with enough of the appliances to equip all the grounded Airacobras, with many to spare. The pilot, who wore a Captain's bars, goggled at me and howled: 'Are you the so-and-so that's had me chasing from Labrador to Florida, cannibalizing Eisenhower's planes?' "

Colonel Shumovsky's Films

Through a Soviet engineer and photographer, in the spring of 1944, Jordan was shocked to discover that Russian agents were being allowed to take motion pictures inside war factories from which Americans were excluded by ramparts of electrified wire and patrols of armed sentries. He was Col. Stanislav Shumovsky of the Soviet Purchasing Commission. His activity in this country had begun with an assignment, camera and all, at Wright Field, where new types of military planes were tested. Then he was suffered to act as observer of American industry in general. In his private "Who's Who" of Russians in this country, Maj. Jordan made an entry: "Shumovsky, Col. Stanislav, took thousands of rolls of film back."

The tall and imposing Russian dismounted from a C-47 "Skytrain" and was greeted with deference by Col. Kotikov, who presented Jordan. But when the American started to board the transport, both moved to halt him. The visitor explained that the cargo was "most special, with diplomatic immunity." Jordan answered that it could not proceed without examination.

"From his wallet," the Major recounts, "Col. Shumovsky took a letter. I do not remember the signature, but it was from the Lend-Lease Section of the War Department. It gave him permission to visit any and all war plants for purposes of inspection. He was sorry, but I would have to accept this paper as his authority for refusing to let anyone enter the plane. I told him that so far as my duty was concerned the letter had no jurisdiction."

Returning to his office, Jordan gave orders that the transport was not to be serviced and gassed. After luncheon Shumovsky suggested a compromise. "I'll tell you what's on the plane," he offered. Jordan said he would have to see for himself. The engineer consulted Col. Kotikov and sent word that he would "permit" Jordan to inspect the cargo.

The cabin was packed, on either side of a narrow aisle, with row after row of slender tubes as high as a man's armpits. The tops were sealed with Scotch tape, and attached to each was the typewritten name of a factory. Two that stuck in Jordan's memory were the E. M. Bliss Co. of Detroit and the Black & Decker Manufacturing Co., Towson, Maryland. The former makes dies and rolling mill equipment, and the latter portable electric tools, accessories and motors.

Having cut the tape on one canister, the Major drew out a long roll of motion picture film. It showed drop forges stamping out automobile fenders. Perhaps a dozen containers were opened. The story in each was the same—cinema records, with numerous close-ups, of intricate machinery. The general subject appeared to be heavy industry, with emphasis on machine tools, aircraft and motor vehicles.

"These thousands of celluloid rolls," Jordan observes, "must have been invaluable to Stalin's crusade for multiplying the war potential of Soviet industry. Col. Shumovsky's one transport carried a tremendous volume of this country's true secret weapon—its production know-how. In 1944 it hadn't crossed my mind that communism was tricking America into serving as a future arsenal against itself. So I released the plane, fancying that the idea was to lessen our own burden by aiding Russia to manufacture some of its military equipment."

Listed in the 1944 diary as arriving at Great Falls on May 22, bound for Washington, were seven Russian officers ranging from lieutenants to major generals. Jordan got up at 3:30 A. M., met them with staff cars and took them to breakfast at the Officers' Club, of which he was president. They departed at 6 o'clock.

"To ordinary eyes," he comments, "the seven names stand all alike in capitals of black ink. For myself one flashes in golden letters. It is that of Major General Paul E. Berezin, a Russian unique among hundreds I met. Over a cup of coffee at 5 A. M., when resistance is low, he conceded handsomely that Bell Airacobras might have played some small part in the Stalingrad victory. That was the only praise I ever heard, from Soviet lips, of the vast American effort in Russia's behalf."

Are Soviet A-Bombs Russian?

By MEDFORD EVANS

It is possible that U-235 and plutonium, the "nuclear components" of the atomic bomb, have been systematically diverted from Oak Ridge, Hanford and Los Alamos in sufficient quantities to charge perhaps twenty atomic bombs. This material, together with a complement of "non-nuclear components," may be stored here in the United States, waiting the signal for clandestine assembly in a Chicago warehouse or a New York apartment building, the resulting ready-for-detonation A-bombs to be used in whatever manner the conspirators may regard as most "truly revolutionary."

Those test bombs exploded in Russia two or three years ago may have been manufactured—except for final assembly—in the United States. In support of this theory are two considerations: 1) the improbability that the Russians were capable of independent bomb-manufacture as early as September 1949 (when President Truman announced an atomic explosion had taken place in Russia); and 2) the practicability at that time of smuggling out of the United States fissionable material and other essential components of the atomic bomb.

Expert testimony on the state of Russian technology after World War II raises a doubt that the Russian A-bombs were homemade.

Dr. Irving Langmuir, eminent research director, who visited Russia in June 1945, told a Senate Committee in December of that year he was "convinced they are not carrying through a Manhattan Project" (wartime code name for the American atomic bomb project). He based his opinion on conversations with Kapitza, Joffe and other Russian scientists, and on the evident rate of progress on a cyclotron which he saw under construction.

Dr. J. Robert Oppenheimer, wartime director of the atomic bomb laboratory at Los Alamos, New Mexico, told the Joint Committee on Atomic Energy in June 1949, ". . . my understanding of the situation in Russia is that even when the basic facts are known, they have, and I think we have cause to be grateful, some difficulty in making practical application of them."

Fuchs Was Astonished

Dr. Klaus Fuchs, leading convicted atomic spy, "explained," according to the *Saturday Evening Post* for June 7, 1952, "that it was impossible for him to do more than tell the Russians the principle on which the bomb was made. It was up to the Russians to produce their own industrial equipment, and he had been astonished when they had made and detonated a bomb so quickly."

Gen. Walter Bedell Smith, former Ambassador to Russia, and now head of the Central Intelligence Agency, told former Secretary of Defense James Forrestal, according to the latter's *"Diaries"*:

> The Russians can not possibly have the industrial competence to produce the atomic bomb now, and it will be five or even ten years before they could count on manufacture of it in quantity. They may well now have the 'notebook' know-how, but not the industrial complex to translate that abstract knowledge into concrete weapons.

The entry is dated September 24, 1948, just one year before President Truman's announcement of the Russian explosion. It appears today that Gen. Smith was certainly right about the notebook know-how (thanks to Dr. Fuchs and others): he may very well have also been right about the industrial complex, or lack of it.

Gen. George C. Marshall, while Secretary of State, reported at a Cabinet luncheon April 28, 1947 on the latest Moscow conference, the gist being, according to the "Forrestal Diaries":

> Two underlying motifs ran through all the conversations with the Russians—first, money, and second, reparations out of Germany, *i.e.*, in terms of production. . . . The Russians have found that the taking of physical assets does not get them the result they want in terms of goods. Even taking of management personnel with the plants does not suffice because the trained labor is not available in Russia.

If the Russians concluded in the case of non-atomic production that theoretical know-how, the industrial equipment itself, and even management personnel were not enough—that for lack of trained labor they required the finished product, they may have come to a similar conclusion in regard to atomic production.

What were their chances of doing anything about it?

Dr. Manson Benedict, chief designer of the U-235 plant at Oak Ridge, has stated, "One guess is that from one to five bombs per year could be produced from non-accountable material if one sought to divert material improperly."

Dr. Sanford Simons, young atomic scientist, took plutonium away from Los Alamos, New Mexico, as a souvenir. Four years later the FBI arrested him in Denver, Colorado. A deliberate Communist agent could easily have headed the other way and gone into Mexico with the stuff. That is a regular "underground" route to Russia.

Admiral John E. Gingrich, while Director of Security for the U. S. Atomic Energy Commission, told Secretary Forrestal in February 1948 he was disturbed by "the lack of proper security and surveillance measures for atomic materials."

As late as July 1950 the laboratory at Los Alamos was reported in an official but unclassified paper as *beginning* to install the procedures for accounting for the fissionable materials that charge the atomic bomb—the procedures authorized and directed by "Bulletin GM-95," issued by AEC Washington headquarters in July 1948. This report from Los Alamos was made five years after the first American test explosion, and about a year after the first Russian explosion of which we have information.

Considering facts and informed opinions like these, it is easier to imagine Communists stealing bomb parts from American plants and relaying them to Russia than it is to imagine the Russians going through the whole industrial process themselves.

Soviets Had Bomb Before British

Only recently it was announced that the British had exploded their first bomb in a test off the Australian coast. All the scientists known to have given technological secrets to the Russians were British. But the galaxy of British scientists as a whole was far greater than Fuchs, May and Pontecorvo. Hence even with the maximum allowance for the value of the knowledge transmitted by these three, the British resources of knowledge remain far greater than the known Russian resources. Indeed the British tradition in the physical sciences and their ingenious practical application is unrivaled. From Newton to Lord Cherwell, from the steam engine to radar, from the spinning jenny to the jet airliner, the island home of the industrial revolution has produced or attracted a fabulous gallery of scientific and technical geniuses, including in the nuclear field Thomson, Rutherford, Chadwick and Cockroft. As for raw materials, the British are in the same boat with us, which is to say, considering the arrangements for reaching the Belgian Congo, we are both