

MEDICINE

Jet Age Heart Damage

► **HEART DAMAGE** of a new type resulting from the jet and atomic age "will soon be encountered in civilian life," Lt. Col. Loren Parmley of Walter Reed Army Medical Center, Washington, forecasts.

His prediction is based on the kinds of heart damage military surgeons are now beginning to see, and which he reported to doctors gathered for a postgraduate course on heart disease held at the Armed Forces Institute of Pathology in Washington.

One case he describes was that of a pilot who bailed out of a jet at about 500 to 1,000 feet. When he hit the ground, he dug a hole 15 feet by 25 feet by 50 feet. It has been calculated that he weighed 20 tons when he hit.

Examination of the heart of another man killed in a jet air crash showed little spots that first were thought to be spots of blood on the surface of the heart. When the heart was cut for microscopic examination, the little spots were seen to be the points at which drops of mercury had been forced into the heart.

More familiar kinds of heart injury are those in which shell fragments pierce the heart. These are not always fatal, even when the injury is extensive. A "surprising number" of these patients carry the shell

fragments in their hearts without apparent difficulty.

Once a victim of penetrating heart injury survives the initial post-injury period long enough to reach medical care, his chances of survival are about 90% if it was a stab wound and 70% if it was a missile wound. These percentages may be revised upward as heart surgery continues to advance.

In industry and civil life, the heart injuries most often occurring are not the penetrating kind. Often the heart is damaged when there is no sign of injury to the chest. These, Col. Parmley warns, are frequently overlooked and are subject to great medicolegal controversy.

He lists the following six main forces of nonpenetrating heart injury as follows:

1. Direct force such as a blow to the chest.
2. Compression forces crushing the heart between the breastbone and the backbone.
3. Indirect forces, such as massive compression of the legs and belly.
4. Concussion of the heart.
5. Rapid deceleration such as that occurring in a long fall.
6. Blast.

Science News Letter, May 26, 1956

MEDICINE

Clue to Hidden Cancer

► **A POSSIBLE CLUE** to hidden cancer may be found in the vein inflammation called thrombophlebitis, Drs. Kenneth R. Woolling and Richard M. Shick of the Mayo Foundation and Clinic, Rochester, Minn., report.

Mild or severe pain, redness and swelling around the vein and sometimes generalized illness with nausea are among symptoms of thrombophlebitis. The condition used to be called milk leg when it followed childbirth. It also may develop after an operation or infection, particularly when the patient has been kept quiet in bed for a long time.

Its frequent association with cancer, particularly cancer of the pancreas, is well known to doctors. In the past, however, it has been reported as a complication of obvious or far-advanced cancer.

When it comes before other signs of cancer, it can be a valuable diagnostic clue, the Mayo physicians believe. They report 15 cases in which thrombophlebitis was what first brought the patient to the doctor. In some cases the cancer was diagnosed four days later, in some not until two to seven months had passed.

In three of the 15 patients, the cancers were in the pancreas. In others, the cancers had attacked variously the breast, ovaries, stomach, lung and prostrate gland.

When thrombophlebitis develops for no

apparent reason, especially in patients over 40 years of age, cancer should be suspected, Drs. Woolling and Shick advise. Although it may not be present, they think the patient should have a thorough and careful examination to rule out cancer. Their findings were reported at a recent staff meeting of the Mayo Clinic.

Science News Letter, May 26, 1956

CHEMISTRY

Rare Minerals Examined In Narrow Light Bands

► **RARE EARTH MINERALS** giving off glowing colors under special lamps will light the way toward such new developments as low cost portable X-ray machines, clearer optical lenses, and cheaper, stronger alloys.

An efficient method for studying the little-known minerals was described by two U. S. Geological Survey chemists at a meeting of the Geological Society of Washington.

The new process is a milestone in cheaper production of a compact, inexpensive portable X-ray, long the dream of military doctors.

The technique permits scientists to locate and examine such potentially valuable

minerals as thulium, monazite and lanthanum. Little is known about their possible uses because they are nearly always found embedded in other minerals. The old way of identifying them is difficult and costly.

The new process, developed by Harry Bastron and K. J. Murata, Geological Survey chemists, permits study of those minerals that absorb only a few wavelengths of light.

Rocks thought to contain the rare minerals are examined under a lamp emitting only two wavelengths of light. The minerals absorb one wavelength and reflect the other. For example, when the mineral monazite is examined under a mercury vapor lamp, it will appear green.

Chief component of the portable X-ray is radioactive thulium, until now difficult to separate and study.

Science News Letter, May 26, 1956

NUTRITION

Powdered Milk From Buffaloes

► **POWDERED BUFFALO MILK** is being produced commercially for the first time by a dairy in India, according to a report by UNESCO.

The plant, recently opened by India's Prime Minister Nehru, was equipped by UNICEF and is operated by the Kaira District Cooperative Union. When the plant reaches full production, it will provide India with 12,500 pounds of milk powder a day. Later it will produce sterilized cream, baby food and lactose.

Science News Letter, May 26, 1956

ENGINEERING

Rebuilt European Cities Ignore War Possibilities

► **IMPROVED CITIES** in Europe have grown up from the rubble of World War II, but few precautions against future war can be seen in European building.

These are the conclusions of Dr. Leo Grebler of Columbia University, who recently completed a tour of 28 cities in England, France, Germany, Italy and the Netherlands.

The new houses, Dr. Grebler says, have better plumbing, more light and better ventilation. Green areas and "open spaces" have replaced crowded areas, streets are arranged to reduce traffic congestion, and squares and plazas have been expanded.

Residential areas on the rim of cities are growing at a fast pace, Dr. Grebler says, but these suburban areas are devoted chiefly to apartment houses.

Dr. Grebler believes Europeans' lack of construction against future war may be caused by their resignation to the power of atomic weapons.

Dr. Grebler reports his findings in his recently published book, "Europe's Reborn Cities."

Science News Letter, May 26, 1956