

The moon reaches last quarter, when it does not rise until about eleven o'clock, on Sept. 13, and then the comet will still be nearly as bright as a week or two earlier.

In the glare of a large city, and with the smoke and dust usually surrounding such an area, it will probably not be possible to see the comet, at least not with the naked eye. However, if you use a pair of binoculars, and look carefully at the region indicated, you may be able to find it. And if you are able to get away from the city to a place where there

is a clear northern sky, the binoculars will also help you locate it. Then, having found it, you can probably pick it up without the glasses.

Van Gent's comet has a short tail, points upwards, since all comet tails point away from the sun. The tail consists of fine dust gases which are discharged from the nucleus as it approaches the sun. Because these weigh so little, they are actually pushed by the pressure of light from the sun, just as wind pushes the smoke from a locomotive as it moves along.

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The blast-concussion victim who is also wounded is in a relatively happy condition. No one takes him for a malingeringer. He is insured the rest that is essential for cure of concussion. For this reason, the worst effects of blast-concussion are in the unwounded.

The psychological effects of air raids on persons not exposed to blast also depends on physical and mental condition of the individual.

"An exhausted man, with his supply of blood sugar at fasting level or below it, reacts badly to fear of death or danger," the report states. "Anemia and anoxemia (lack of oxygen) lead to dependency, apathy and inertia on one hand and to mental confusion and uncontrolled behavior on the other. Toxemia lowers the whole resistance of the organism. With women, there is also the varying emotional effects of the menstrual cycle, lactation and the climacteric."

Normally, it is explained, fear influences the adrenal glands and prepares the body for "fight or flight." This is good for the soldier about to attack. But for the civilian under bombardment who can neither fight back nor flee, fortitude, endurance and self-control are needed.

He must endure the strain in one way or another. If his way is one of silence and inhibition, the price is anxiety. If he expresses his fear, the result is called hysteria.

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PSYCHOLOGY

# 'Shell-Shock' of First War Now Is 'Blast-Concussion'

## Caused by Exposure to Explosion, It Bears No Relation to Morale, Courage or Discipline

SHELL-SHOCK, so common in the World War of 1914-1918, is not mentioned in this World War. Somehow, the erroneous idea got around that shell-shock was the same as nervous breakdown from fear and resulted from moral weakness. The brave, the strong, the disciplined, were supposed to be immune to shell-shock.

But British psychologists tell us that it has not been possible to wipe out shell-shock by forbidding it a name or by assuming that it is immoral. The same symptoms occur. Now they are called "blast-concussion."

In the midst of the Blitz, English psychologists held a meeting in Nottingham, and were told by Dr. H. Crichton-Miller what air bombardment does to the civilian. The gist of what he said has recently reached the United States in a report to the journal *Nature* by Prof. R. J. Bartlett of King's College, London.

"The incalculable effect of blast on

plate-glass windows is a commonplace," the report states. "It is reasonable to suppose that similar effects of compression and suction on elastic abdominal walls displace the fluids of the body with extreme violence to and from the skull-contained brain. The strain thus imposed upon the delicate structure of the central nervous system is severe and in fatal cases punctate hemorrhages are found, post mortem, not only in the meninges but also throughout the brain substance.

"Blast-concussion, in varying degrees of severity, is to be expected after exposure to an explosion. It bears no relation to morale, courage, discipline or any other ethical virtue."

The effect of the shock, it is pointed out, will differ, however, according to the mental and physical condition of the victim. Individuals suffering from acute anxiety will be affected differently from those knocked out instantly with no time to be frightened.

CHEMISTRY

## Tubal-Cain Acclaimed As Pioneer Chemist

TUBAL-CAIN, described in the Bible as "instructor of every artificer of brass and iron," should be honored as the first chemist of record, the American Chemical Society has been advised by Dr. John T. Chappel of New John Fletcher College, University Park, Iowa.

The amount of chemistry in the Bible surprises Dr. Chappel. Seven metals are mentioned: gold, silver, copper (called brass), iron, steel, lead, and tin. Dyes of blue, purple, scarlet, crimson, vermilion, red, sorrel, and black are referred to. Sulfur and the art of tanning were known. The Israelites made bricks and mortar, used lime and plaster in building. Other objects, which, according to Dr. Chappel must have involved some chemistry, are incense, oil for light, anointing oil, wax, salt, soap, ink, wine, and vinegar.

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