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Japan's Fatal Weakness



Japan in the first 13 months of war let loose virtually everything she had against us. Now she's feeling the pinch, for her lack of industrial capacity makes replacements slow, and she hasn't the savvy to keep up with her opponents in improving plants and weapons. This is particularly true in the all-important matter of airplanes

By **JAMES R. YOUNG**

JAPAN'S collapse will result from factors which her powerfully organized fighting forces, in their desperation and setbacks, cannot control.

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Nippon's fundamental weakness, as Joseph Clark Grew, former Ambassador to Tokyo emphasizes in his assessment of her military capacity, is the failure of her leaders in the long-prepared plot to attack, to make provision for losses or collapse. They have left no road open for retreat. There is no provision for acquiring substitutes and replacements in war industries.

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Why?

Japan was sold the idea, by the numerous Nazi political, economic and military gauleiters in Tokyo, that a lightning stroke would incapacitate the United States in the Pacific, and knock England out of the Orient. In a few months, the Japs were assured, Tokyo's Black Dragon leaders would be Master Dragons of the Pacific, from Siberia on the north to Sydney in the south and of all the Pacific basin of 64,000,000 square miles.

The Japanese accepted this conclusion without any apparent consideration of an if.

Moscow, the Japs were told, would be taken by Christmas (of 1941). The Japs would have Manila. The proposal appeared bomb-proof. Gen. Yamashita had been in Europe with Count Gen. Terauchi for observation and instruction in the high points of blitzkrieg and para-troop tactics, later to be used in the Malayan campaign, the Philippines and the Dutch East Indies.

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Moscow did not fall. Manila did. And had we been on the alert, the White House having given sufficient warnings, we would not now be on the defensive position nor have suffered such terrific losses at Cavite and Pearl Harbor. Our Navy and our air force units would have remained in control of the Pacific. This particular reference is not written to establish an "out" for our miserable failures and insufficient precaution. The declamation is part of the entire story around which, in this article, I am constructing a word-picture frame on the premise that Japan cannot win.

Following the fall of Moscow and the immobilizing of all Russia, which the Nazis assured the Japs would be accomplished, the double-tracked Trans-Siberian railway would be open to Japan to import arms from Czechoslovakia, steel from Sweden, and machinery from Germany and conquered European countries. Vladivostok, the Nazis emphasized, would become another Jap submarine base for attacks on the United States. Kamchatka would be a Japanese air base for thrusts at unprepared Alaska and cities in our Pacific Northwest.

JAPAN and Germany planned to concentrate on India after the capture of Moscow and Manila. Japan with a larger navy and mercantile marine than Germany, would navigate and patrol the Indian Ocean and the Suez Canal, and jointly operate in the Mediterranean with the third Axis partner, Italy. Thus, Japan, as I am told by persons who returned on the diplomatic exchange ship *Gripsholm*, anticipated a rail route via Russia and an ocean lane by Suez, to handle the war materials, machinery and tools to replace the gigantic purchases she had made in the United States, for had we not been Japan's chief source of industrial strength?

Within a year after promised Nazi victories, Japan observed the United Nations driving Rommel's men from North Africa; the Reds were throwing the Nazis back at Stalingrad; convoys of Americans and materials continued to Australia and the Solomons; more American planes were bombing Japanese-held cities in China, particularly Hankow, Hanoi, Haiphong, Hong Kong and Bangkok.

As a full-fledged typewriter strategist, I place myself out on a limb with the unqualified statement that failure of Japan's world-wide conquest plans may be dated from the time the Nazis failed to take Moscow.

Secretary of the Navy Frank Knox recently told the National Association of Manufacturers we have expended a lot of precious ships and material, but have exacted a toll the enemy can ill afford.

I can quote from a Japanese business man to give the orthodox Tokyo interpretation, how militarists and industrialists calculated to win. Yoshiichi Nagatani,

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a top-flight manufacturer, has stressed that the United States could not win because we would not be willing to tool up to wartime production, that we would not stop making refrigerators to produce jeeps. He told his people that we were so divided that we could not form an army to go overseas; he said we would not undergo hardships and that we lacked spiritual power. He told his Japanese listeners that because of low national morale, at our first defeat we would be led in revolt by Senators Nye and Taft, and Charles A. Lindbergh.

We have suffered losses numbering some 50,000 in dead, injured and missing. Time is against Japan and distance plagues our transport problems. But we can overcome time and distance. The Japanese, I emphasize, are short on time and, in their octopus operations, are dangerously spread out, particularly respecting lines made vulnerable to submarine attacks. America's war industry problems are tough and many, but we are not weak at the core. Japan has strength at the top, through long term planning, but at the core she is weak.

The inevitable American offensive deep at the heart of Japan's eight industrial centers will exert a pressure like the push that caves ant-eaten wood; but the basic cause of our enemy's ultimate defeat will be the termites of industrial disintegration, lack of skilled labor, shortage of highly-trained technicians, graft among plant superintendents and bribery of purchasing agents, awkward bottlenecks in war factories, and the inability to replace unexpected air and ship losses, especially submarines and aircraft carriers, bombers and tankers. Of transport and cargo vessels, Japan perhaps retains world supremacy numerically and possibly in tonnage.

HIROHITO'S war crazed leaders must go on fighting to the ultimate, disastrous end. They cannot remain stationary. And it will not be a matter of pride, of the "face" we hear about, but force of circumstances. Personally, having seen the Japanese individually and collectively for 13 years under many conditions, I have come to scout the idea that they place more value than other races on "saving face." More practical, more urgent reasons, govern now. Japan has staked everything, committed treacheries and cruelties that can never be forgotten or forgiven, shown herself abysmally unworthy of any membership in the family of nations, and knows there will be no quarter. She must win all or lose all—rule half the world or retire to a position somewhat equivalent to that of Abyssinia.

Japan loosed, in one great freshet, all the power possessed by a country that has very little fundamental industrial origin. Like great waters rushing through a broken dam, Japan's power must subside as all floods ebb, leaving a task of reclamation and rehabilitation of an

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island which will become a slaughter-house arsenal of anarchy and rebellion from the day the emperor's palace is bombed.

Japan could have flung thousands of airplanes at a half-prepared United States and a harassed Britain and could have done a lot of damage. But she cannot build sufficient planes to replace the planes, submarines and carriers lost in combat. The United States can send thousands of planes roaring over the enemy's head, and at targets of destruction, until the island of Japan is a mass of flame and ruins.

The explanation for Japan's weaknesses, which are greater than her points of strength, I have found in a detailed study of the dent in her giant armada—engineering, plant capacity and raw materials.

The United States is producing, I believe, the finest planes in the world, deadlier than any possessed or planned by our enemies. Production in units and finished planes is greater than the combined output of the Axis nations. In patterns, dies, lathes, machine and precision tools, oils, metallurgy and alloys, American quality is superior. Military secrets prohibit publication of what has been created by American engineering ingenuity and resources. It is no secret, however, that new American steels and plastics are the best in the world. One alloy has a tensile strength of 200,000 pounds a square inch. It is almost entirely non-corrosive and a good 40 per cent lighter than its aluminum grandparent.

New heat-treated American aluminum alloy has a tensile strength of 68,000 pounds a square inch. We are moving into the giant transport class with 140,000-pound flying boats. Research, backed by unlimited financial resources, bright minds and fine laboratories will perfect better materials than Axis plotters could dream after their best caviar-and-champagne celebrations. The Japs would lift eyebrows, they would suck their breath, (as they do when they are flabbergasted); they would bow till their eyes met the ground (in awe they do so), if they had an inkling of American advancement in aviation.

I write this with deep admiration, acquired through observation, of American air-power as I have seen it built and in operation on a War Department sponsored coast-to-coast tour of United States Army Air fields. From Grenier Field in New Hampshire, I have raced through the Southeast air command, the Middle West, across the plains of Texas (where we have more air fields than in all Japan), to the Pacific Northwest.

I make certain concessions to the Japanese. Geographical location, long preparations, conceit, confiscatory government powers to force manufacturers and unskilled labor to work without profit; hundreds of small war factories and large ones, may favor Japan. I'll revise my estimate of Japan's planes in both services as of December 7, 1941,

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to around 8,000. I grant them certain stock pile reserves, coke and limestone, cheap ship plate, unlimited soft coal deposits, the world's third largest electric power generating capacity, bauxite for aluminum and good copper mines.

My ledger of international accounts, however, lists Japan's many weaknesses in the industrial veins leading to the heart of Hirohito's empire.

The collapse of Malaya, the Dutch East Indies, Bataan and Corregidor were grievous blows to us. Nevertheless, Japan cannot remain satisfied. She must attack repeatedly in the direction of Alaska, Australia, Siberia or India. Should Japan acquire one of the four, she would perforce continue to assault everywhere. I am certain she will bog in each undertaking. At home, Japan cannot continue to show gains. Her production effort some months ago passed its peak. Japan is fighting just as desperately as the United States. Since Pearl Harbor, her forces are using everything they possess and fighting everywhere, but the tempo of American production in shipbuilding, materials, manpower training, airplanes and equipment has not reached anywhere near maximum capacity.

Japan's militarists are cocksure in the belief that they never make a mistake. They cannot see that resources will become exhausted, and that new markets will not open. Efforts to consolidate occupied areas will be no more successful than similar attempts in China in the last five years, and I doubt she can exploit properly her rubber, tin and tungsten seizures. Quite definitely she will not obtain required quantities of East Indies oil.

Japan's industrial position is untenable. She is isolated from her Axis partners and internally afflicted by politico-military squabbles. I am informed by neutrals who have arrived in this country that these quarrels are far more violent than the outside world conceives. The Japs were buoyed by numerous initial successes, based on sneak attacks. Coral Sea, Macassar, Midway, Aleutian and Solomons losses are not known to Mr. Moto. Tokyo's leaders continue to assure the people that we cannot fight; that we would prefer to make concessions, call a halt, and compromise the war. Japan is working desperately to produce planes and material, but certain of her industrialists whose plants were built with foreign goods and equipped with imported dies, patterns and presses, realize that if they cannot win quickly they are doomed.

Alone, Japan cannot master air or sea communications lines. She must keep her main island protected from an air invasion. Submarine attacks on shipping lines means a huge defense force of a minimum of half a million, and a large navy personnel to protect and operate all shipyards. Outlying bases, many already overextended, must be fed, equipped and garrisoned—a constant

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drain on supplies and men. She is thrown on her resources, for she no longer imports from abroad. Japan's industries are not bright and modern. Many are obsolete. Cash expenditures for war are small in contrast with the United States. Chinese resistance hampers Japan by wearing her down and subjects her to economic deterioration in the occupied areas.

I believe that wholesale attacks on Japan, such as the RAF loosed on Hamburg, Dusseldorf, Essen and Cologne, would augur the defeat of Japan.

Japan's mental gymnastics, especially among her militarists who believe themselves invincible and invulnerable, leap from a premise to a conclusion without allowance for possible interference. Thus came the upset in Japanese calculations, the utter panic, when American Army bombers approached and attacked Japan as the Tokyo radio was boasting of the absence of fear and claiming that no foreign plane would ever reach Japan. Knowing Japan's many ideally concentrated targets for bombing, we have set the pattern. We must dislocate and destroy factory installations and air plants which have provided her with great power.

Japan has passed the peak of her ten-year military campaign. She has reached the lowest point on a military graph, in the loss of some 315 ships and nearly one thousand planes. In peace time, or while fighting China, Japan could import or manufacture replacements. Not now, however. Japan's strength was predicated on the importation of six to eight essential raw materials and a world market in tools, steels and oils with which to construct fine ships and planes.

I have acquired important new information on Japan's industries. The Japanese reasoned they had fooled the foreigners with whom they did business. When you sell a bill of goods, you can surmise the purposes of the equipment, and in certain categories of supplies one can gauge the productive capacity and what the Japs would build. A world war eliminated Japan's sources of 1942-43 airplane designs and machine tool patterns. Tokyo, my residence for thirteen years, is the center of Japan's precision instrument and tool industry. Japanese factory superintendents were dissatisfied with their own productions and imitations. An industry which relies on copying foreign models rapidly approaches the point of obsolescence unless imports are uninterrupted. This is a real brake on manufacturing. The Japs leaned too heavily on inspiration from foreign catalogs, and, since quality has never been a consideration in Japanese manufacturing in peace-time cut-throat competition in the export market, it stands that no flexibility in a changeover was allowed for the day when they would be pressed for first class domestic equipment in the air or afloat. The

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Japanese margins in quality, precision and output are too close to provide for safety or success in a long pull war emergency. Japan cannot overcome these pronounced major industrial bottlenecks. Priority regulations will not clear the stagnated iron and steel industry. Poor compounds will not produce good rubber for tires and planes.

Continued jailing of engineers and manufacturers for inferior work and operating in black markets will not build airplanes and ships to replace the half dozen aircraft carriers and their cargoes now at the bottom of the Pacific.

My summary of Japan shows many major defects. But do not presume that Japan is weak, or underestimate Japan's striking power. This presentation is based on the observations of some of the keenest foreign judges of Japan, men who are top flight engineers. Their conclusion is that Japan's failure will come from industrial disintegration and American air attacks on concentrated and exposed industries, and weakened shipping and transportation lines.

Japan's refineries are restricted. One of the best, an American built plant, was destroyed in the Doolittle raid. It cannot be replaced. Oil is Japan's headache. Diesel fuel for the world's largest fleet of small vessels, lubricating, machine tool, instrument oil, and high grade aviation gasoline, are not made in Japan in quantity. An insufficiency of oil well-drilling machinery and the lack of experienced engineers are apparent. Some 700 industrial and engineering experts headed for Java and Malaya were lost in a submarine attack on the *Taiyo Maru* off Hong Kong—a serious blow to technical forces.

Synthetic fuel production commenced eight years ago. The output was unsatisfactory. New machinery from Germany did not arrive in time to fulfill the blueprint program. The Japs had arranged to exchange six million tons of soya bean-cake for German ersatz engineering. The Japs had the bills of lading but delivery was not fulfilled—the Russo-German war halted the shipments via the Trans-Siberian, and the Suez remained closed.

Western Japan is the Youngstown-Pittsburgh area. The cities are Fukuoka, Kokuro, Moji, Nagasaki and Shimono-seki. Steel productivity there is another industrial enigma. Peace time capacity production of iron and steel took a poor sixth place in the world, although paper plans would bring Japan to third place. The wishful accomplishment was based on uninterrupted imports of heavy American and German foundry equipment, and fine iron ore from the Philippines. Japan had the coking coal and limestone for making pig iron, but lacked deposits of high grade ores with which to produce fine steel. Their ore sulphur content is too high for good steel.

Japanese battleships, submarines and aircraft carriers were constructed with imported high grade steel ship plates.

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Engines, navigating instruments and ball bearings were of foreign make. Cheap cargo vessels for the intercoastal trade and nearby China sea routes were built of low-grade domestic plate. For pre-war operations a secondary plate was acceptable, but war measures eliminate this category and the Army and Navy require the finest that steel plants can process.

My sources do not believe Japan has substantial stock piles of high grade American scrap, notwithstanding the boatloads she bought here and in Australia. Japan denuded Australian scrap yards. Some of the metal has been coming down on Port Moresby and other Australian cities in recent weeks. Japan's foundries used about 60 percent of quality American scrap, mixed with inferior domestic iron ore. With that percentage they produced a pretty good steel. If steel, as Winston Churchill observed, is the criterion of a nation's strength, the measuring stick would show Japan is crippled seriously.

Japan has coal. The problem is mine labor. Women and children have worked in the mines since 1938. Forced Korean labor, about 80,000 men, has been imported into the Kysuhu mines of Western Japan. Transport is done in small coastal boats. Operating from certain well developed and exposed ports, the coaling steamers could be bombed out of commission. Most loading is by hand and baskets. Railway cars, of the British type, are scarce. Rolling stock on Japanese railroads has depreciated through inferior ball bearings in journal boxes, my *Gripsholm* diplomatic sources advise.

The requisitioning of gondolas and cars for Manchuria and China has played havoc with Japan's once excellently operated railways.

Japan's elaborate industries in Manchuria, with few exceptions, are hitched to steam-generating plants. In Japan proper I know of a network of transmission lines and hydro-electric power plants built when her engineers, with American aid, placed the Empire third in the world in kilowatt hour power production. Eastern Japan, however, operates on one cycle and Western Japan—Kobe, Osaka and Kyoto—on another.

Bombing of the generating plants in the Tokyo-Yokohama area, which feed the bulk of power to chemical, tool, rubber, auto and arsenal factories, would paralyze those industries. Alternate power lines are believed unavailable for bringing in electricity from the Western power stations. Railroads would be restricted. Many of Japan's locomotives are electrically operated. An acute shortage of coal-burning engines was created by the Army's demand for them in China operations.

Bauxite is available in Korea, but quality is irregular. Formosa, Korea and Manchukuo have plants, those of the Nippon Aluminum Company, which produce an estimated 45,000 metric tons

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a year. Their methods and compounds originated in Pittsburgh. Domestic capacity is available for production of 3000 to 4000 planes a year, granting that the aluminum is restricted to airplane purposes. The best aluminum plant was built by an American. Blueprints for expansion were shelved by World War II. Hence, Japan cannot obtain more aluminum than the capacity of existing plants.

Magnesium production is of limited tonnage, but high in quality. The Japanese succeeded in manufacturing excellent magnesium piston rings. Against that credit is the debit of poor spark plugs. Japan relies on German spark plugs. Planes are tested with Japanese plugs as a matter of subsidy and contract requirement but in war operations their ground crews make certain that German plugs are substituted.

Japan's war machine needs copper. Japan had several large copper mines which grew with the fantastic development of her electrical industry through American and German encouragement and competition. Japan should produce about 100,000 tons of copper a year but this would not meet war manufacturing schedules. Local deposits, I understand, have been worked almost to the bottom. Import copper reserves never stood at any worth-while figure, and now Japan has no import source.

Summarizing metals, Japan is totally deficient in mica, tungsten, tin, high grade iron ore and good bauxite. Japan is not self sufficient in copper, bauxite, zinc or lead. I do not subscribe to the fear that her armies will acquire these materials in conquered countries. Japan does not possess the processing facilities for major war requirements in overseas areas.

Japan's industrialists long engaged in high pressure selling and confiscation of capital from banks and insurance companies to launch a totalitarian war effort, under the demands by the army and navy for more than the people could turn out. During peace years, Japan's shipping, radio, textile, rayon, locomotive, dyestuff, chemical, storage battery, electrical, air compressor, diamond drill, aviation and numerous light industries, registered admirable developments. Reckless overexpansion was identified with the boom which followed abandonment of the gold standard in 1931. But the feverish switch from peace time assembly lines to streamlined mechanized war schedules started hysteria in industrial circles in 1938-39. The government edict established special planning boards to seek order. Chaos continued. Private enterprise was eliminated. The bottlenecks remained. American freezing and licensing action halted necessary Japanese imports of new machine tools. Hence the obsolescence today in Japanese light industries.

A common deficiency in Japanese production is the failure to maintain adequately compounds and high stand-

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ards in alloys, castings and forgings. Many of their products will not approach American military inspection standards, aggravated by a shortage of high grade tool oil, hampered by unskilled labor and fraught with widespread graft among foremen. Change-overs to new models, or to systems required by recent discoveries and patents, are today impossible. That dilemma exists in the auto and aviation industry. Truck chassis have been noted for their weak construction. Parts departments have not maintained inventories to meet army demands. This is especially true in aircraft industries. Total truck building is around 15,000 units a year at best.

For considerable time to come with distance and geography in their favor, the Japanese, notwithstanding their many weak points, may possess numerical superiority in ships, planes, tanks and almost unlimited military manpower of perhaps 10,000,000 men. However, for a long-term pull, and with United States bombers blasting deep at the heart of Japan, I contend our Pacific enemy cannot survive. I expect our planes and ships to slash through Japanese mandated islands and supply lines. American planes will move down the Yangtze valley from Hankow, Nanchang and Nanking, on their important mission of bombing that Gibraltar of the Pacific—Formosa, and the cities of Western Japan.

Japan's air production is diminishing. The great Mitsubishi plant which produced pursuit and bombardment planes, propellers and accessories, was destroyed at Nagoya by the Doolittle expedition. New aircraft carriers to replace Coral and Midway battles will not be launched on any nearby week-end. Ship plate is scarce. Ball bearing steel is unobtainable. Oil is precious.

Japan's air and industrial backbone is inadequate to defeat the American giants of industries. Japan should know that with each turn around the clock, as the war in the Pacific continues, her air, sea and shipping power will neither cover her gains nor hold them.

American production—and I can compare it with what I know Japan possesses—will in the end defeat Japan. Japan's bottlenecked and starved domestic industries will break under the colossal demands of her army and navy.

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