

**N**ORTH VIETNAMESE doctors and officials report that the use of new and improved anti-personnel weapons has been a major characteristic of the escalated American bombing since April. They say that after trying out a dozen varieties of bombs and mines, U.S. planners have opted for two new bombs which represent a culmination of anti-personnel technology developed over the last decade.

The first is the Rockeye missile which, unlike any of its predecessors, is capable of penetrating underground shelters where most of the population takes refuge. Produced by the Honeywell Corp. of Minneapolis, the Rockeye is a 5-inch-long metal cylinder which contains a charge with a cone-shaped cavity. Upon impact it breaks into thousands of tiny slivers of hot steel which, traveling at high speeds, lodge deep in the body. Doctors in Hanoi say that wounds caused by Rockeye splinters are extremely difficult to diagnose—and frequently result in major infections that cause limbs to be amputated and stomach wounds to require major operations. Their contention that Rockeyes have frequently been dropped on populated areas is supported by Western journalists and diplomats in Hanoi.

The second is a plastic-coated fragmentation bomb, also produced by Honeywell. The bomb itself is a metal ball about 4 inches in diameter. Serrated inside, it breaks into roughly 350 pieces of jagged steel. Traveling at lower speeds than those of the Rockeye, these fragments lacerate the body more because of their larger size. Four large plastic fins attached to the metal shell also fragment on impact. North Vietnamese doctors are particularly concerned with these plastic fragments, claiming that they do not show up on an X-ray.

[The Pentagon insists that U.S. weapons do not produce injury-causing plastic fragments. One official wrote a Pennsylvania man: "The Department of Defense does not have in existence or in development any weapons that utilize plastic shrapnel. Several of the air munitions have plastic cases and plastic aerodynamic configurations but do not produce plastic shrapnel."]

# What Kinds of Do We Drop On Hanoi?

By Fred Branfman

*The writer, who visited Hanoi last month, is director of Project Air War, an anti-bombing organization based in Washington. His book, "Voices from the Plain of Jars," is based on his interviews with Laotian peasants from 1969 to 1971.*

High-flying aircraft drop these and other anti-personnel weapons in "mother bomb" canisters which contain several hundred bombs each. The Rockeye canister, for example, contains 247 bombs. A typical raid by four bombers will deliver nearly 1,000 Rockeyes, saturating an area about 40 yards wide and 1,000 yards long—about 10 football fields. Such a strike will also drop from 15 to 25 high explosive bombs, several rocket canisters filled with "fletchettes," or nails, and perhaps napalm or other incendiary bombs as well.

**T**HE USE of such bombs has sparked a good deal of controversy. The Pentagon admits using such "anti-personnel" weaponry, a term it devised to describe ordnance primarily designed to kill or maim human beings.

During hearings held before a Senate Armed Services subcommittee in November, 1970, for example, Sen. Barry Goldwater (R-Ariz.) asked an Air Force witness "how much damage" could be done by a small jagged mine called the Dragontooth. The witness, a Maj. Ander-

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# Weapons



By Ellsworth Davis—The Washington Post

*These are three anti-personnel weapons brought back from Hanoi: At top, three parts of a Rockeye missile; bottom, a plastic-covered fragmentation bomb; right, a pineapple bomb, no longer produced.*

son, replied: "It is purely anti-personnel. If a person steps on it, it could blow his foot off. If a truck rolls over it, it won't blow the tire."

Pentagon officials strenuously maintain, however, that anti-personnel weapons are used solely against military targets. Col. Zane Finkelstein, a legal adviser to the Joint Chiefs of Staff, wrote a senator on Oct. 25 that for anti-personnel ordnance, "one of its primary functions is the suppression of enemy anti-aircraft and missile sites firing on U.S. aircraft. These weapons will kill exposed personnel manning the sites . . ." The other main use of more recent anti-personnel bombs, he went on to say, is to cause material damage to the anti-aircraft sites.

Critics, however, charge that firsthand evidence indicates that anti-personnel bombs are causing numerous civilian casualties, and fail to distinguish adequately between combatants and non-combatants due to their wide dispersal pattern. They argue that the distinction between anti-aircraft sites and civilians is academic, since populated areas are usually those most heavily defended against air attacks.

Disputes also rage around the deployment of such anti-personnel mines as the Dragontooth and Gravel, a teabag-sized explosive camouflaged to look like a leaf. These mines have been dropped by the hundreds of thousands in the past six years as part of a "remote area denial" program designed to make selected regions of Indochina uninhabitable.

Military spokesmen like Col. Finkelstein state that such devices have solely been dropped in areas "used by the enemy which, by their very nature, contained few, if any, civilians." Critics maintain that they have been deployed throughout Communist-controlled portions of Indochina in which hundreds of thousands of non-combatants live.

Whatever the case, Pentagon spokesmen say that production of such mines has been stopped. The emphasis on the Rockeye and plastic-coated fragmentation bombs, moreover, has also seen the disappearance of some of the more exotically named anti-personnel bombs used in large numbers in years past.

**B**OTTLE AND butterfly bombs, for example, have gone out of

production. And pineapple and guava bombs, which are responsible for most anti-personnel wounds suffered by civilians over the last decade, are now being used only until present stocks are depleted.

The pineapple and guava bombs each contain several hundred steel pellets, which cause considerable damage as they weave a ziz-zag path through the body. Pellets from the pineapple, which was invented first, explode horizontally. The guava was seen as an improvement because its pellets explode diagonally, and thus can enter open shelters or trenches where people might be hiding. In each case, one aircraft sortie sends several hundred thousand pellets spewing out over an area the size of several football fields.

Not all former anti-personnel devices have been discontinued, however. In addition to the newly developed Rockeye and fragmentation bombs, heavy use is still being made of flechette-filled rockets and incendiary bombs.

Flechettes are small steel nails with protruding fins on one end, designed to enlarge the wound as they

enter the body. They are produced in three lengths ranging from 1 to 3 inches. Doctors report that flechettes peel off the outer tissue, shred internal organs, lodge in blood vessels deep in the body, and are more difficult to remove than any other anti-personnel device. Recently, a newer flechette with a bifurcated point was developed to increase internal damage.

Incendiary substances such as napalm and jellied napalm, phosphorus and thermite are often used for anti-personnel purposes. Normal napalm ignites over a large area, while jellied napalm has the advantage of greater adhesiveness. Phosphorus, unlike napalm, cannot be rubbed out or doused with water. It must burn itself out, which often means that it burns itself down to the bone, causing bone damage. Thermite burns at a higher temperature. All of these qualities were recently combined into a single napalm-phosphorus thermite (NPT) bomb, North Vietnamese officials say.



**A**RGUMENTS over the use of such weaponry do not seem likely to fade out. The most recent focus of controversy is the Honeywell Corp., which denies producing anti-personnel weaponry. Clergy and Laity Concerned and other peace groups have launched a nationwide campaign against the company, utilizing the demonstrations, sit-ins, stockholder protests successfully employed against Dow Chemical in years past.

Such confrontations seem inevitable, given the philosophical differences which seem to separate the military from its critics. Maj. Gen. Robert Ginsburg, the Air Force chief of public affairs, once responded to a description of these weapons by saying: "I just don't understand why people are so upset about anti-personnel bombs because they can't destroy a truck or bridge and only kill people. They are *anti-personnel* bombs. They are not *designed* to destroy structures or vehicles."

And Col. Finkelstein wrote in his letter that "anti-personnel weapons, as well as other types of weaponry, must continue to be used against the NVA/VC until American troops are safely withdrawn from Vietnam and a peaceful settlement is arranged through negotiations."