

Swiss and early Whittle turbojet designs, and the same French and British schemes using piston engines to drive the compressor.

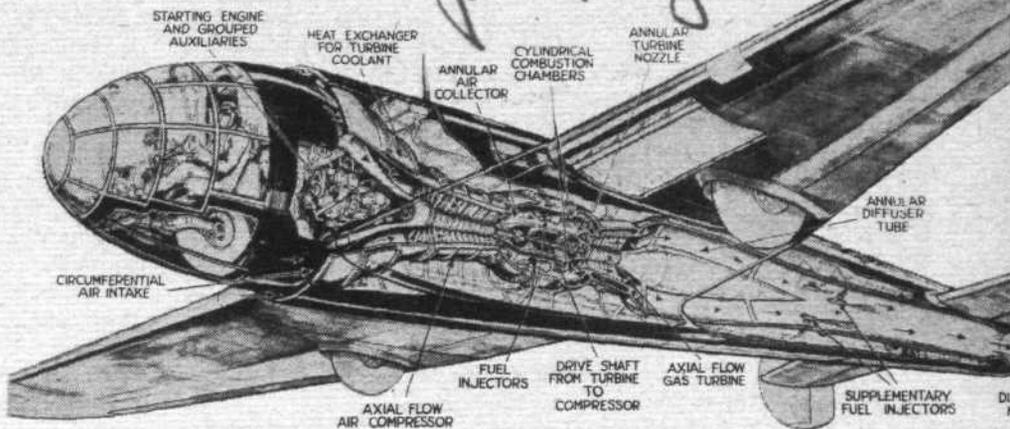
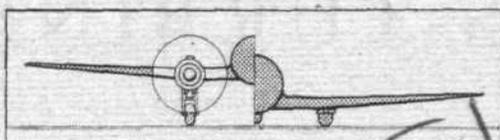
So far we had reported designs, patents, projects and discussions. It was considered essential to bring the subject into practical relationship with current affairs. On October 9th, 1941, we published twelve points (reprinted here) epitomizing the potential advantages of jet propulsion, and also a drawing of a hypothetical jet-propelled aircraft. This was deduced from our study of the subject and tempered by our knowledge of current *desiderata*. At that time we had no information as to British activities and, of course, had seen neither a power unit nor an aircraft. We may be pardoned for a little pride in that flight of fancy. We plumped for a "straight-flow" arrangement with axial compressor, a series of cylindrical combustion chambers, a multi-stage turbine and afterburning equipment. The unusually low build of the aircraft, made possible by the absence of an airscrew, was emphasized in the small inset diagram.

The interest aroused was out of the ordinary, and our post-bag was heavy with discussion and requests for further information. In response to this demand *Flight* published (in December, 1942) a book—*Gas Turbines and Jet Propulsion for Aircraft*—by G. Geoffrey Smith. This was the first on the subject in the world and the timeliness of its issue was immediately evident.

Throughout this informative campaign emphasis was given to the influence that the turbojet would exercise on aircraft design. Its reduced frontal area and slim contour would facilitate low-drag installation. The low weight and absence of vibration would permit lighter construction. The enhanced speed attainable would necessitate finer aerodynamic lines, absence of protuberances and better-finished skins. Particularly, it was suggested, the advent of the turbine would promote the development of high-speed tailless or even all-wing designs. This subject was featured on May 13th, 1943, and again on November 7th, 1946. An illustration from the last-mentioned article is here reproduced.

The first edition of the book *Gas Turbines and Jet Propulsion for Aircraft* was soon exhausted and an enlarged second edition was prepared early in 1943. It appeared in June of that year and was eagerly received. A second printing of this edition was ordered and was just coming off the press in January, 1944, when the existence of jet propulsion was proclaimed to a war-weary world. It will be recalled that a joint Anglo-American announcement on January 7th, 1944, revealed the adoption in Britain and America of jet-propelled fighter aircraft possessing phenomenally high speed capabilities.

Those were hectic days. The official disclosure was



This imaginative conception of a single-seater jet-propelled aircraft provoked tremendous interest when it was published. (October 9th, 1941).

sparsely worded and all requests to Ministerial sources for additional information were turned by the suggestion that enquirers could find all that was permitted in *Flight's* book. At our office we were besieged by Pressman from the London, provincial and overseas newspapers clamouring for "background" and demanding to know "how it works." By urgent invitation G. Geoffrey Smith gave a talk over the Canadian Broadcasting Corporation network the same day and a few days later for the Home and Overseas programmes of the British Broadcasting Corporation.

The latest printing of the book was rapidly exhausted and a third edition appeared in April, 1944. Sir Frank Whittle informed us that it was an invaluable time-saver to him. He maintained a stack, and anyone who worried him for "gen" on the subject was presented with a copy and told he would find the complete story between its covers.

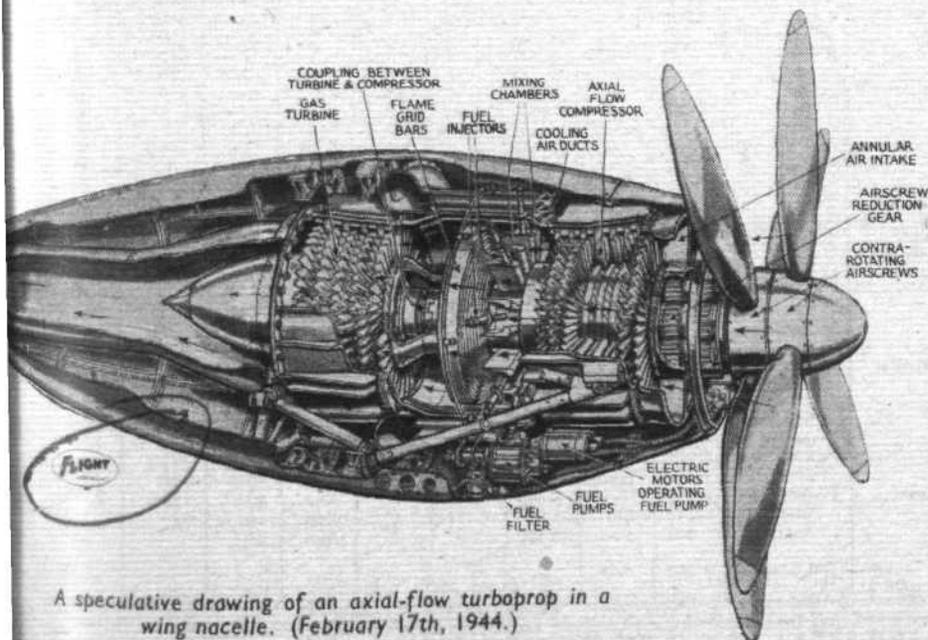
*Flight* continued to feature the gas turbine and on February 17th, 1944, discussed the prospects of the turbine-driven airscrew unit. For this article we essayed another imaginative drawing—this time of an axial-flow turbine mounted in a wing nacelle and driving counter-rotating airscrews. In due season all the ramifications of jet propulsion and turbine power units have been described and illustrated—pulsejets, ramjets, rockets, missiles, compounded units, ducted-and open-fan augmenters, and afterburners.

When the war ended, and the secrecy surrounding British activities was to some extent lifted, *Flight* was privileged to publish the first detailed description of the Rolls-Royce Derwent turbojet (October 25th, 1945), the de Havilland Goblin turbojet (November 1st, 1945) and the Lucas combustion- and fuel-control equipment (January 3rd and 10th, 1946).

It remains to add that the *Flight* book *Gas Turbines and Jet Propulsion* now appears, much enlarged, in its fifth edition. Its fame has spread abroad and there are now American, Dutch, French, Italian and Spanish editions.

Countless engineers, works executives, students, and flying and Services personnel received their introduction to the subject from this work. It has been adopted, both at home and abroad, as the standard text for a number of colleges and training establishments. In a message welcoming the fourth edition, in August, 1946, Sir Frank Whittle stated: "In recent months there has been ample evidence of intense interest in jet propulsion and the aircraft gas turbine. I have no doubt that much of this interest has been aroused by the earlier editions of this book."

F. C. S.



A speculative drawing of an axial-flow turboprop in a wing nacelle. (February 17th, 1944.)