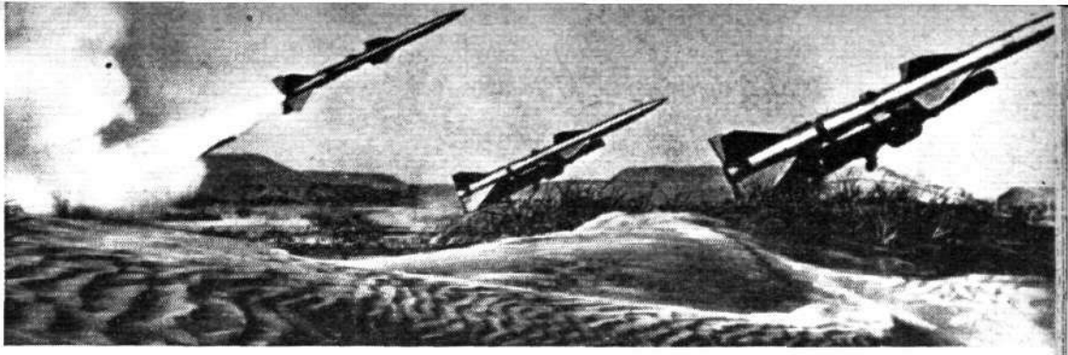

In this heavily retouched photograph the firing (at a relatively shallow angle) is recorded of a surface-to-air guided missile of the type now in service in at least eight countries. Even this ten-year-old weapon system is said to be capable of intercepting "any known military aircraft"

E With a length of some 69ft, this missile is some 4ft longer than its predecessor B, and differs considerably in structure, systems and performance. The skirt around the thrust chamber is flared out, the chamber itself is of a new design with improved vector control, the four fins are changed in shape and size, and long pipe and cable fairings have been added along the main tank section. Range has probably been doubled, to approximately 500 miles. This appears to have been the only long-range missile supplied to Cuba last year, despite the claim of the US Defense Department—repeated by President Kennedy—that Dr Castro's rockets had a range of "more than 1,000 nautical miles."

F This anti-aircraft missile was first seen in November 1960. Although transported in a manner reminiscent of that of the much earlier missile depicted in sketch L (the prime movers are identical), the aerodynamic configuration is entirely different and no tandem boost motor is fitted. This weapon has not yet been publicly identified outside the Soviet Union.

G This vehicle, based on the same Ford-derived chassis as that in illustrations C, F, H and L, carries rail launchers for 16 simple rockets. It was first seen in Poland in 1958.

H In this case 12 unfinned, and probably subsonic, projectiles form a type of super-mortar.

I The Red Army appears to have enormous quantities of tactical rockets carried on tracked chassis with good cross-country performance. This sketch illustrates the largest of these missiles, and the only pattern with an internal guidance system. The missile is about 35ft long, and is estimated to have a launch weight of 10,000lb and range of 50 miles. Before launch it is elevated to the vertical position, standing on the tubular base of its launcher-erector. The latter incorporates a ladder system and handrails, fabricated from welded tubes, which fit closely around the missile and provide access up both sides; when the missile is ready for vertical launching the ladder is folded down again independently. The chassis is one of the familiar JS heavy-tank series. The complete laden vehicle probably weighs about 38 tons, and its armour is nothing like as thick as that on the heavy tanks and s-p guns using the same chassis.

J In this case the chassis is amphibious, and is based upon that of the PT.76 light (15.4 ton) tank. The missile is a simple artillery rocket, probably spin-stabilized, some 25ft in length and weighing about 3,500lb. The projectile is aimed by steering the vehicle with its tracks, and range is governed by the elevation of the launching rail, a large hinged bipod bracing the launcher at an elevation of some 40°. The missile has a motor of approximately 30cm (12in) calibre, and the ultimate range is probably about eight miles.

K This missile is similar to that in sketch J, apart from the fact that it has a larger warhead. The weapons depicted in these two sketches were first seen in May 1961. Previously the same amphibious chassis was used to carry three earlier types of rocket, with larger (almost rectangular) fins, more-slender motors and bulging warheads reminiscent of the American Honest John. All these artillery rockets should be able to carry h-e, smoke, chemical and even sub-kiloton nuclear heads.

L Broadly speaking, this anti-aircraft rocket is a contemporary of the American Nike Ajax, although it probably has a fractionally better performance. It almost certainly has radio command guidance, the missile being steered by a cruciform of fins mounted behind, and indexed in line with, the wings. The tandem boost motor has four very large fins, two of which are provided with trailing-edge controls which appear to be mechanically linked with the main control ring on the missile to stabilize the initial flight up to booster burn-out. The weapon is approximately 25ft in length and probably has a slant range of some 25 miles. This weapon system has been manufactured in enormous quantities; in addition to the Soviet Union, it is operationally deployed in East Germany, Poland, Czechoslovakia, Hungary, Cuba, Indonesia and Iraq.

M Here a JS-type chassis is used to carry a single large unguided artillery rocket. Once again the motor has seven nozzles, the overall calibre being some 40cm (16in), and a variety of heads may be fitted all with a calibre of about 70cm (27.6in). The missile has six fixed fins and is spin-stabilized in flight. The initial spin is imparted by three sets of lugs, spaced at 120° immediately ahead of the fins, which are arranged to ride in "rifled" spirally arranged support rails which project inside the drum within which the missile rests.

Weapons of the Soviet Navy include a large number of what appear to be spin-stabilized rockets related to that illustrated in the upper photograph opposite. At the Leningrad Naval review on July 30, 1961, it was stated that "motor torpedo boats equipped with rockets capable of destroying large surface vessels . . . can accomplish any task in the most difficult meterological conditions." The smaller picture shows sealed tubes for similar missiles, mounted on a submarine for surface launching