

THE ILLUSTRATED STORY OF THE ATOM BOMB

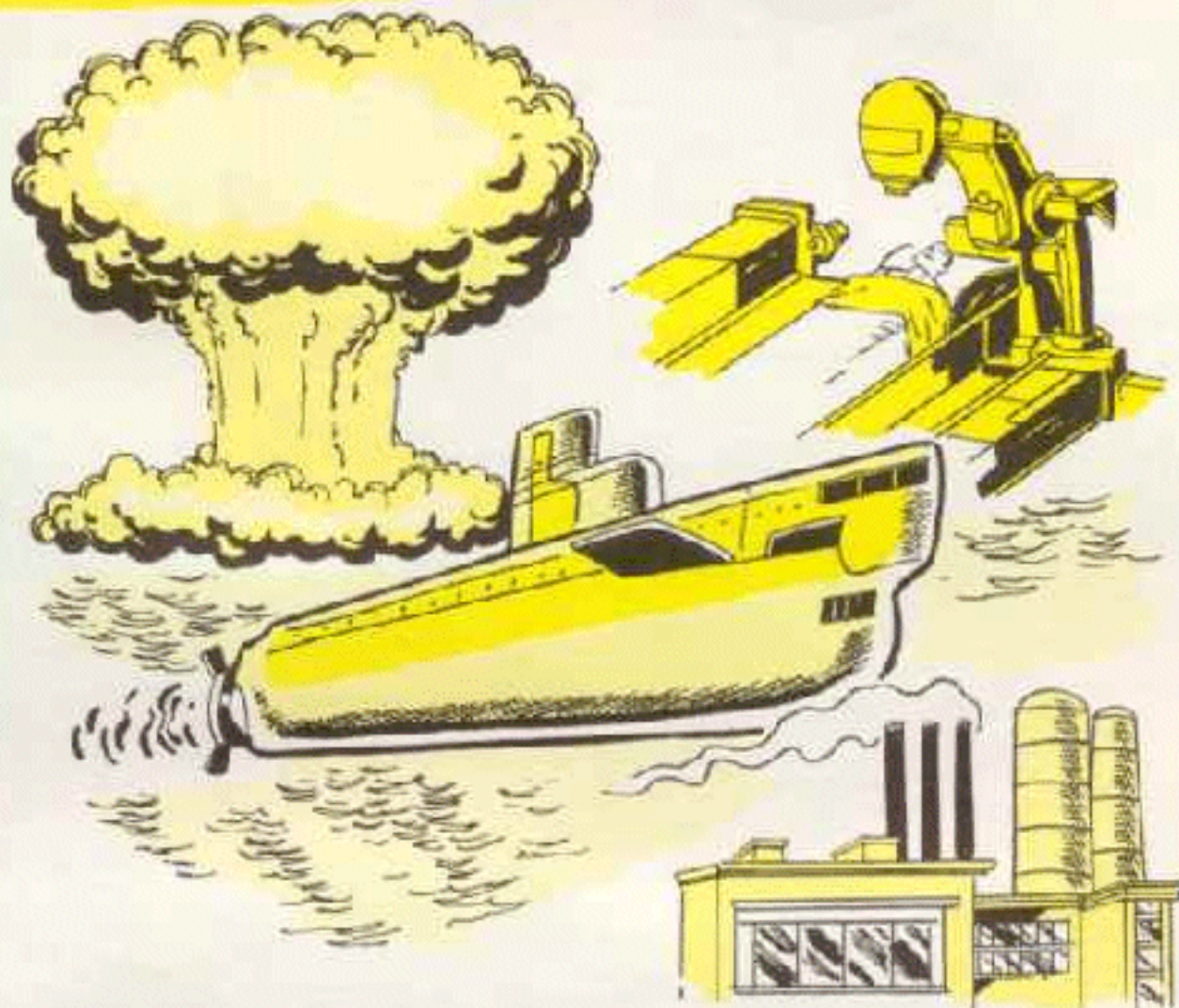


THE ATOM -FRIEND OR FOE?

Within the tiny atom lies a tremendous power. This power first entered the modern world as a means of destruction, unleashing a terrible fury on countless thousands.

But like any great force, the atom can also be used to serve man. Atomic power plants provide clean, dependable energy. Nuclear-powered submarines glide beneath the North Pole. Numerous lives are saved by radiation treatment. And radio-isotopes analyze soil, plants, and animals to help increase food production around the world.

How did we first harness this amazing power? Let's go back in time to find out...



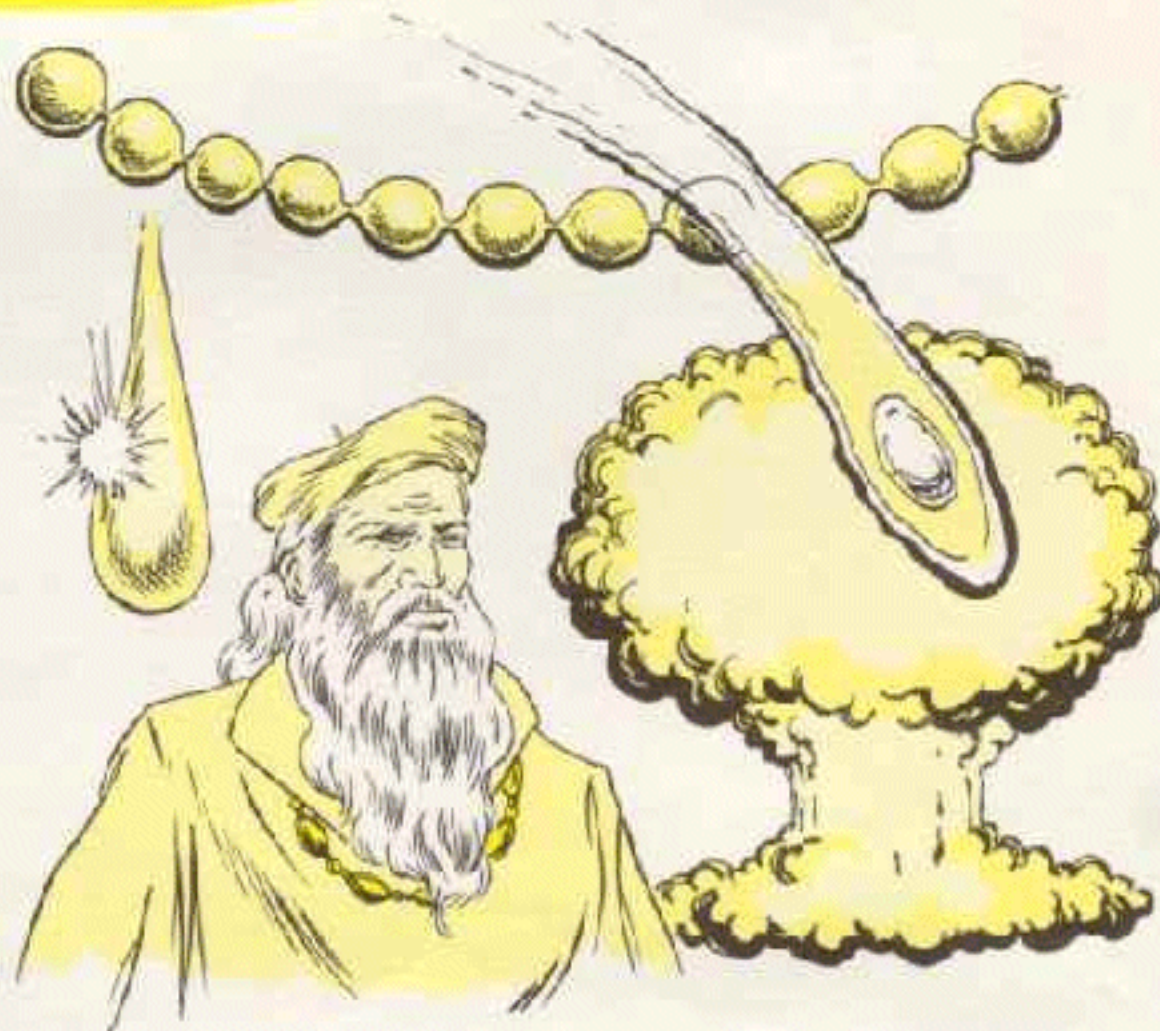
ATOMIC FACTS: *Stranger Than Fiction!*

-If you wanted to make a necklace of atoms 25 inches long, and strung them together at the rate of one atom per second, it would take over 200 years to complete the strand.

-A drop of water contains 6,000,000,000,000,000,000 atoms.

-There are 25,000,000,000,000,000,000 atoms in a breath of air.

-Atoms travel all around the world and even through outer space. With each breath you inhale atoms that were once a part of great men such as Leonardo da Vinci, celestial objects such as Halley's Comet, and nuclear explosions such as the Trinity Test.



THE YEAR IS 1939. THE FREE WORLD WATCHES WITH GROWING ALARM AS THE SHADOW OF NAZI GERMANY SPREADS ACROSS EUROPE, LED BY THE MAN WHO WILL ONE DAY BE KNOWN AS HISTORY'S GREATEST VILLAIN.



IN JANUARY, THE GREAT DANISH PHYSICIST NIELS BOHR COMES TO WASHINGTON, D.C.



IF HITLER BUILDS AN ATOM BOMB, NOTHING WILL STOP HIM!

THE WORLD WILL BE PLUNGED INTO A THOUSAND YEARS OF DARKNESS!




WE MUST BE THE FIRST!



THE SCIENTISTS DRAFT AN URGENT LETTER TO THE PRESIDENT.

WE'RE UNKNOWN IMMIGRANTS! ROOSEVELT WILL NEVER LISTEN TO US!

WILL YOU SIGN OUR LETTER?



Albert Einstein



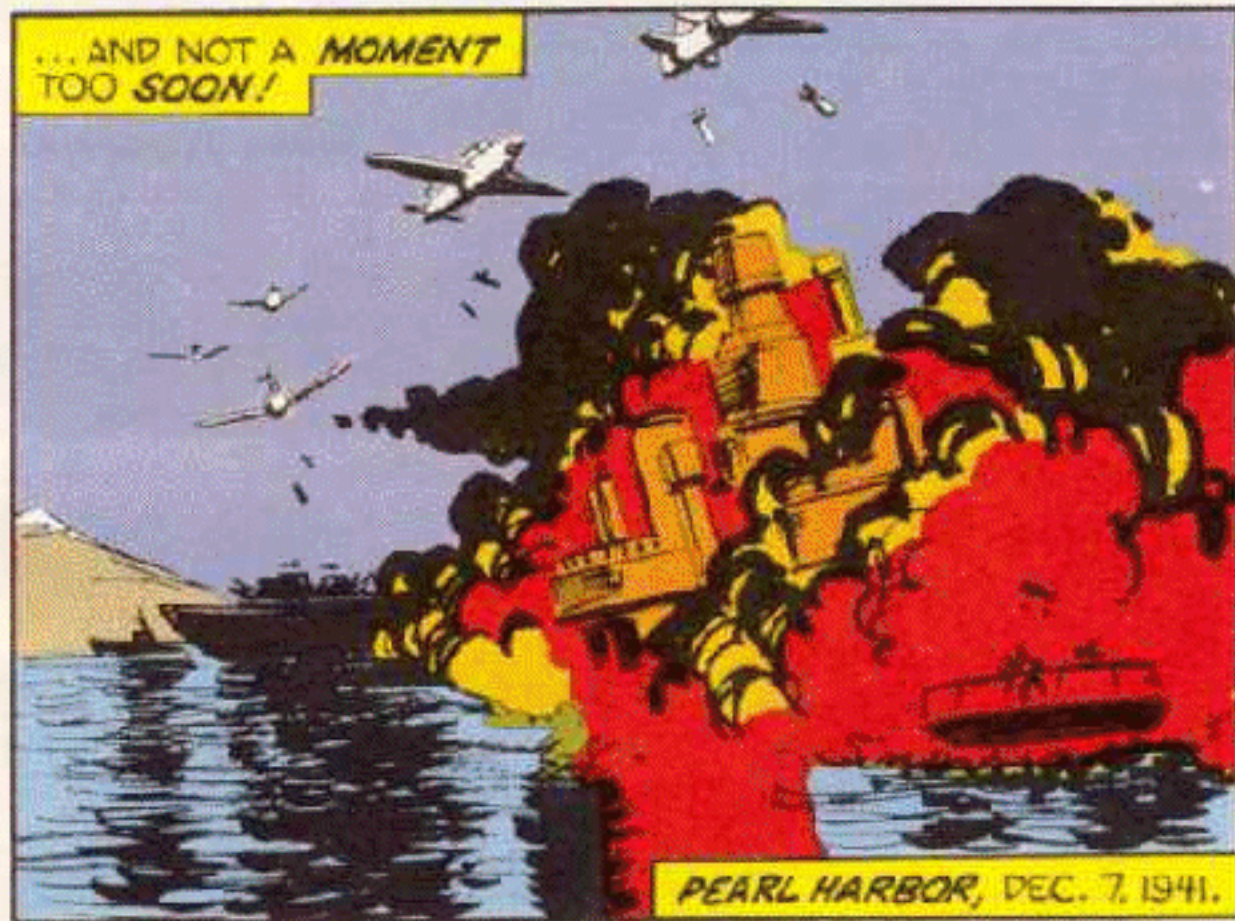
PRESIDENT ROOSEVELT DECIDES TO TAKE IMMEDIATE STEPS...

THIS REQUIRES ACTION!



...AND NOT A MOMENT TOO SOON!

PEARL HARBOR, DEC. 7, 1941.



THE ARMY APPOINTS COLONEL LESLIE R. GROVES, THE MAN WHO BUILT THE PENTAGON, TO HEAD THE ATOM BOMB PROJECT.

IF YOU DO THE JOB RIGHT, IT CAN WIN THE WAR!

WE'LL MAKE YOU A BRIGADIER GENERAL!



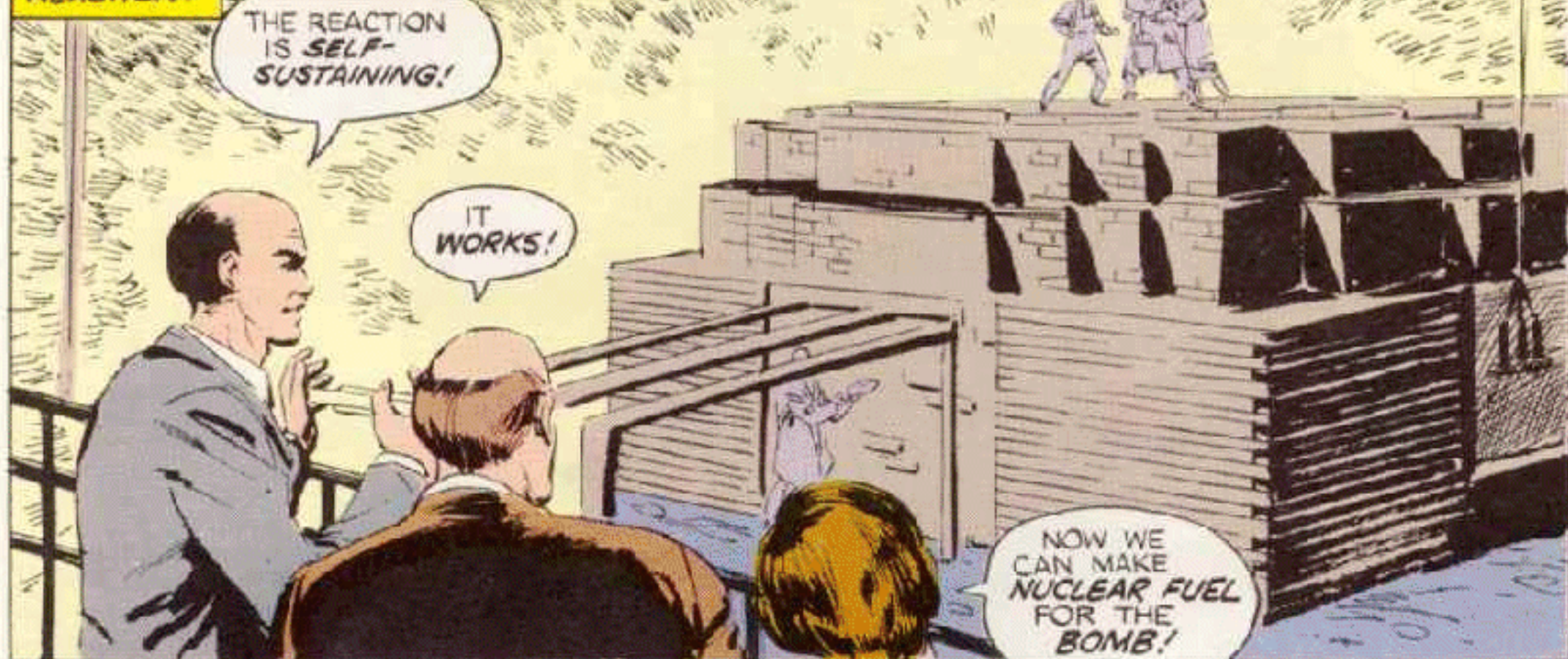
IT'S MY PATRIOTIC DUTY!

I ACCEPT!

TOP SECRET
MANHATTAN PROJECT



ON DECEMBER 2, 1942, SCIENTISTS AT THE UNIVERSITY OF CHICAGO, LED BY ENRICO FERMI, PRODUCE THE WORLD'S FIRST ATOMIC CHAIN REACTION.



A SECRET LABORATORY IS SET UP IN THE MOUNTAINS OF NEW MEXICO TO DESIGN AND BUILD THE NEW WEAPON.



DR. J. ROBERT OPPENHEIMER BECOMES DIRECTOR OF LOS ALAMOS.



OPPENHEIMER AND HIS FELLOW SCIENTISTS WORK LONG AND HARD TO MAKE THE **ATOM BOMB** A REALITY.

PLUTONIUM WILL MAKE A **BIGGER** EXPLOSION!

IT'LL NEVER WORK! LET'S STICK WITH URANIUM!

THERE'S NO TIME TO ARGUE! TRY BOTH!

$$E=mc^2$$
$$t_2 = t_1 \sqrt{1 - \frac{v^2}{c^2}}$$



OPPIE, DID YOU **HEAR** THE NEWS?

NOT NOW, KITTY! WE'RE SO CLOSE!

IT'S **WEDNESDAY** FALLS FIVE DAY

AFTER TWO YEARS, THE BOMB IS ALMOST READY.

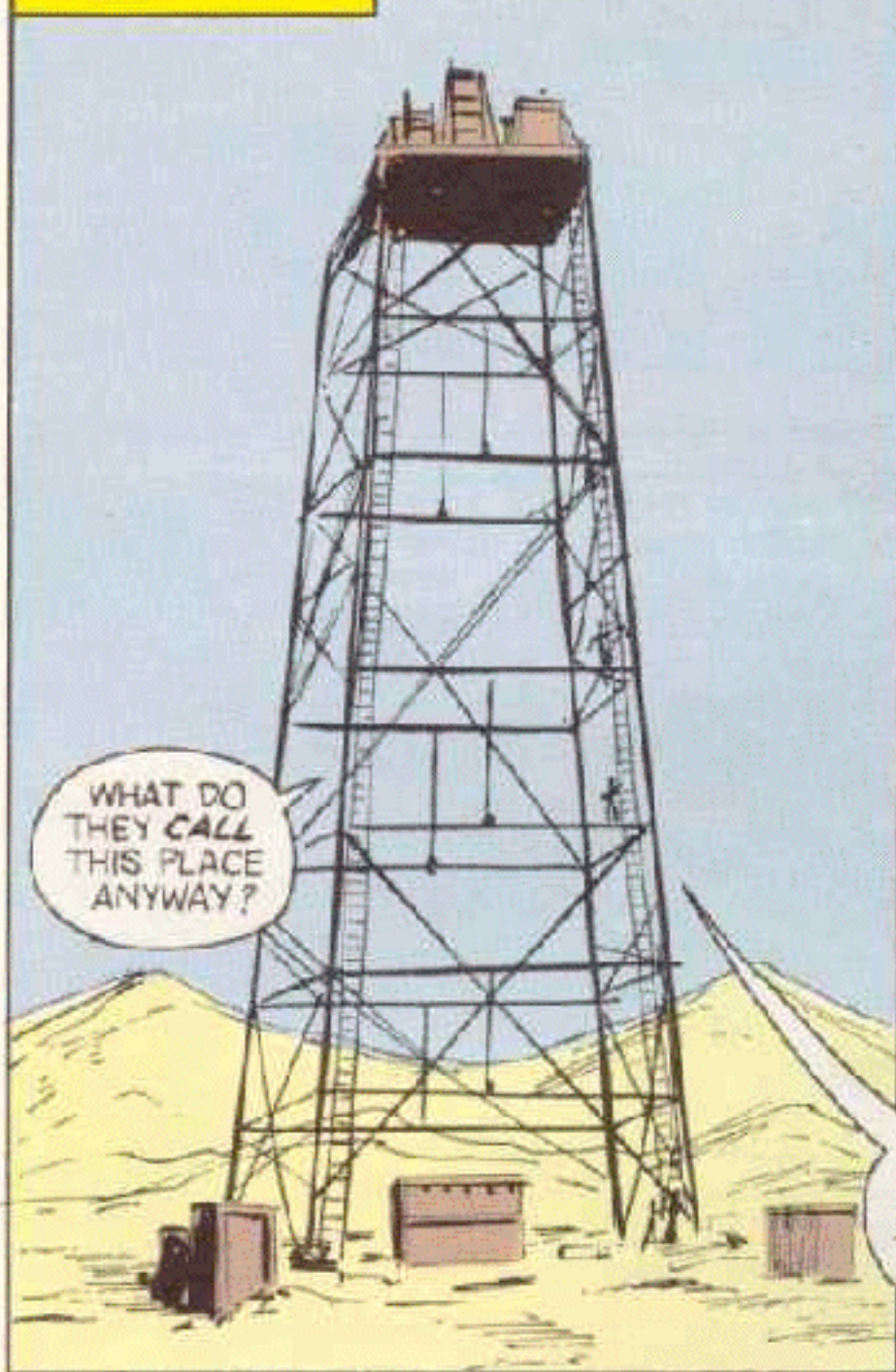
HERE'S AN ISOLATED PLACE, BUT WE STILL NEED A **CODE-NAME** FOR THE TEST.



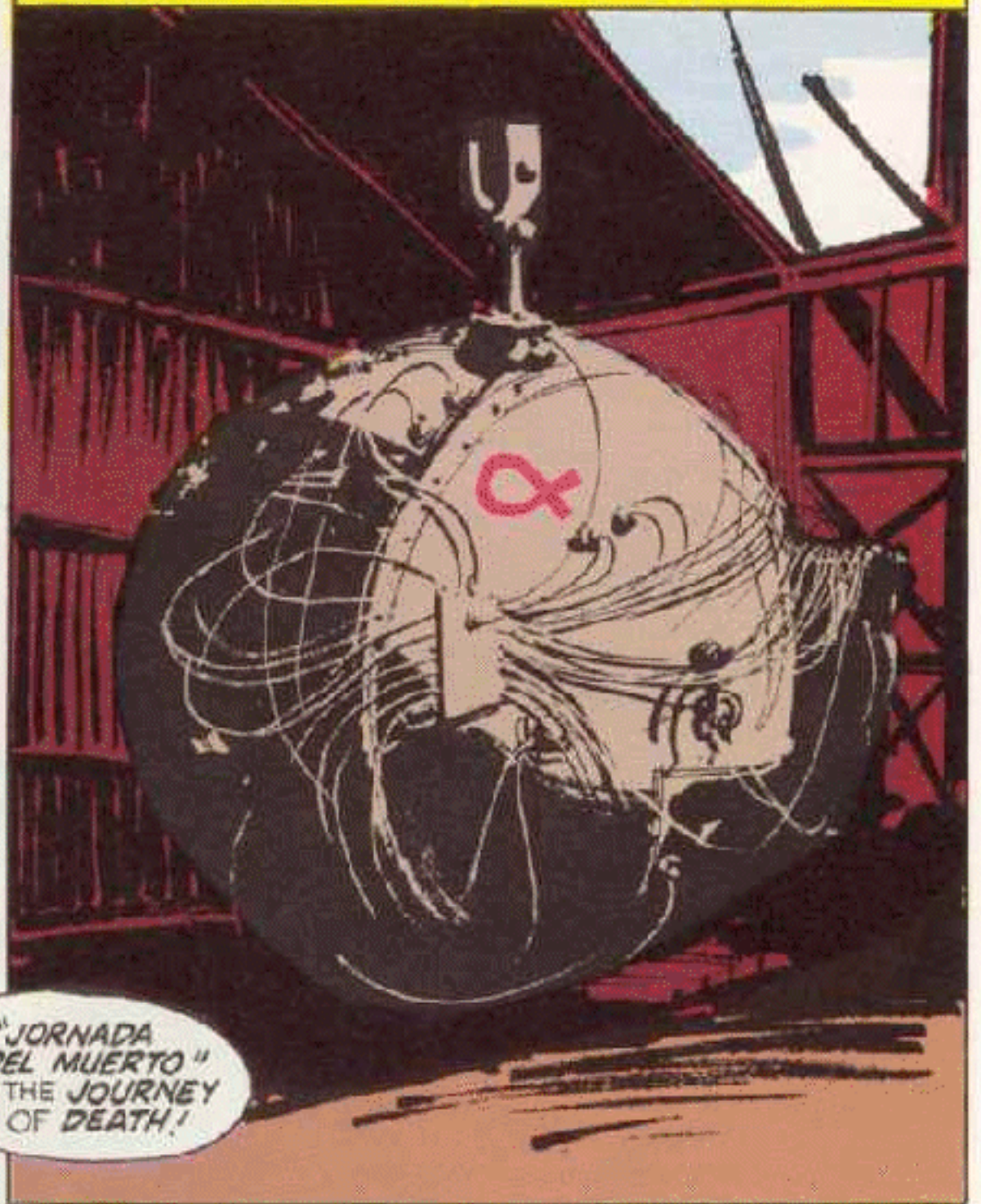
LET'S CALL IT...

...TRINITY!

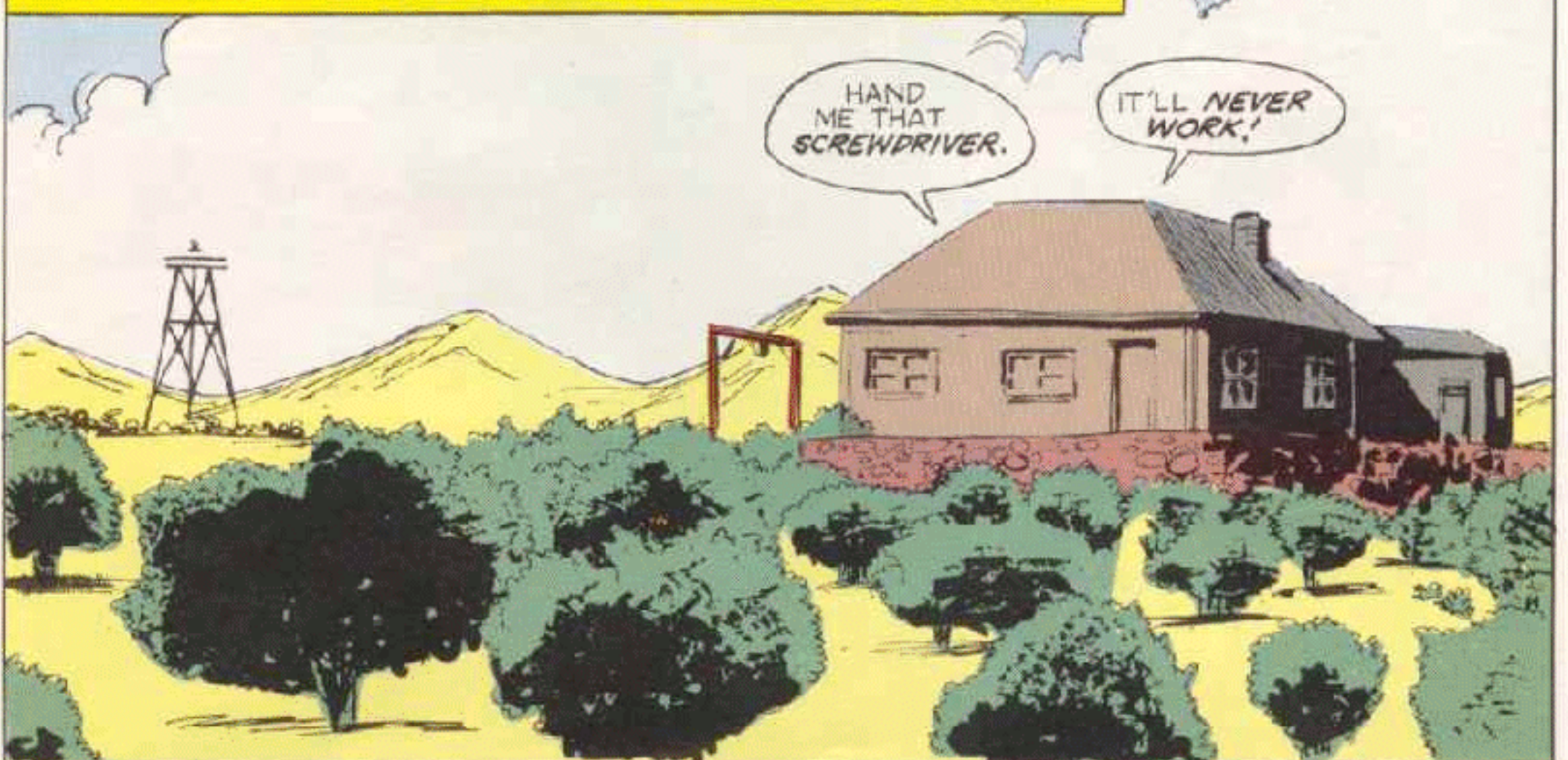
A 100-FOOT STEEL TOWER IS ERECTED IN THE NEW MEXICO DESERT, MILES FROM THE NEAREST TOWN.



THE "GADGET" IS IN A SHACK AT THE TOP OF THE TOWER.



FINAL ASSEMBLY TAKES PLACE IN A DESERTED RANCH HOUSE NEARBY.



IN THE PRE-DAWN HOURS OF JULY 16, 1945, V.I.P.S FROM ALL OVER THE COUNTRY GATHER ON A HILLSIDE TWENTY MILES FROM THE TOWER.

THIS *SUNTAN* LOTION WILL PROTECT US FROM *ATOMIC RAYS*!

I MUST BE ALERT. THE *RUSSIANS* WILL WANT A *DETAILED ACCOUNT*.



KEY PERSONNEL HIDE IN AN UNDERGROUND BUNKER, ONLY FIVE MILES SOUTH OF "GROUND ZERO."

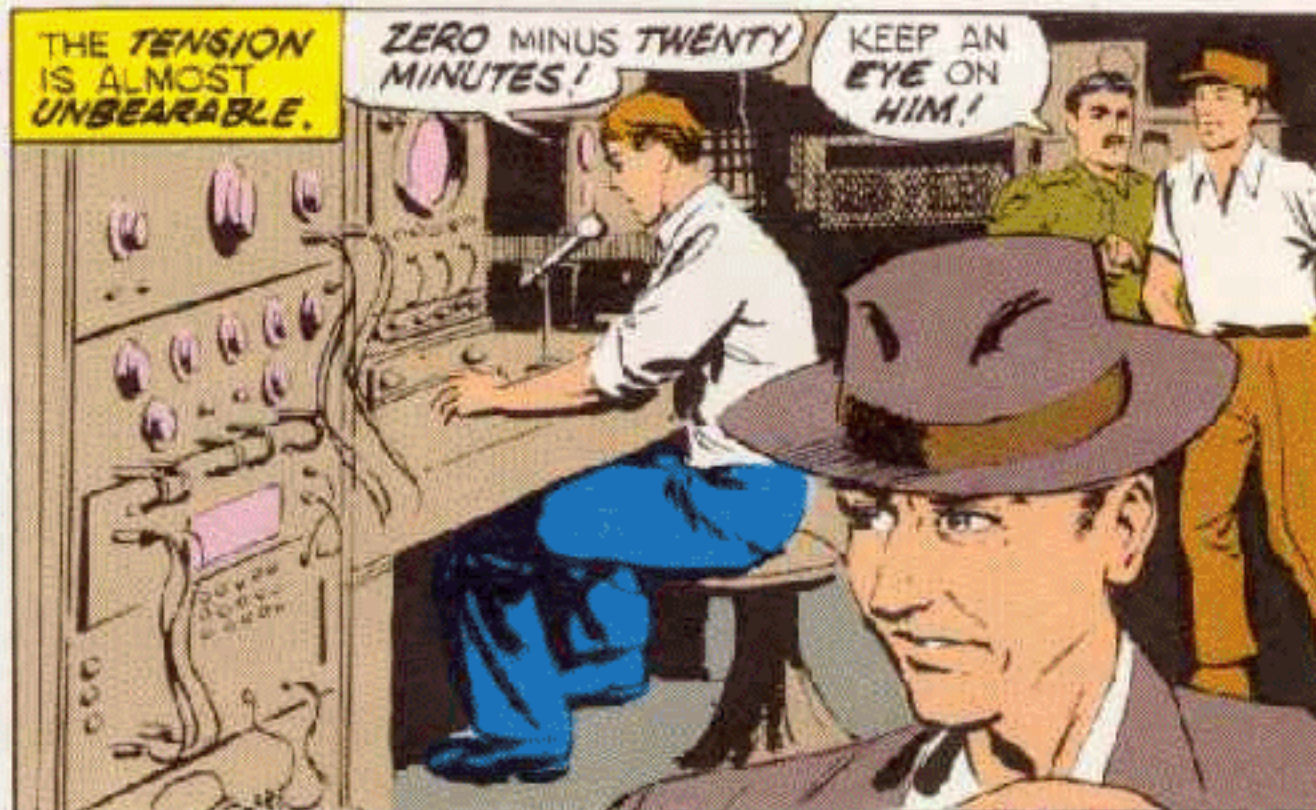
KEEP THOSE JEEPS *RUNNING*! IF THE ATMOSPHERE CATCHES FIRE, WE'LL HAVE TO GET OUT OF HERE *FAST*!



THE *TENSION* IS ALMOST *UNBEARABLE*.

ZERO MINUS TWENTY MINUTES!

KEEP AN EYE ON HIM!



FOUR...

THREE...

TWO...

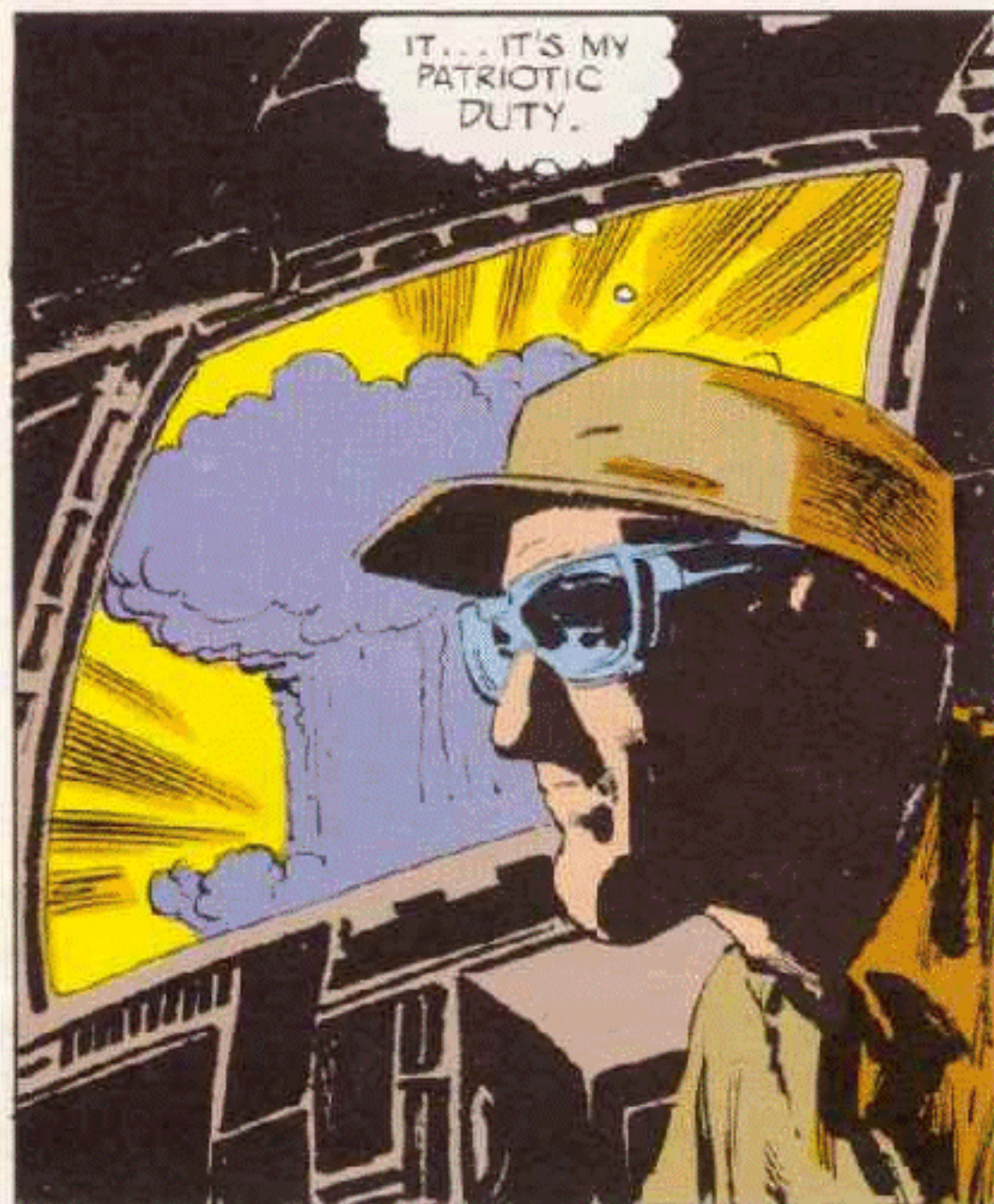
ONE...



ZERO!!



ON AUGUST 6, 1945, AN AMERICAN B-29 BOMBER EXACTS A TERRIBLE VENGEANCE ON THE CITY OF HIROSHIMA.



NAGASAKI MEETS THE SAME FATE THREE DAYS LATER.



IT IS A HARNESSING OF THE BASIC POWER OF THE UNIVERSE!

TRUMAN ADDRESSES THE WORLD AFTER V-J DAY



BUT THE AMERICAN MONOPOLY ON A-BOMBS IS *SHORT-LIVED*.

READY TO
TEST,
COMRADE!

OUR SPIES
DID THEIR
JOB WELL!

ЭТО НИКОГДА
НЕ ВЫЙДЕТ!

"IT'LL
NEVER WORK."

AMERICA IS SHOCKED BY THE NEWS.

THE WORLD WILL
BE *PLUNGED* INTO A
THOUSAND YEARS
OF DARKNESS!

OUR NATIONAL
SECURITY IS IN
JEOPARDY!

DAILY HORROR
REDS EXPLODE
A-BOMB

BUT DR. EDWARD TELLER IS A MAN
WITH A *VISION*.

IF WE FIND A WAY TO *FUSE*
HYDROGEN, WE CAN BUILD
A *SUPER-BOMB*!

$$E=mc^2$$
$$t_2=t_1\sqrt{1-\frac{v^2}{c^2}}$$
$$2_1H^1+2_0n^1\rightarrow$$
$$2He^4$$

IMPOSSIBLE!

IT WOULD
REQUIRE A
TEMPERATURE
OF MILLIONS
OF DEGREES.

I CAN *PROVIDE*
SUCH TEMPERA-
TURES!

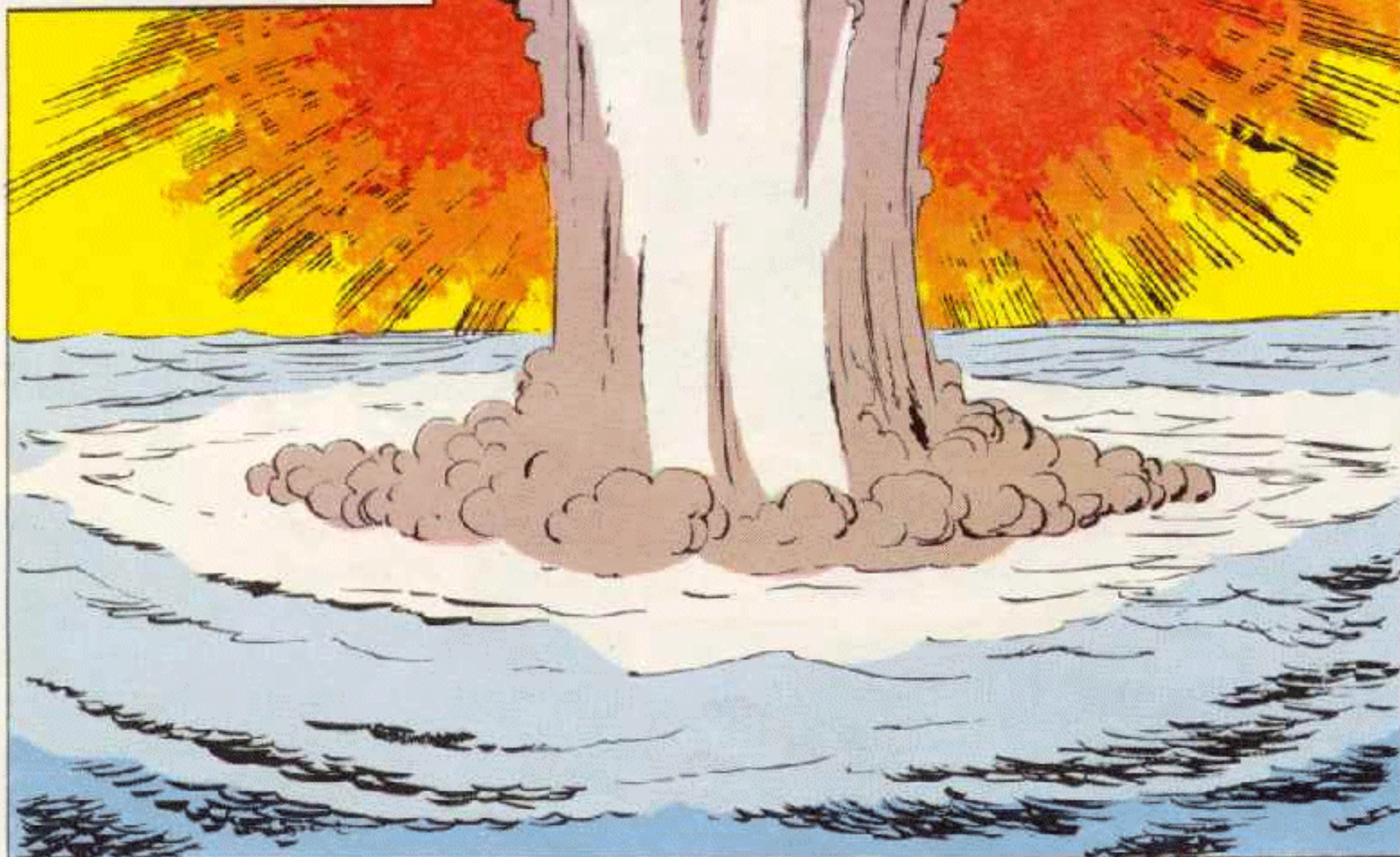


NOVEMBER 1, 1952. ON A
REMOTE ISLAND IN THE
SOUTH PACIFIC...

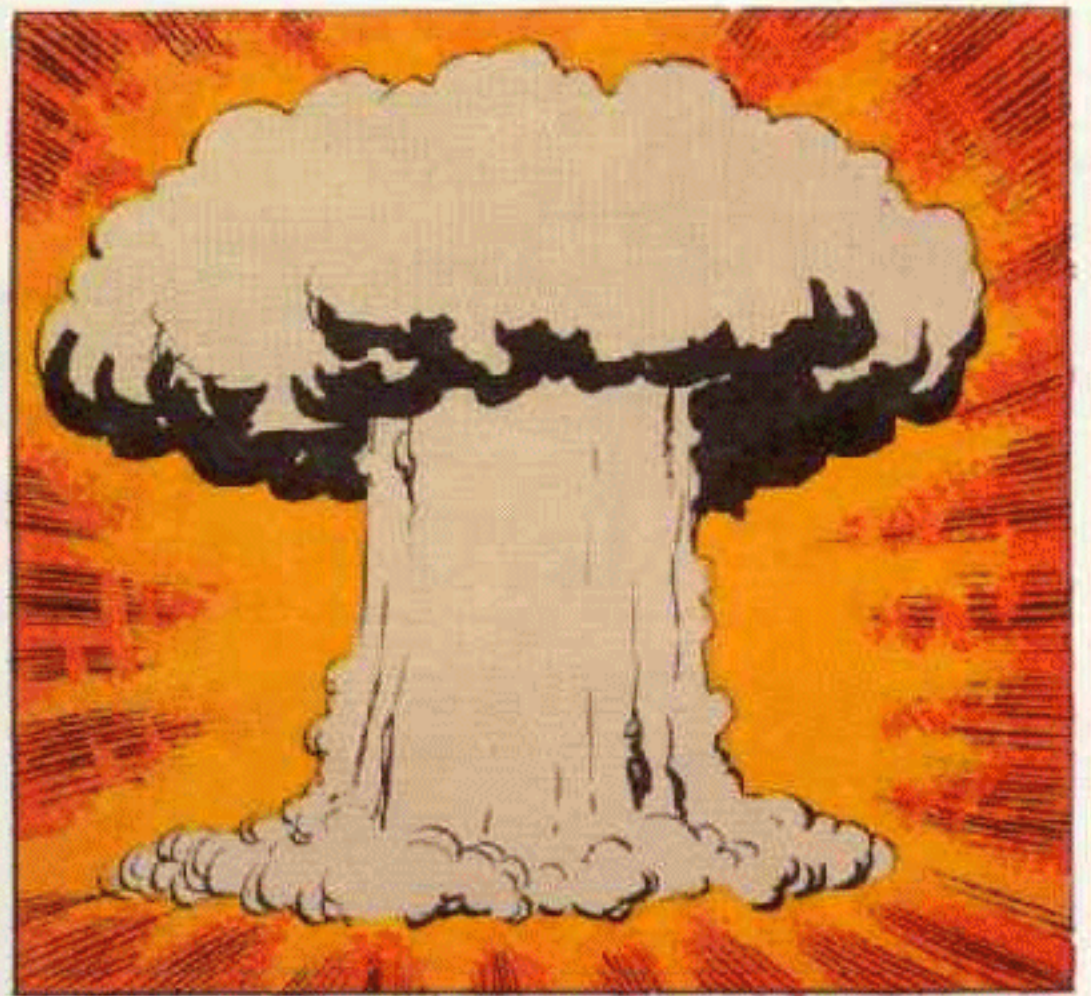
IT'S ALL
SET TO
GO!

LET'S GET
OUT OF
HERE!

IT'LL
NEVER
WORK!



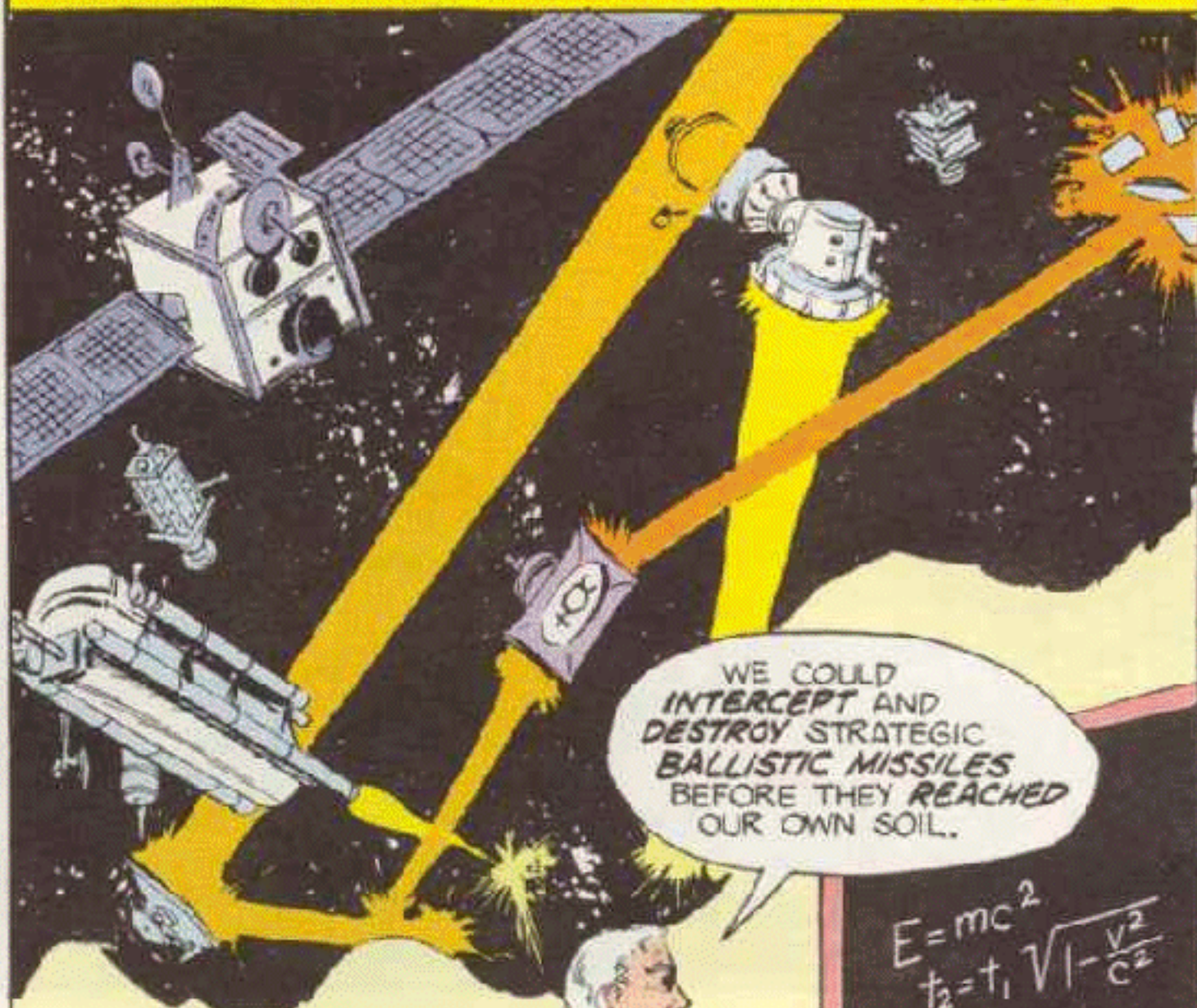
...TELLER'S H-BOMB IS BORN.



TODAY, UNDERGROUND TESTS
HELP US TO BUILD MORE AND
BETTER NUCLEAR WEAPONS.



OUR SCIENTIFIC KNOW-HOW HELPS US TO DEFEND THE FREE WORLD
BEHIND AN ORBITING "UMBRELLA" OF HIGH TECHNOLOGY.



WE COULD
INTERCEPT AND
DESTROY STRATEGIC
BALLISTIC MISSILES
BEFORE THEY REACHED
OUR OWN SOIL.

$$E=mc^2$$
$$t_2=t_1\sqrt{1-\frac{v^2}{c^2}}$$

"WE COULD INTERCEPT
AND DESTROY STRATEGIC
BALLISTIC MISSILES
BEFORE THEY REACHED
OUR OWN SOIL."

IT'LL NEVER
WORK!

NOW THAT AMERICA'S NEW *SPACE DEFENSE SYSTEM* IS IN PLACE, THE ENTIRE PLANET IS *SAFE* FROM THE *THREAT* OF *ATOMIC WAR*.



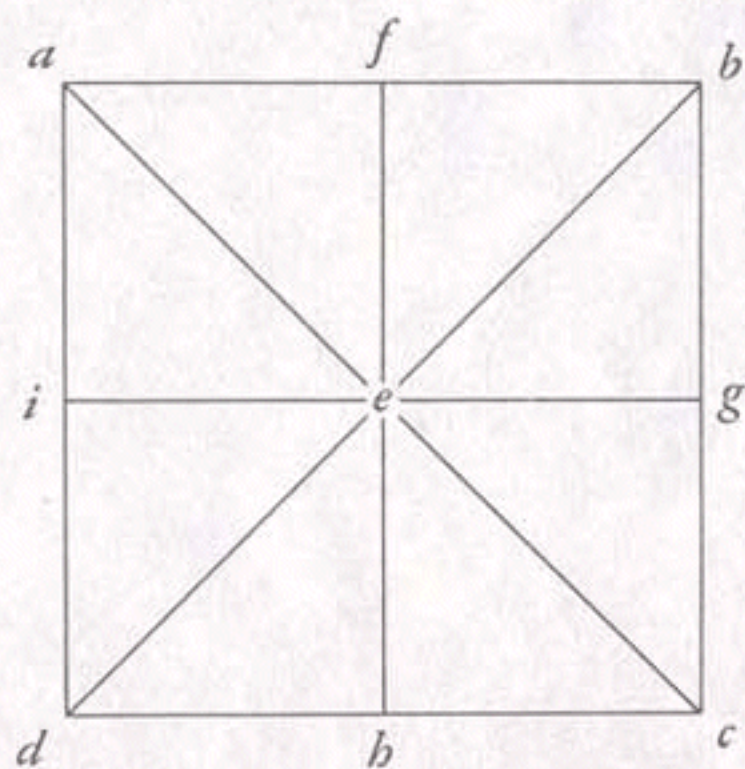
OUR CHILDREN CAN LIVE *SECURE* IN THE KNOWLEDGE THAT THESE *THOUSANDS* AND *THOUSANDS* OF *OBSOLETE MISSILES*, BUILT IN THE OLD DAYS OF *MUTUAL FEAR* AND *DISTRUST*, WILL NEVER NEED TO BE USED!



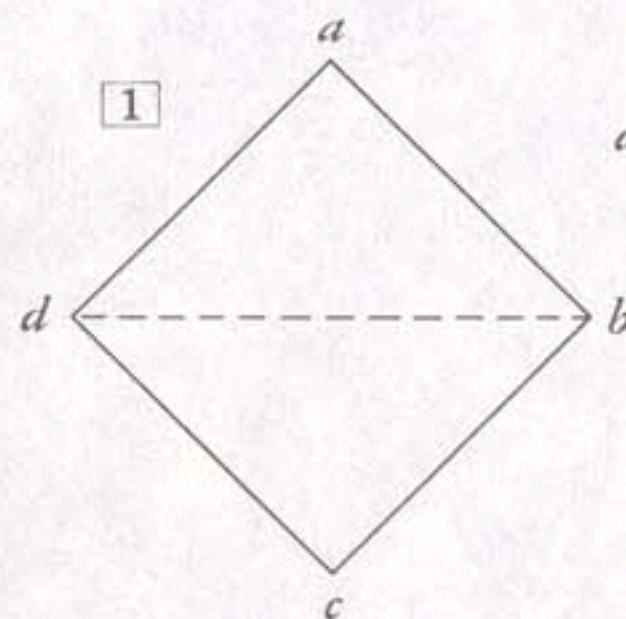
CRANE

鶴

Start with a square piece of paper. Results are best if you use thin paper at least 9" square. Pre-fold paper as shown. These creases will be used as guidelines.



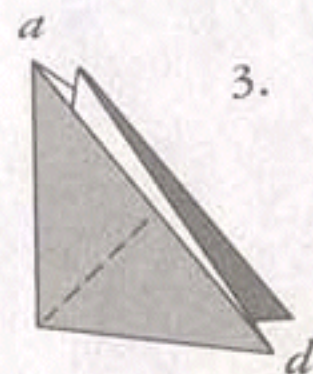
1. Fold *c* to *a*.



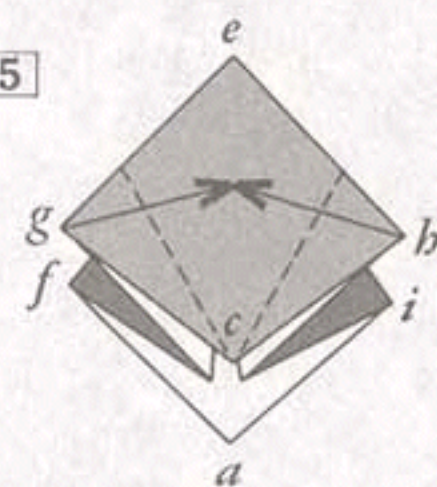
2. Fold *d* to *b*.



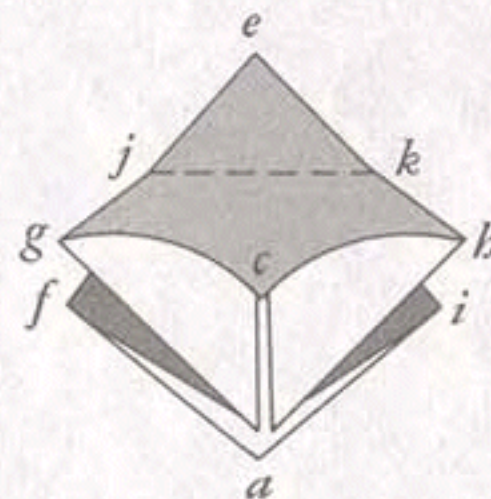
3. Fold *d* to *a*.



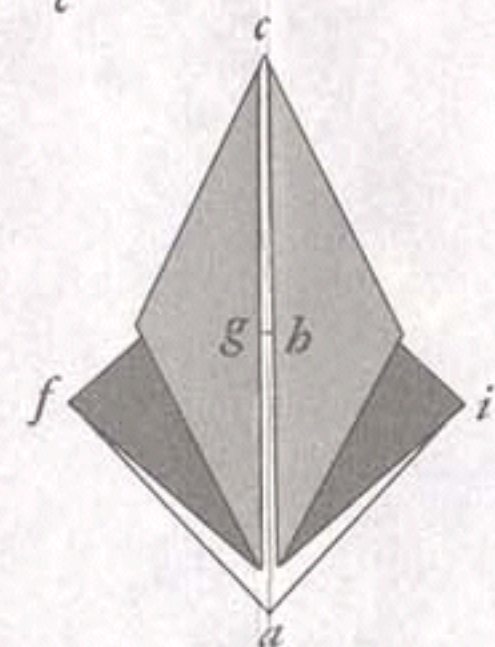
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5. Turn open end down. Fold *g* and *b* in along dotted lines. Reopen.

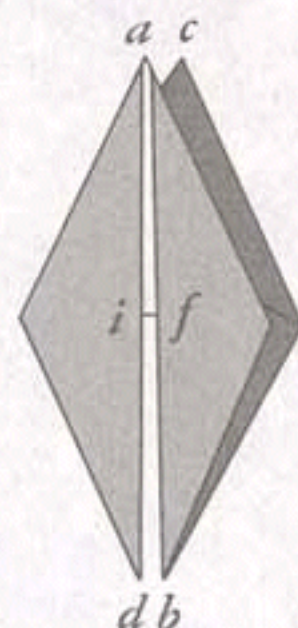


Lift *c* halfway up. Fold down forming crease between *j* and *k*. Lift *c* up and over *e*, then down.



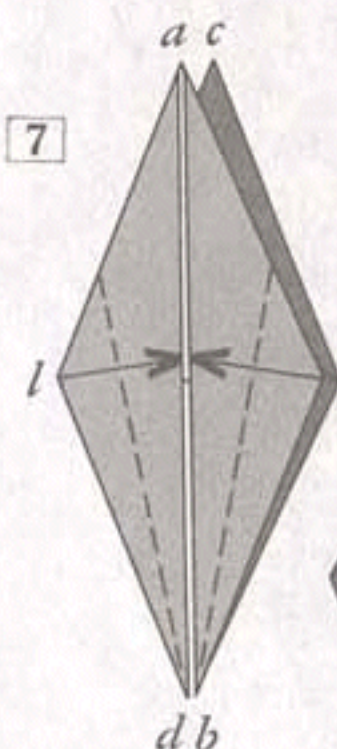
Bring side flaps in by folding down so that *g* meets *b*.

6. Turn over and repeat.



6

7



7. Fold *l* and *m* top layers in. (Same as first folds in step 5)

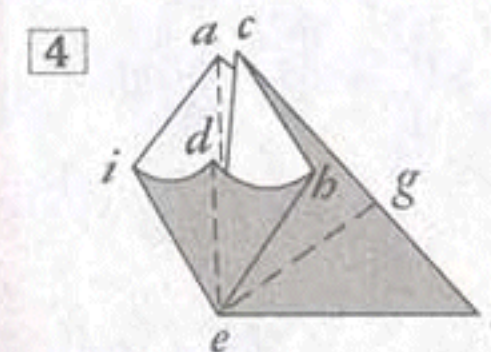


8. Turn over and repeat.

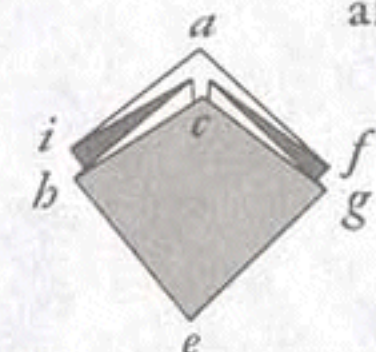


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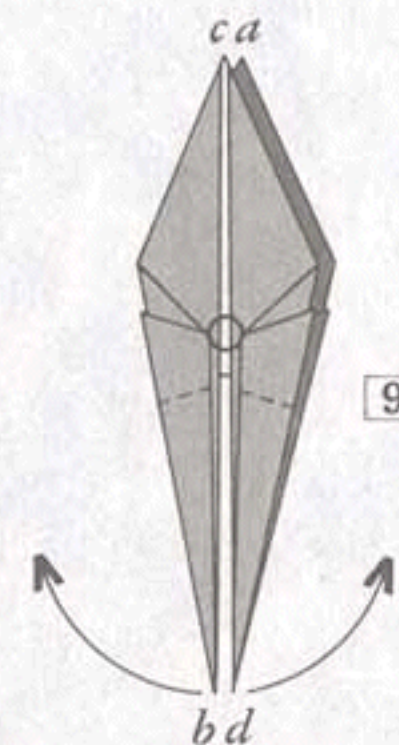
4. Reverse-fold *i* out, bringing *d* to *a*. Turn over.



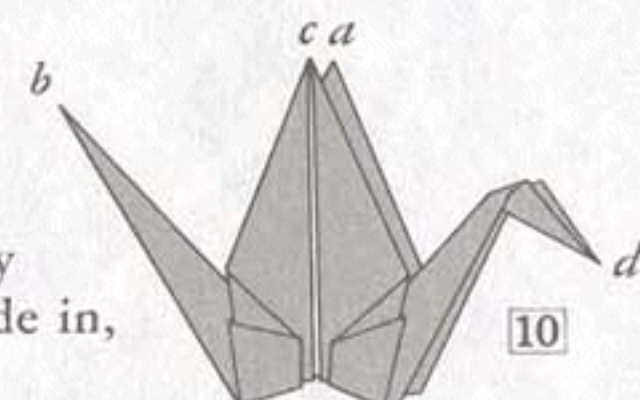
Reverse-fold *b* in, bringing all points together. Fold *f* to *g* and fold *b* to *i*.



9. Hold body at dot. Reverse-fold in *b* point, at the same time folding out along dotted lines. Fold to form tail. Repeat with *d* point to form neck.

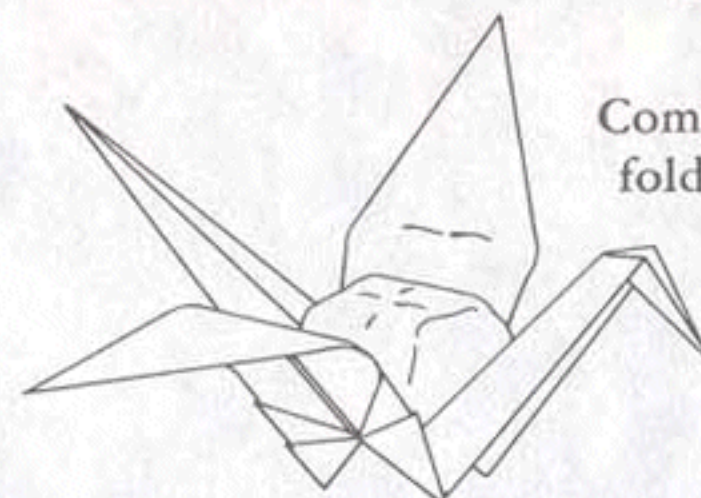


10. Form head by folding outside in, then down.



10

Complete by partially folding down wings. Slowly open back by pulling wings gently apart.



米国製



SUNDIAL

Man first conceptualized time as consisting of only two units - day and night. Then came the understanding that daytime could be separated into smaller units marked by the shadows cast by the sun on its path from sunrise to sunset. The sundial evolved as a means of indicating the passage of time according to these units.

Look back on Time, with kindly eyes—
He doubtless did his best—
How softly sinks that trembling sun
In Human Nature's West—
Emily Dickinson

To construct your own sundial:

1. Gently press out the sundial pieces along the perforated lines.
2. To form the gnomon, fold along its center line. You might want to glue the two halves together.
3. To attach the gnomon to the base, insert flaps A and B into slot, taping the flaps to the underside.
4. To complete the sundial, fold the base along its center line. Secure with tape or glue.