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*A theory and some practice in strategic air targeting against Japan.*

**B-29s AGAINST COKE OVENS**  
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The operations of an air intelligence section may often, even in an active theater of war, be too routine and colorless to offer much amusement or instruction to another generation. I recount below, however, one episode from my experience as intelligence officer for Major General Claire Chennault which is not without color and not uninteresting. If the story seems biased against the Washington apparatus, that is the bias of the man on the spot in contact with the job.

*Big Order*

In 1943 Chennault's 14th USAAF in Western China was ordered to proceed with the construction of a new complex of airfields at designated locations. The specifications for the thickness of the runways and their length made it plain that these bases were intended for a new type of aircraft, much larger and having much longer range than any in our inventory or any we had ever heard of. Since the fields had to be built by hand labor, locally recruited, several hundred thousands of Chinese shared in this information. But we knew only thus by inference that we were to be so reinforced. We were told nothing of the new plane. We in the intelligence section were not tasked with finding targets for it (though we did so anyway). Indeed, and this was the crowning indignity, we were not even ordered to refrain from speculating about it. Some of us worked up estimates of its specifications which turned out not to be far off.<sup>1</sup>

Airfield construction in the China section of the CBI Theater was a slow proposition. Powered construction equipment was scarce, and in all remaining China not in Japanese hands, there was not a single

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<sup>1</sup> New arrivals from over the Hump told of the construction of similar new fields in eastern India, but no visitors from the States could confirm the existence of an aircraft having the specifications we envisaged. I suspect General Chennault had been told that a new, larger bomber was in the works, but I very much doubt that he knew its actual size and range. He certainly appeared surprised at the eventual briefing when these figures were given, probably more surprised than some members of his staff.

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powered rock crusher. The rock for paving the runways, aprons, and taxi strips was all crushed by hand, small children working with light hammers on the smaller stones alongside their elders hammering on the larger ones. But eventually the fields were completed; the Air Force Engineer was rewarded by a promotion and a decoration; and at long last a team of senior officers arrived from Washington, representatives of the Joint Chiefs of Staff, to explain what this was all about.

#### *New Program*

The briefing took place in General Chennault's office. The B-29 was described and we were told how many would come to China. They were to be organized as the XXth Bomber Command, which was, and would remain, under the control of the Joint Chiefs. The CBI Theater and its China component in particular had certain support responsibilities toward the Command, but no authority over it. This displeased General Chennault, of course, and he made no secret of it.

Next we were told that the employment of the Command, its program, had already been determined. If General Chennault disapproved of this program, he could, as the senior American Air Force commander in China and on behalf of the senior American commander in the Theater, Lieutenant General Stilwell, make known to the Joint Chiefs his disagreement. They would not necessarily heed him, but he could comment if he chose. It was clear that this provision likewise held no particular charm for the General, especially since he would have to divert the better part of a composite wing from its offensive operations to the defense of the XXth Command's bases.

The program, we were told, provided first of all for a mission from the Indian fields against Bangkok to tune up the Command. It would then move to its China fields. The General nodded. Next, the briefers continued, now somewhat diffident, would be a mission undertaken by the entire Command against the Japanese islands, the particular target being Tokyo.

General Chennault demurred, loudly. From the figures they had just given, he said, the bomb payload at that distance would have to be calculated at mere hundreds of pounds per plane. He enlarged on this theme with such vigor that the briefers, who were by no means unsophisticated officers, could see that although he might reconcile himself to JCS direct control over the XXth Bomber Command, if they attempted a large-scale mission against Tokyo from the China bases, he might tell them to find a new commanding general

for the 14th USAAF. The subject of the Tokyo raid was thereupon dropped, and it was not revived.<sup>2</sup>

When General Chennault had concluded his remarks, a junior member of the briefing team, hitherto silent, opened an enormous briefcase, took out an armful of handsomely bound books each the size of a copy of *Fortune*, and passed them around. Calling attention to their Top Secret classification, he said the brochures described the balance of the program and its rationale, the target system U.S. intelligence had selected for the China-based B-29s to attack. If he might presume, the briefer went on, he would suggest that we rapidly run through them, the material being quite complicated, and he would answer any queries that immediately occurred to us. Then we could review them in detail overnight—it was now nearly midnight—and if we had further questions, he would be available between nine and ten the next morning before he and his colleagues emplaned for Washington. He left the impression that they were anxious to get this pro forma ceremony out of the way; the die had been cast and there was no thought of allowing a fresh throw.

To follow the printed plan in detail was, as the briefer had suggested, more than ordinarily difficult. Charts, graphs, and text done up with Byzantine opulence were combined in an explication, or better justification, that we all found obscure. What was being justified, however, was clear enough. The target system was the Japanese coke industry. The JCS had apparently been persuaded by a bevy of intelligence analysts that no better use could be found for the XXth Bomber Command, a new instrument designed for the destruction of Japan's military might, than to launch it against Japan's coke ovens wherever they might be. Within four years, said the briefer, if the attacks were successful and so sustained that repairs were impossible, and if no new coke manufacturing capacity were constructed by the Japanese undetected by us, within four years—that is by 1947—the Japanese steel industry would begin to feel the pinch of coke shortage, and soon thereafter the Japanese armament industry would begin to feel the pinch of a steel shortage.

#### *Recalcitrance*

The realization on the part of the 14th USAAF staff that this magnificent new weapon with its enormous supporting base was being deployed a good two-thirds of the way around the globe to bomb

<sup>2</sup>I have often wondered if this far-out proposal was not a ploy to soften us up for those that immediately followed. It was, of course, a highly impractical idea and I feel sure the briefers knew it.

coke ovens gave rise to wonderment—and argument. Each of us could think of targets by the score that were vulnerable to the B-29s and if attacked with vigor would save countless Chinese and American lives. To cite but one example, despite the slight pressure that the 14th Air Force could exert, slight because of our logistic transport difficulties, the Japanese had accumulated large stocks of materiel at Hankow. With this they had launched a drive that cost the 14th its eastern airfields and gave the Japanese an overland route between their Hong Kong-Canton enclave and their holdings on the middle Yangtze and the North China plain. Unequipped to offer serious resistance, the Chinese suffered personnel losses, military and civilian, numbering in the tens of thousands. The XXth Bomber Command could have destroyed the Hankow supply dumps in a single strike.

Or, again within easy range under a full bomb load, there was on Taiwan an operational air depot where new aircraft, fresh from the Japanese factories, were readied for combat and ferried off to the Philippines and the southwest Pacific to do battle with General Kenney's air forces and Admiral Nimitz' ships and the planes from his carriers. The destruction of this depot could well have shortened our approach to the Philippines and saved considerable losses in men, ships, and aircraft.<sup>3</sup>

As the debate began to get acrimonious, the briefers left us. We spent the rest of the night studying their brochure and preparing an alternative plan for them to carry back to the JCS. We had not worked very long, plowing through the impressive presentation, before we could see that the conclusions reached were derived from elaborately contrived projections of equally elaborate hypotheses which were based, in the end, on meager data of dubious authenticity. This is an important point. The program was a scholarly piece of work, honestly researched and presented without gloss. The argument was logically flawless, but the authors simply lacked the basic data necessary to determine the proper use of the China-based B-29s. It became eminently plain that someone in Washington who had a fixation about the role of coke in Japan's war economy had enlisted followers and somehow taken the JCS by storm. He must have been a very persuasive man.

It scarcely needs saying that the alternative program we prepared for the XXth Bomber Command was found wanting in Washington,

<sup>3</sup> Eventually, as mentioned below, the China-based B-29s mounted strikes against both of these targets, but late and with low priority. In the meantime they had been of much service to the enemy.

and it was not long before the B-29s reached China under the original plan.<sup>4</sup>

#### *The Yawata Strike*

Even though the planes could not cover the distance with anything like a full bomb load, the target selected for their initial mission was the Yawata steel plant, on Kyushu near the Straits of Shimonoseki, because it was here that Washington said Japan's largest collection of coke ovens was to be found. I do not recall any very convincing reasons for this estimate, but the ovens were brightly printed in colored ink on the target charts and Washington was convinced that the B-29s would find them there.

We learned of the decision to hit Yawata only a few days before the strike was scheduled, when the XXth Bomber Command sent us a message asking would we kindly provide pre-strike and post-strike aerial photography of the target. This presented some difficulties for us. The Yawata area lay beyond the range of a photo plane flying from any of our fields. There was, however, a field in guerrilla-held territory near the coast. If the weather conditions were just right (and this was predictable only within the narrowest of limits) and if the Japanese stayed where they were—they could take the field in a day's operation, and had done so in the past whenever they chose—the flight could be accomplished.

This scarcely practicable procedure had actually been carried out once some time earlier. The pilot had not made it quite as far as Yawata, and during his time over the target an unanticipated layer of clouds lay between his cameras and the ground; but there was no denying that he had overflown a part of Kyushu and returned safely, though with no considerable reserves of fuel. It also happened that this pilot, having completed the required number of missions, was still in China, about to embark at any moment on his

<sup>4</sup> Their passage to their new bases was attended by a curious incident. Coming over the Hump, one squadron was intercepted by a Japanese fighter evidently flown by a very wise pilot. He flew on all sides of the formation, estimating the planes' size and cruising speed. Then he moved in close enough to draw fire and so learned most of what there was to know about their defensive armament and fire control. Then he pulled away, wagged his wings, and took off for his home field in northern Burma to report what he had seen. A week earlier the very presence of the B-29 in China had officially been classified Secret. In spite of the fact that the Japanese now knew more about the plane than any Americans except a handful of General Chennault's staff and the XXth Bomber Command personnel, this classification remained in force for months, until the press could report its first offensive mission.

return flight to the States. He was apprised of the XXth Bomber Command request. After the briefest cogitation, and on learning that there was still available for consultation a certain weather officer whom he believed to be in some kind of direct communication with the elements, he volunteered to fly to Yawata once, not twice, if the weather officer found the omens favorable. His offer was accepted, and the weather was found good enough, barely, for a post-strike mission.

The photo mission was flown a few days after the strike and the pilot returned safely, though his fuel ran out before he could taxi his plane off the runway. A duplicate negative and a set of prints, made at an East China field, were delivered to the 14th Air Force Headquarters in Kunming only minutes before the arrival of a plane carrying General Wolfe, who commanded the XXth Bomber Command, and a large part of his staff. When we had had a hasty look at the prints and had told General Chennault what they showed, it was his decision that they be given to General Wolfe without comment. General Chennault suggested to him that he would doubtless prefer to have his own photo interpreters make the post-strike assessment. General Wolfe, thus having been made aware, indirectly and most courteously, that his interpreters would see nothing to delight him, motioned to his aide to pick up the package and left for his plane and his headquarters.

We had, of course, our own set of prints. A more leisurely perusal confirmed our original impression, that the Yawata plant was undamaged. Furthermore, the area that on the target charts had been so liberally sprinkled with coke oven symbols was in reality a sandspit in a shallow bay, with no buildings other than a shack or two within three-quarters of a mile. The coke ovens, less than half as many as predicted, were even farther distant and also unscathed. Indeed, no bomb craters were visible in the assigned target area at all.

As we continued to study the magnificent photography, which covered in detail a large area of strategic importance, we found, some twelve miles from the target, the fresh ruins of an industrial establishment the existence of which had previously been unknown. A complete rebuilding job would now obviously be necessary to put it back in production. We later learned that this had been Japan's second largest tank factory, smashed by mistake.

#### *Coke Phased Out*

For a time the war on the coke ovens continued. The next mission had as its target an industrial complex in Manchuria; I don't re-

member its name. Here, it was said, the intelligence depicted on the target charts was reliable because it came directly from the plans of the plant, which had been drawn by an American firm engaged to design the entire installation. Since this objective was nearer than Kyushu, we were able to promise and deliver photo coverage both before and after the strike. The pre-strike photography showed the target charts were wrong again. There were coke ovens about where the chart showed them to be, but there were only a small fraction of the number it showed. The owners had evidently decided to build a plant of smaller capacity than the one designed. Since this was a daylight mission instead of a night strike—at Yawata most of the bombing was done by radar—quite a few of the coke ovens were destroyed or damaged.

After this mission the B-29s still took an occasional crack at coke ovens—though never any as distant as Yawata's—but more and more they took their targets from the 14th Air Force list of strategic priorities. Even when they did go out to attack coke facilities, more and more of them aborted part way to the assigned targets and attacked instead a nearer alternative picked from the 14th Air Force list. By and by the Marianas were taken, and fields built there became the new home of the XXth Bomber Command, reconstituted as the 20th USAAF and charged with battering Japan's home islands. In China, except for a handful of B-29s equipped with cameras for mapping photography,<sup>5</sup> we saw them no more and turned our attention from coke ovens to other things.

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<sup>5</sup> A slightly different employment of these photo planes, one that might quite logically have been made, might well have changed the course of history in East Asia. What they did was plod back and forth photographing untold thousands of square miles of territory of no conceivable strategic interest, though doubtless holding a certain fascination for the cartographer. Properly equipped and targeted, they would have detected the Asiatic ports nearest Japan to be all but barren of maritime traffic, permitting the conclusion that our extensive mining of the Korean Straits and our destruction of Japanese shipping had in effect cut Japan off from the mainland of Asia. With this link broken, and the home islands deprived of all the external support required for their economy and the very lives of their people, Japan's capacity to continue fighting was negligible. A mere continuation of the blockade and the aerial offensive then being carried on must soon force a surrender, quite possibly without the use of exotic weapons or the Soviet Union's late participation. As it was, the first photo coverage of Manchurian and Korean ports was accomplished by the 14th Air Force. It is my recollection that these flights were made less than a month before the war ended.