In probing the secrets of engine operation, the engineers showed a calibrated, high-pressure, combustion-chamber record of an aircraft engine running at 2,600 revolutions a minute.

Science News Letter, June 17, 1944

GEOGRAPHY

Road to Paris

The route from the center of the beachhead landings on the French coast to Paris passes through rolling country with many excellent roads.

➤ FROM the center of the beachhead landings along the 75-mile coast of the Baie de la Seine, it is approximately 150 miles to the city of Paris. The area between is known geologically as the Paris Basin. This extensive basin includes the valleys of the Seine, of the Somme to the north, and of the Loire to the south. Back from the low, level landing beaches the terrain of northern France consists principally of low rolling hills, well cultivated, with no elevations over 650 feet in height. Many excellent roads lead to the French capital.

An excellent mainline railroad also leads from the invasion area to Paris. It is a familiar line to many Americans who in prewar days landed from trans-Atlantic liners at the great port of Cherbourg on the tip of the Cotentin Peninsula and travelled from there to Paris. For some 50 miles or so it parallels the invasion coast from five to fifteen miles inland. Caen, the center of reported heavy early fighting between Nazi defenders and Allied paratroops, is on this line and about ten miles south of the center of the coast where the landings were made.

The river Seine which empties into the English Channel at Le Havre passes through Paris on its way to the sea. The distance is about 140 miles. The route to Paris from the invasion head follows the course of the river. The area between the invaded coast and the hub city of France contains many cities and towns and a large population.

The Allies in Normandy, once well established, will be admirably situated for inward drives in three directions. The central drive can follow the route directly eastward into Paris, to add that city to Rome in the list of liberated national capitals. The second could go directly southward to bottle up the German forces in the Brittany peninsula area. The third drive could turn to the northeast, paralleling the coast and passing through Rouen and Amiens. This route is behind the Nazi coastal inland fortification line, reported to be some ten miles back from the coast defenses themselves. It leads on to Belgium and to Germany itself.

The summer months normally provide the best weather for invasion activities in the northern French area. Until the middle of September there will be a season of little rain, clear skies, warm days and cool nights. Country dirt roads are passable, dry fields can be crossed by jeeps, trucks and tanks. The waters in the English Channel and in the strait of Dover are more quiet then than at other seasons.

Science News Letter, June 17, 1944

MEDICINE

"Black Gold" for Repairing Broken Bones Is Shown

➤ "BLACK GOLD" for repairing broken bones, torn nerves and broken skulls, soon to be available to civilian surgeons, was shown in various forms for surgical use at the meeting of the American Medical Association in Chicago.

"Black gold" is the nickname of the coal black ore, tantalite, from which the lustrous gray metal, tantalum, is derived. This metal is not irritating to living tissues, is ductile, malleable and resists corrosion.

It can be drawn into wire so fine the surgeon feels for it rather than sees it. In this form tantalum is used to repair nerves and to make surgical stitches where cosmetic results are important. Metal sheets so pliable they can be molded to fit the body's contours can be used to replace lost parts of the skull, ears, noses and other parts of the face.

One war veteran has a tantalum "belly wall," according to a report from the Johnson and Johnson Research Foundation which, through its subsidiary, the Ethicon Suture Laboratories, is sponsoring the exhibit.

Tantalum supplies are limited, so its use, except for research purposes, has heretofore been limited to the military services. It will soon be available to civilian surgeons through a War Production Board allocation, Dr. Gustav S. Mathey, president of the Johnson and Johnson Research Foundation, announced.

Science News Letter, June 17, 1944

SCIENCE NEWS LETTER

Vol. 45 JUNE 17, 1944 *No. 25*

The weekly Summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N St., N. W., Washington 6, D. C. NOrth 2255. Edited by WATSON DAVIS.

Subscriptions—$5.00 a year; two years, $8.00; 15 cents a copy. Back numbers more than six months old, if still available, 25 cents. Monthly Overseas Edition: By first class mail to members of the U. S. armed forces overseas, $1.25 a year. To others outside continental U. S. and Canada by first class mail where letter postage is 3 cents, $1.25; where letter postage is 5 cents, $1.50; by airmail, $1.00 plus 12 times the half-ounce airmail rate from U. S. to destination.

Entered as second class matter at the postoffice at Washington, D. C., under the Act of March 3, 1879. Established in mimeographed form March 18, 1922. Title registered as trademark, U. S. and Canadian Patent Offices. Indexed in Readers' Guide to Periodical Literature, Abridged Guide, and in the Engineering Index.

The New York Museum of Science and Industry has elected SCIENCE NEWS LETTER as its official publication to be received by its members.

Member Audit Bureau of Circulation, Advertising Representatives: Howland and Howland, Inc., 393 7th Ave., N.Y.C., PEnnsylvania 6-5566; and 360 N. Michigan Ave., Chicago, STAte 4439.

SCIENCE SERVICE

The Institution for the Popularization of Science organized 1921 as a non-profit corporation.

Board of Trustees—Nominated by the American Association for the Advancement of Science: Edwin G. Conklin, American Philosophical Society; Otis W. Caldwell, Boyce Thompson Institute for Plant Research; Henry B. Ward, University of Illinois. *Nominated by the National Academy of Sciences:* Harlow Shapley, Harvard College Observatory; Warren H. Lewis, Wistar Institute; R. A. Millikan, California Institute of Technology. *Nominated by the National Research Council:* C. G. Abbot, Secretary, Smithsonian Institution; Hugh S. Taylor, Princeton University; Ross G. Harrison, Yale University. *Nominated by the Journalistic Profession:* A. H. Kirchhofer, Buffalo Evening News; Neil H. Swanson, Executive Editor, Sun Papers; O. W. Riegel, Washington and Lee School of Journalism. *Nominated by the E. W. Scripps Estate:* Max B. Cook, Scripps Howard Newspapers; H. L. Smithton, Executive Agent of E. W. Scripps Trust; Frank R. Ford, Evansville Press.

Officers—President: Edwin G. Conklin. *Vice President and Chairman of Executive Committee:* Harlow Shapley. *Treasurer:* O. W. Riegel. *Secretary:* Watson Davis.

Staff—Director: Watson Davis. *Writers:* Frank Thone, Jane Stafford, Marjorie Van de Water, A. C. Monahan, Martha G. Morrow. *Science Clubs of America:* Joseph H. Kraus, Margaret E. Patterson. *Photography:* Fremont Davis. *Sales and Advertising:* Hallie Jenkins. *Business Manager:* Columbus S. Barber.