked as number 2 were enclosed by squares hand drawn in red-coloured pencil. Apart from the legend, there were also two other information boxes on the map: a glossary of Japanese geographical terms found on the map and a chart evaluating the reliability of the map's data. That chart assessed the data: quantitatively ('reliable and comprehensive' for the population data, 'generally reliable and comprehensive' for the functional specialization); qualitatively ('generally reliable and comprehensive' for the functional specialization) and by 'plotted accuracy' ('accurate' for both variables).

The second page, undated, was Harris' contextual description of the map.⁵ Several pieces in his archive came with attached notes like this one. Harris was a hoarder, keeping for posterity large quantities of the paper that crossed his desk during a long life. But unlike other hoarders whose archives I have also searched, Harris was a meticulous organizer, with every page in its right file folder. That was why he continued to come into the Special Collections Research Center until almost the end. That same organizational impulse also goes to his writing of these explanatory notes. They told you how to organize his pieces of paper and also how to organize the telling of his life.

That second piece of paper said that in September 1944, when the map was drawn, Harris was a private in the Army. While he held the lowest possible military rank, in *Catch-22* fashion he was made Chief of the Cities and Ports Section of the Far East Division in the Research and Analysis Branch, the Office of Strategic Services. That explains those initials 'R&A' and 'OSS' at the bottom of his map. OSS was established by an executive order on 11 July 1941, mandated 'to collect and analyze all information and data which may bear upon national security' (quoted in Troy 1981: 423).⁶ The R&A Branch was where the analysis happened. It was the brains of the operation, composed of American and émigré academics who did the analysing if not the collection of information and data (Katz 1989). Harris had been drafted into the Army in May 1944, and following basic and then specialized training he was sent to R&A's headquarters in Washington, DC, arriving during the second-half of August 1944.⁷ Drawing the map was his first project after he arrived. He says in that second page that he was 'uniquely qualified to prepare this map'. He was not qualified, though, to carry the map even to the next-door office.⁸ Only officers were eligible to transport classified material from the room in which it was drafted, and Harris' map was definitely classified.

Chauncy Harris

Harris was 'uniquely qualified' to draw the map for several reasons. For a start, he held five geography degrees from four different universities (two Bachelors, two Masters and a Ph.D., the first degree completed when he was only 19 and started when he was 16). More importantly, his 1940 doctoral dissertation

undertaken at the University of Chicago explored in part the functional relation of service activities in Salt Lake City to service activities in surrounding urban centres. This idea of defining urban economic activities in functional terms led him in 1943 to write one of his most well-known and highly cited papers (over 200 citations), 'A functional classification of cities in the United States', and which appeared in the *Geographical Review* (Harris 1943). Using census figures on employment and occupation, he categorized and mapped the functional specialization of 605 cities in the USA. He applied exactly the same procedures and set of methods to draw his map of Japan in September 1944. He even used the same number of functional specialization categories, eight, although only half were the same on both maps ('Manufacturing', 'Diversified', 'Transportation' and 'Mining').

But there was another reason that Harris was the right man at the right time to draw the map. He knew where the data were kept. In this case, it was stored 'in an obscure file drawer'.⁹ The data were the comparable Japanese census data to the kind Harris used the previous year to determine the functional classification of US cities. As he related in an oral history he gave in 1986, even in 1944, 'there were no copies of the Japanese census in any of the government libraries in Washington. Incredible when you think back on it'.¹⁰ But Harris knew that the University of Michigan geographer and regional specialist of Japan, Robert B. Hall, 'had privately secured a personal copy ... of the latest Japanese census'.¹¹ When Harris worked for 1 year at the Office of the Geographer, State Department, 1942–1943, he arranged for a photographic copy to be made of Hall's census. When Harris left State in 1943 to go teach at the University of Chicago the census

went into an inactive file. That file contained exactly the numbers Harris needed in order to draw his map, however. As he put it in the oral history: 'I was possibly the only person in OSS who knew where these data were in the Department of State files because they were in a particular file cabinet without any record'.¹² He retrieved them, and using his earlier methodology he replicated for the Japanese urban system what he done for the USA. Because he used Japanese census data, he could also claim for his map that it was 'generally reliable', 'comprehensive' and geographically 'accurate'.

Despite the odds seemingly stacked against its realization, Harris drew his map. He later thought that it was his 'best government research work'.¹³ What it enabled, and this is where those number twos marked in red-squared boxes on the map came into their own, was to provide 'a very good idea of where the industrial districts of Japan were'.¹⁴ Why this was so important, of course, was that these manufacturing districts were key to the Japanese war effort against the Allies, and the USA in particular, providing for the production of military equipment and armaments.

Japan, the Second World War and firebombing

Sustained, full-blown industrialization had begun in Japan in the Meiji Restoration during the late nineteenth century. Manufacturing grew especially rapidly from the first part of the twentieth century around urban centres in Central Japan, particularly the Tokaido industrial belt connecting Tokyo-Yokohama, Nagoya and Osaka-Kobe, and facilitated by new manufacturing technologies, transportation linkages and electrical power provision (Mosk 2001). Hand in hand with industrial-

ization went militarization. The Meiji era slogan was *fukoku kyohei* (enrich the country/strengthen the military). By the end of the Second World War, Japanese factories had supplied the Japanese Imperial Army, Navy and Airforce with more than 2,500 tanks, over 7,000 pieces of artillery, nearly 400,000 machine guns, almost 170,000 military trucks, over 75,000 military aircraft, 16 aircraft carriers, 63 destroyers and 167 submarines. Harris never says in the 100 plus boxes of his papers the purpose to which his map was put. But it was obvious. It was to assist in the task of identifying key urban-industrial centres in Japan so that their production of military equipment and ordnance could be disrupted, if not permanently terminated. Formally, it was known as the ‘industrial fabric theory’, which said that if key ‘bottleneck’ factories were destroyed, in the case of the Japanese economy those associated with manufacture of military equipment, especially aircraft production, then the whole economy would unravel (Ralph 2006: 497).

This was to occur through air power, by strategic bombing from the sky.¹⁵ Indeed, some believed, like General Henry ‘Hap’ Arnold, Commanding General of the US Army Air Force (USAAF), that the war against Japan was entirely winnable from the air, without the need ever to mount a land-based invasion of any of the home islands. But there was a major geographical problem. At the height of Japan’s geographical influence in mid-1942, Japanese troops occupied a sixth of the earth’s surface including East Asia, much of South East Asia, and approximately half of the Pacific area. In effect, Japan had surrounded itself with an enormous territorial buffer, ensuring that USAAF air bases could not be constructed anywhere near the country. The Pacific Theatre was not like postage stamp Europe where Allied planes could be

over German cities, especially those on the Ruhr, 1 h after take-off. Given limited ranges even for large bombers, no American plane could get close to dropping its payload on Central Japan, and the area marked on Chauncy Harris’s map, until late 1944, almost 3 years after Pearl Harbor.¹⁶

What changed during those almost 3 years to enable targeting of cities like Tokyo and Nagoya were new technologies of war and new geographies of military occupation in the Pacific. The first took the form of the B-29 ‘Superfortress’ bomber. Designed and built by Boeing, the plane was first conceived in the late 1930s although it did not make it into operation in the Far East until 1944, costing in total \$3 billion in 1940s values (Ralph 2006: 499; Tillman 2010: 34–38). That was a \$1 billion more than the Manhattan Project that produced the atomic bomb, and which inevitably two B-29s, the *Enola Gay* and *Bock’s Car*, carried and dropped on Hiroshima and Nagasaki, respectively. The B-29 was a ‘very heavy bomber’, with increased payload capacity, high speeds (almost 400 mph), an ability to fly at high altitude (35,000 feet) necessitating a pressurized cabin, remote-controlled machine gun turrets and, most importantly, an extended range of up to nearly 6,000 miles, although the combat range was 3,200 miles. The B-29’s many bells and whistles, and enormous size requiring four massive engines, produced problems. It had a terrifying capacity to crash on take-off, or to burst into flames in mid-flight. Boeing’s chief test pilot died in February 1943, testing a prototype, plunging into a Seattle meat plant after a fire in one of the engines quickly spread to one wing and the fuselage (Tillman 2010: 36). But the US military, and other Allied military, wanted that plane. It might win the war.

Even with its extended range, the B-29 could still barely reach Japan from any USAAF air base that could be constructed within friendly territory. In spring, 1944, the first try was at Chengtu, Central China, although given its remoteness it was in effect only a staging post for B-29s based in India at the Kharagpur region, 60 miles outside of Calcutta. B-29s would fly over the Himalayas, be refuelled, be given their orders and dispatched to Japan. Even so, Chengtu was still more than 1,000 miles from the coast, and 1,500 miles from Japan, the limit of the B-29's combat range. Moreover, Tokyo and Central Japan still remained out of reach, with the only accessible region the southernmost Japanese island of Kyushu, and the straits separating it from the main island of Honshu. Apart from a naval aircraft plant at Omura in Kyushu, there was not a lot to bomb. In the end, there were only nine sorties to Japan from Chengtu. They did not inflict much damage, although there was significant damage to B-29s and their aircrews. On the first mission to Kyushu, the destruction caused by bombing was minimal, but one B-29 was shot down, five others were lost in accidents (including one that crashed on take-off), six others sustained flak damage and one was forced to land early at an unprotected airport in China and was strafed by Japanese fighters and destroyed. Fifty-seven American servicemen died in that first mission (Tillman 2010: 52).

But geographical help was on its way. By so-called island hopping, admittedly a name at odds with the horrific and grisly process by which American ground troops wrested control of Japanese-held Pacific Islands, the US military got ever closer to Tokyo. Between June and August 1944, American troops took control of the Mariana Islands, approximately 1,500 miles due south of Central Japan. The target became at last targetable. Those islands were quickly converted into giant airdromes,

and XXI Bomber Command was created to operate from them (Tillman 2010: 77). Under the leadership of Brigadier General Haywood 'Possum' Hansell, the first raid on Tokyo was launched on 24 November 1944, involving 112 B-29s, and requiring a round-trip flight time of 15 h across more than 3,000 miles of open Pacific Ocean. Nothing like it had been done before. Hansell's strategy was precision as opposed to area bombing, targeting airplane manufacturers and urban-industrial districts that produced component parts (Ralph 2006: 502). But precision bombing was extremely difficult given: the altitude at which the B-29s flew; the very strong cross winds (the jet stream significantly increased downwind plane speeds to over 500 mph making aiming all but impossible, and also disrupted the path of the bomb's flight) and the persistent cloud cover. The inflicted damage was spotty (only 14 per cent of the bombs fell within a 1,000 feet of their target; Ralph 2006: 507), while the carnage both in terms of American lives and wrecked airplanes mounted (Ralph 2006: 506). Each plane costs \$605,000, leading 'Hap' Arnold to write to Hansell in late 1944 to say that the B-29s should be considered like 'a naval vessel, and we do not lose naval vessels in threes or fours ...' (Tillman 2010: 90).

This could not continue, and it did not. Through reorganization, early in the New Year, 1945, Hansell was relieved of his command, replaced by the meteoric-rising Major General Curtis 'Bombs Away' LeMay (parodied by George C. Scott as the cigar-chomping General Buck Turgidson in Stanley Kubrick's *Dr Strangelove*). LeMay realized that he 'had to do something and ... had to do something fast' (LeMay quoted in Ralph 2006: 512), and so on the night of 9–10 March he dramatically changed B-29 bombing tactics. Stripping the B-29s of excess weight including removing the machine guns, he

ordered 325 B-29s from Mariana to fly at low altitude in single file and area bomb large swathes of Tokyo with 1,665 tons of incendiary explosives ('bombs of jellied gasoline'; Ralph 2006: 513). The resulting firestorm destroyed almost 16 square miles of the city leaving 83,793 Japanese civilians dead, more than 40,918 injured and a million people homeless (Searle 2002: 103). It clearly not only destroyed enemy factories but also factory workers. That might have been part of the plan too, at least according to Lt. General Eaker of the USAAF, deputy to 'Hap' Arnold, who said retrospectively, 'It made a lot of sense to kill skilled workers by burning whole areas' (quoted in Searle 2002: 118). It was another way in which the fabric of Japanese industrial production was undone.

Conclusion

I am not implying that Chauncy Harris, or his map, bore direct responsibility for the firebombing of Tokyo, or the other 66 cities in Japan that suffered a similar fate (Ralph 2006: 516). His map certainly was not the cause of the firebombing, and I have no evidence that his map was even passed on up the chain of command. Chauncy Harris was an army private, not allowed even to take the map he drew out of the room in which he drew it. But as soon as I pulled out that map from Folder 5, Box 92, at the University of Chicago library, it gave me chills. From other research, I completed on the operations of American military intelligence during the Second World War, I knew that even unlikely pieces of paper could be linked to larger events (Barnes 2006). Certainly, other maps drawn within R&A at OSS could produce significant consequences. Arthur Robinson, Chief of OSS's Map Division, estimated that he and his staff of 153 produced on average 100

new maps each month during the Second World War.¹⁷ They were used for everything from organizing small sorties in Burma to redrawing the borders of post-War Europe (Barnes and Crampton 2011). Undoubtedly, Harris' map played some role. 'There are only connections' as Don DeLillo (1997: 825) says in his great Cold War novel, *Underworld*. In this sense, everything is marginalia, and nothing is.

Acknowledgements

The author was greatly indebted to both Derek Gregory and Dan Clayton for their good conversation and their very useful advice about information sources.

Notes

1. Chauncy Harris, the long-time University of Chicago geographer and a former Dean and Vice-President at that university, was born in 1914 and died in 2003. I never understood the dates attached to the collection's name. I found no document in Harris' archive dated 1893.
2. <http://ead.lib.uchicago.edu/rs3.php?eadid=ICU.SPCL.HARRISCD&q=harris+chauncy+d>
3. Map of Japan with detail on size and functional type of its cities, 1944. Chauncy D. Harris Papers 1893–2003, University of Chicago, Box 92, Folder 5.
4. His keenness for the University of Chicago library was reflected by his bequest to it in his will, and his instructions to the attendees of his memorial service that they donate there.
5. Japanese cities 1944, undated, Chauncy D. Harris Papers 1893–2003, University of Chicago, Box 92, Folder 5.
6. The OSS was initially called the Office of the Coordinator of Information (OCI) but changed its name on 13 June 1942.
7. This period of Harris' life is described in the third interview that Harris gave to Christopher Kimball as part of the University of Chicago Oral History Project, Chauncy D. Harris Papers 1893–2003, University of Chicago, Box 90, Folder 10, third interview, pages 11–14.

8. Oral history, *op. cit.*, p. 13.
9. Japanese cities, *op. cit.*
10. Oral history, *op. cit.*, p. 12.
11. Japanese cities, *op. cit.*
12. Oral history, *op. cit.*, p. 12.
13. *Ibid.*, p. 12.
14. *Ibid.*, p. 12.
15. Derek Gregory (2011a, 2011b) has recently compellingly written about the geography of 'bombing from the sky'.
16. One exception was the so-called Doolittle Raid, a sortie of 15 American B-25 bombers that launched from the aircraft carrier USS Hornet and dropped their payload on Tokyo 4 months after Pearl Harbor, 18 April 1942. None of the planes returned to the carrier but were variously shot down, crashed or landed in China. Some of the captured aircrew were executed by the Japanese. The story is told in Tillman (2010, prologue).
17. Memo Arthur H. Robinson to William L. Langer, 28 September 1945, NARA, RG 226, Entry 1, Box 6, Folder 8.

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Abstract translations

Ce court article s'agit d'une carte du Japon central dessinée par Chauncy Harris, qui fut plus tard professeur de géographie à l'Université de Chicago, en septembre 1944 quand il était affecté, en tant que caporal de l'Armée des EU, au quartier général de la Division de Recherche et d'Analyse du Bureau des Services Stratégiques. La carte fournit une classification fonctionnelle des villes du Japon central en mettant l'accent sur celles spécialisées en production industrielle. Ce fut précisément ces villes qui ont été prises pour cible de bombe incendiaire par l'Armée de l'air des EU dès mars 1945.

Mots-clefs: Chauncy Harris, Deuxième Guerre Mondiale, OSS (Bureau des Services Stratégiques), bombes incendiaires.

Este breve artículo se refiere a un mapa del centro de Japón que Chauncy Harris dibujó en septiembre de 1944 durante su desempeño como soldado del Ejército de los Estados Unidos asignado para trabajar en el cuartel general de la División de Investigación y Análisis de la Oficina de Servicios Estratégicos. Posteriormente Chauncy Harris se desempeñaría como Profesor de Geografía en la Universidad de Chicago. El mapa proporcionó una clasificación funcional de las ciudades japonesas centrales, destacando en particular aquellas especializadas en tareas industriales. Precisamente, fue este grupo de ciudades el que sufrió el bombardeo de la fuerza aérea norteamericana en marzo de 1945.

Palabras claves: Chauncy Harris, Segunda Guerra Mundial, OSE, Japón, bombardeos.