

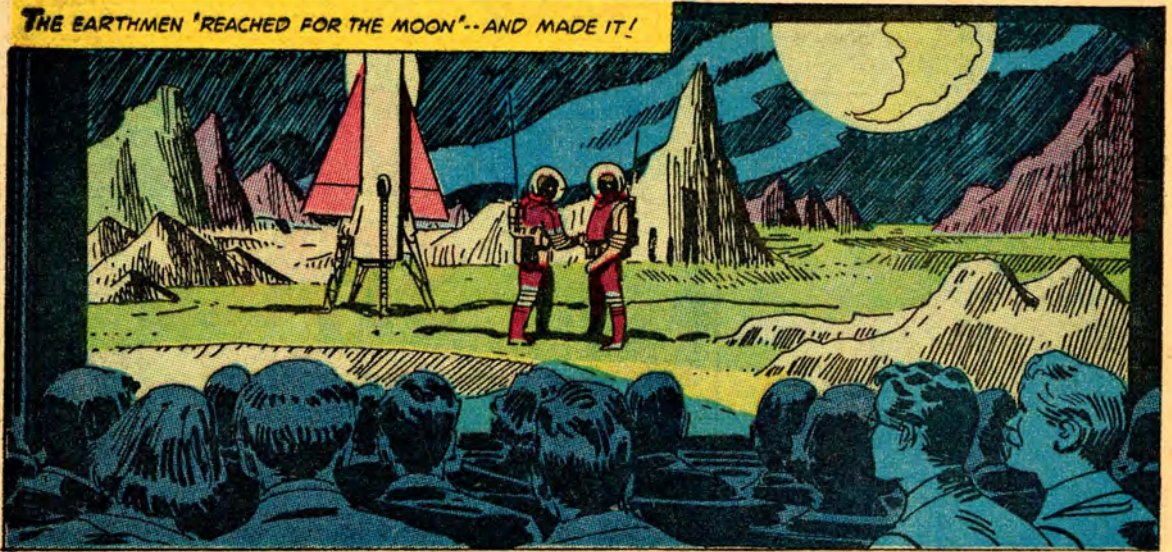
# OUR PLACE IN SPACE



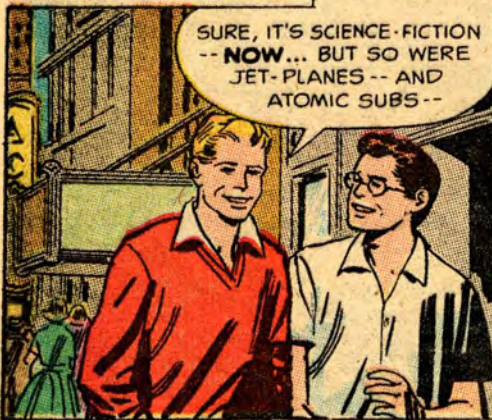
ADVENTURES IN  
SCIENCE SERIES

GENERAL  ELECTRIC

**THE EARTHMEN 'REACHED FOR THE MOON'--AND MADE IT!**



**TWO YOUNG EARTHMEN IN PARTICULAR -- JOHNNY POWERS AND HIS FRIEND, BILL -- DISCUSS THE MOVIE THEY'VE JUST SEEN FOR THE THIRD TIME ...**



SURE, IT'S SCIENCE-FICTION -- **NOW**... BUT SO WERE JET-PLANES -- AND ATOMIC SUBS --

**LATER, IN THE POWERS' BACK YARD, JOHNNY'S BROTHER, ED JOINS THE DISCUSSION ...**



DO YOU REALLY THINK **WE** COULD BE MISSILEMEN SOMEDAY, JOHNNY?

WHY, YOU BOYS HAVE BEEN LAUNCHING MISSILES FOR YEARS -- AND DON'T SEEM TO KNOW IT!

WHAT DO YOU MEAN, ED?



A MISSILE IS ANY OBJECT THROWN AT A TARGET. EVERY TIME YOU DO **THIS**, YOU'RE LAUNCHING A MISSILE. CATCH?

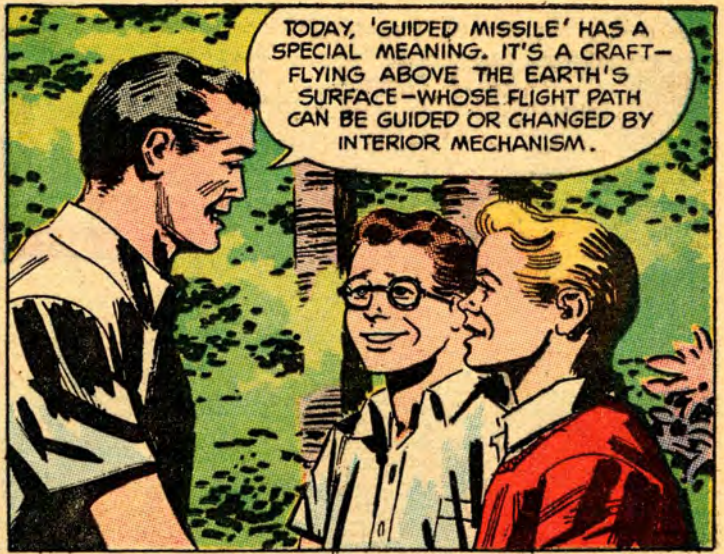


THEN HERE GOES A **GUIDED** MISSILE!

NOT IN TODAY'S TERMS, BILL...



TODAY, 'GUIDED MISSILE' HAS A SPECIAL MEANING. IT'S A CRAFT-FLYING ABOVE THE EARTH'S SURFACE--WHOSE FLIGHT PATH CAN BE GUIDED OR CHANGED BY INTERIOR MECHANISM.



HOW DOES IT GET UP THERE? WHAT GUIDES IT?

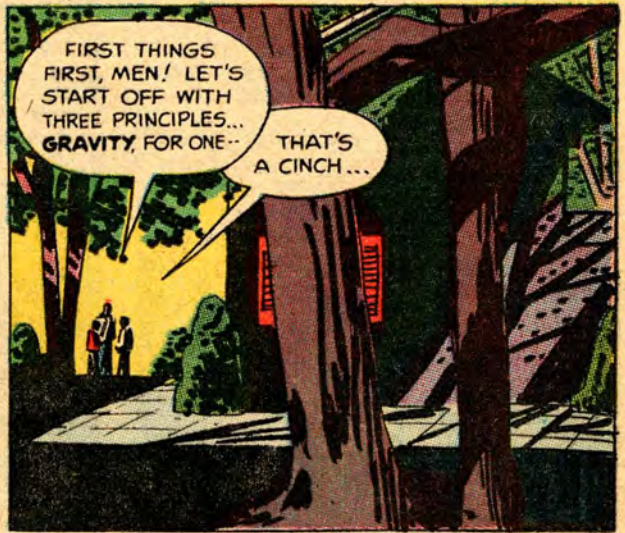
HOW ABOUT SATELLITES?-- WHAT MAKES THEM STAY UP?

HOLD IT!



FIRST THINGS FIRST, MEN! LET'S START OFF WITH THREE PRINCIPLES... GRAVITY, FOR ONE--

THAT'S A CINCH...



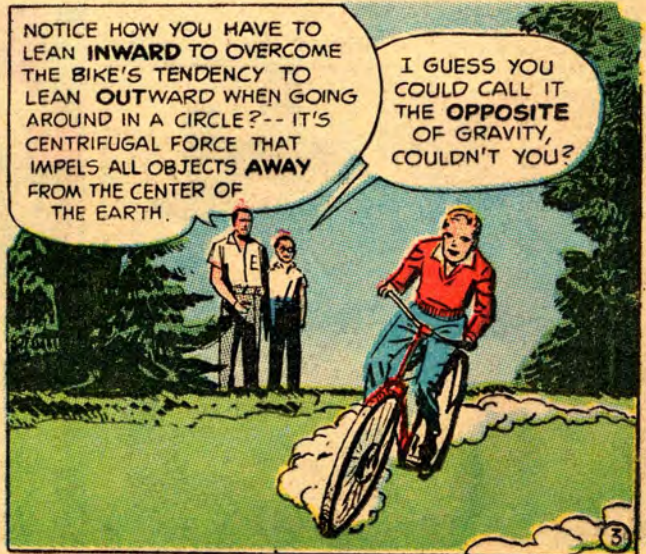
GRAVITY IS THE FORCE THAT PULLS OBJECTS-- LIKE THIS BALL-- TOWARD THE CENTER OF THE EARTH.

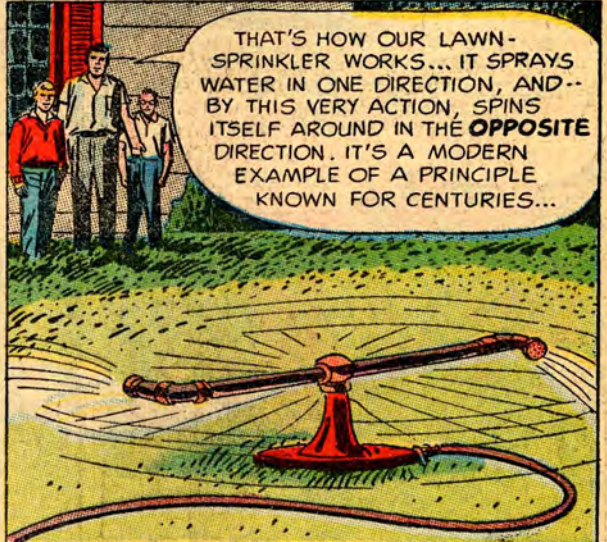
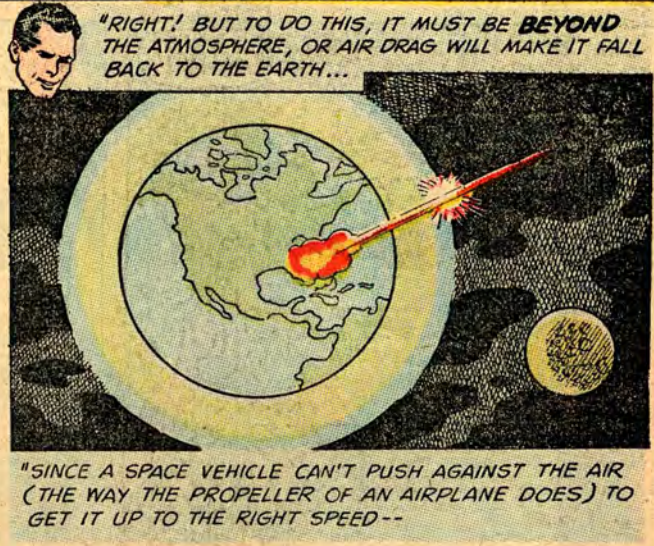
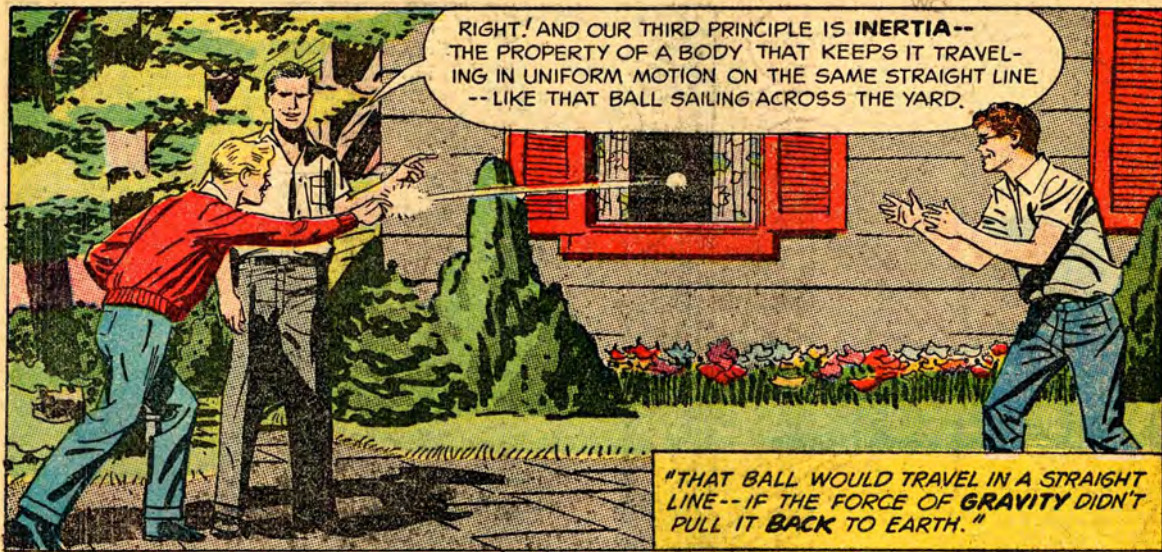
FINE, JOHNNY! NOW, HOW ABOUT A BIKE-RIDING DEMONSTRATION, TO ILLUSTRATE THE NEXT PRINCIPLE-- CENTRIFUGAL FORCE?



NOTICE HOW YOU HAVE TO LEAN **INWARD** TO OVERCOME THE BIKE'S TENDENCY TO LEAN **OUTWARD** WHEN GOING AROUND IN A CIRCLE?-- IT'S CENTRIFUGAL FORCE THAT IMPELS ALL OBJECTS **AWAY** FROM THE CENTER OF THE EARTH.

I GUESS YOU COULD CALL IT THE **OPPOSITE** OF GRAVITY, COULDN'T YOU?



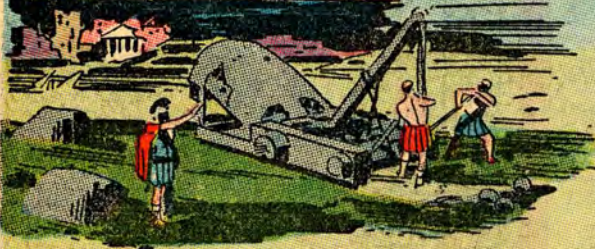


IF THAT'S SO-- HOW  
COME NOBODY  
INVENTED ROCKETS  
BEFORE THIS?

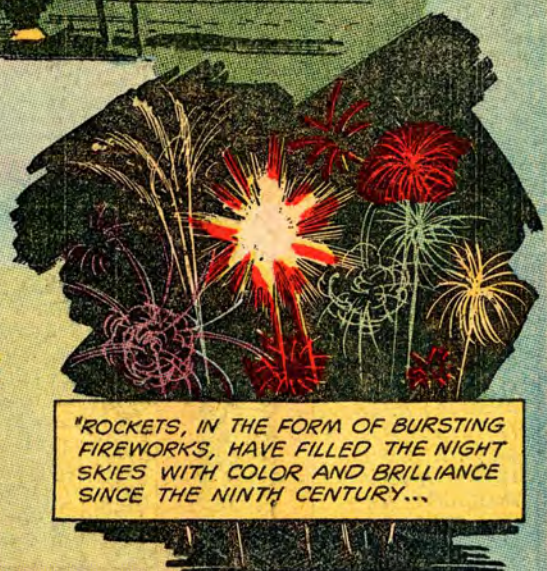
OH, BUT  
THEY DID...

"AS FAR BACK AS 1232 A. D., THE CHINESE  
WARRED WITH 'ARROWS OF FIRE,' GUNPOWDER  
ROCKETS IN WHICH HOT EXPANDING GASES  
BLASTING **DOWNWARD**  
CAUSED A REACTION THAT  
SENT THE HEAD AND  
BODY FLYING **UPWARD**  
TOWARD THE ENEMY.

"THE ANCIENT ROMANS  
DEvised A MILITARY  
ENGINE CALLED **BALLISTA**,  
BUILT LIKE A HUGE CROSS-  
BOW, TO AIM AND HURL  
MISSILES AT THE  
OPPOSITION.



"ROCKETS, IN THE FORM OF BURSTING  
FIREWORKS, HAVE FILLED THE NIGHT  
SKIES WITH COLOR AND BRILLIANCE  
SINCE THE NINTH CENTURY...



"... AND IN THE WAR OF 1812, THE BRITISH USED  
SHIP-LAUNCHED ROCKETS (IMMORTALIZED IN THE  
'ROCKETS' RED GLARE' OF OUR **STAR-SPANGLED  
BANNER**) TO SHELL FORT McHENRY IN BALTIMORE.



ROGER! I READ  
YOU LOUD AND  
CLEAR, ED. BUT  
HOW DO GUIDED  
MISSILES ACTUALLY  
WORK?

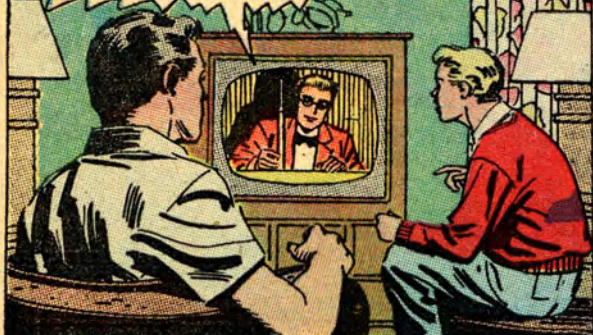
MAYBE THIS  
TV SHOW  
WILL HELP,  
JOHNNY.

"BUT IT WASN'T  
UNTIL WORLD  
WAR II THAT  
REALLY POWER-  
FUL ARTILLERY  
ROCKETS WERE  
DEVELOPED,  
MARKING THE  
BEGINNING OF...  
THE AGE OF  
SPACE."



LATER THAT EVENING...

--TO TELL YOU SOMETHING ABOUT THE "ANATOMY" OF A MISSILE-- HOW IT WORKS-- ITS VARIOUS USES... AND ALSO TAKE YOU "BEHIND-THE-SCENES" AT A MISSILE-LAUNCHING.



HERE IS A SCALE MODEL OF THE WELL-KNOWN **VANGUARD**-- THE AMERICAN ROCKET WHOSE FIRST SATELLITE IS THE LONGEST NOW IN ORBIT, STILL SENDING US A WEALTH OF IMPORTANT INFORMATION.



NOW LET'S LOOK AT THE GUIDED MISSILE'S BASIC PARTS...

THE **GUIDANCE SYSTEM**, "MASTER-MINDS" THE MISSILE, TELLS IT WHERE TO GO, KNOWS WHERE IT IS AT ANY MOMENT-- WHERE IT SHOULD BE. SENSITIVE, PRECISE, IT MUST MEASURE THE EFFECTS OF GRAVITY, UPPER AIR CURRENTS, AND THE THRUST OF THE PROPULSION SYSTEM.

THE **PROPULSION SYSTEM** PUSHES THE MISSILE INTO SPACE. EVERY ROCKET ENGINE CONTAINS A SUPPLY OF FUEL AND OXIDIZER-- THE "PROPELLANT"--AND THERE ARE SEVERAL DIFFERENT TYPES, BOTH LIQUID AND SOLID.

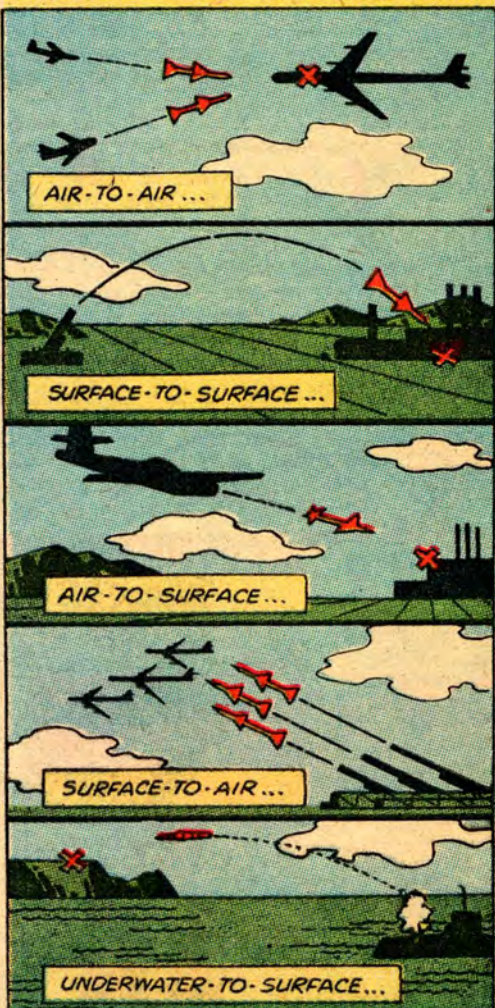


THE **PAYLOAD**, HOUSED IN THE NOSE CONE, IS THE MISSILE'S REAL REASON FOR BEING. THIS CAN BE AN EXPLOSIVE CHARGE, A SEPARATE SATELLITE PACKAGE, OR INSTRUMENTS TO RECORD SCIENTIFIC DATA.

THE **INTERNAL OR ACCESSORY POWER SYSTEM** PROVIDES THE NECESSARY POWER TO OPERATE EQUIPMENT ABOARD THE MISSILE BEFORE, DURING AND AFTER THE ACTION OF THE MAIN PROPULSION ENGINE.

THE **AIRFRAME** KEEPS THE MISSILE AND ITS PARTS INTACT, PROTECTING IT UNDER EXTREME, RAPIDLY CHANGING PRESSURES AND TEMPERATURES.

MISSILES ARE BUILT FOR SPECIFIC USES...



AIR-TO-AIR...

SURFACE-TO-SURFACE...

AIR-TO-SURFACE...

SURFACE-TO-AIR...

UNDERWATER-TO-SURFACE...

--AND MOST EXCITING AND COMPLICATED OF ALL-- THE **SPACE** MISSILE...

THE VANGUARD WAS BUILT IN THREE SECTIONS OR "STAGES," MOUNTED ONE ATOP THE OTHER, EACH CARRYING ITS OWN ROCKET MOTOR. HOW DO THREE-STAGE MISSILES WORK?

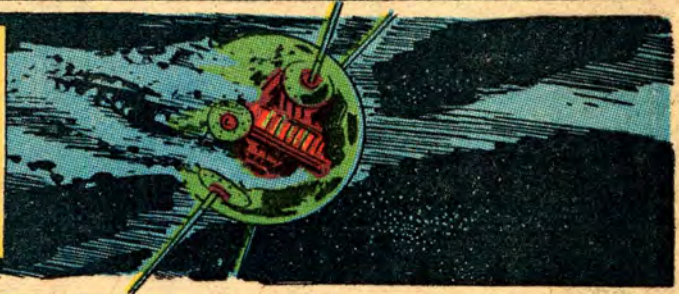
(1) THE FIRST, BOTTOM STAGE IS THE LARGEST AND STRONGEST, FOR IT MUST THRUST THE ENTIRE VEHICLE TO A HEIGHT OF ABOUT 38 MILES -- PUSHING THROUGH LAYERS OF AIR AT THEIR THICKEST, AND THE PULL OF GRAVITY AT ITS STRONGEST.

(2) HAVING DONE ITS WORK AND BURNED OUT, THE BOTTOM STAGE DROPS OFF -- GREATLY LIGHTENING THE LOAD. NOW, THE SECOND STAGE ENGINE TAKES OVER AND PUSHES THE ROCKET EVEN HIGHER AND FASTER, DIRECTING ITS COURSE. THE "BRAIN," THE CONTROL OF THE ENTIRE ROCKET LIES IN THIS SECTION.

(3) AT THE CORRECT HEIGHT AND POSITION, IT DROPS OFF... FIRST GIVING THE TOP, THIRD STAGE A SPINNING MOTION TO KEEP IT PROPERLY ORIENTED ON THE RIGHT PATH. NOW, FAR LIGHTER AND WELL ABOVE GRAVITY AND AIR FRICTION, THE THIRD STAGE SPEEDS ALONG AT 18,000 MILES AN HOUR!

(4) FINALLY, AT THE 300-MILE MARK, IT EJECTS THE PAYLOAD -- A SPECIAL SATELLITE PACKAGE -- INTO ORBIT AROUND THE EARTH. THIS SATELLITE SPHERE, MADE OF MANY METALS, IS PACKED WITH INSTRUMENTS TO MEASURE SCIENTIFIC DATA AND TRANSMIT IT BACK TO EARTH.

EVENTUALLY, THE SATELLITE FALLS BACK INTO THE EARTH'S ATMOSPHERE, WHERE IT IS CONSUMED BY THE HEAT OF FRICTION. BUT ITS KNOWLEDGE IS NOT LOST. ITS TINY RADIO HAS SIGNALLED ITS DISCOVERIES BACK TO EARTH.  
THE FIRST VANGUARD SATELLITE -- ONLY 6 INCHES IN DIAMETER -- IS EXPECTED TO STAY UP FOR 200 YEARS!

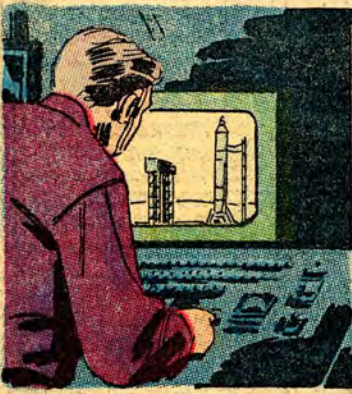


AND NOW LET'S VISIT CAPE CANAVERAL, FLA. -- MISSILE TESTING GROUNDS -- FOR AN ACTUAL **LAUNCHING** OF A SPACE-CRAFT -- PERHAPS THE MOST THRILLING SPECTACLE OF OUR TIMES. THE **GROUND SUPPORT EQUIPMENT** AND FACILITIES, ON WHICH A SUCCESSFUL LAUNCHING DEPENDS, ARE ALMOST AS COMPLICATED AS THE MISSILES THEMSELVES...

ON CERTAIN MISSILES, A **MISSILE EXERCISER** CHECKS OUT THE CONTROL SYSTEM BEFORE THE MISSILE IS MOVED TO THE LAUNCH SITE.

A **CHECKOUT BENCH** -- A COMPLEX SYSTEM -- PERFORMS 100 TESTS ON THE MISSILE'S ELECTRONIC EQUIPMENT... THEN 40 CHECKS ON ITSELF TO BE SURE IT'S RIGHT!

ON THE LAUNCHING PAD, THE MISSILE BODY STANDS UPRIGHT AND THE NOSE CONE IS PUT ON-- BEFORE ROLLING AWAY THE "GANTRIES"-- THE STEEL TOWERS WHICH SUPPORT THE ROCKET WHILE IT IS IN PLACE...



ABOUT 1000 FEET AWAY IS THE BLAST-PROOF "BLOCKHOUSE" A CONTROL ROOM FURNISHED WITH INTRICATE INSTRUMENTS, MANNED BY HIGHLY-TRAINED SPECIALISTS AND TOP GOVERNMENT OBSERVERS.

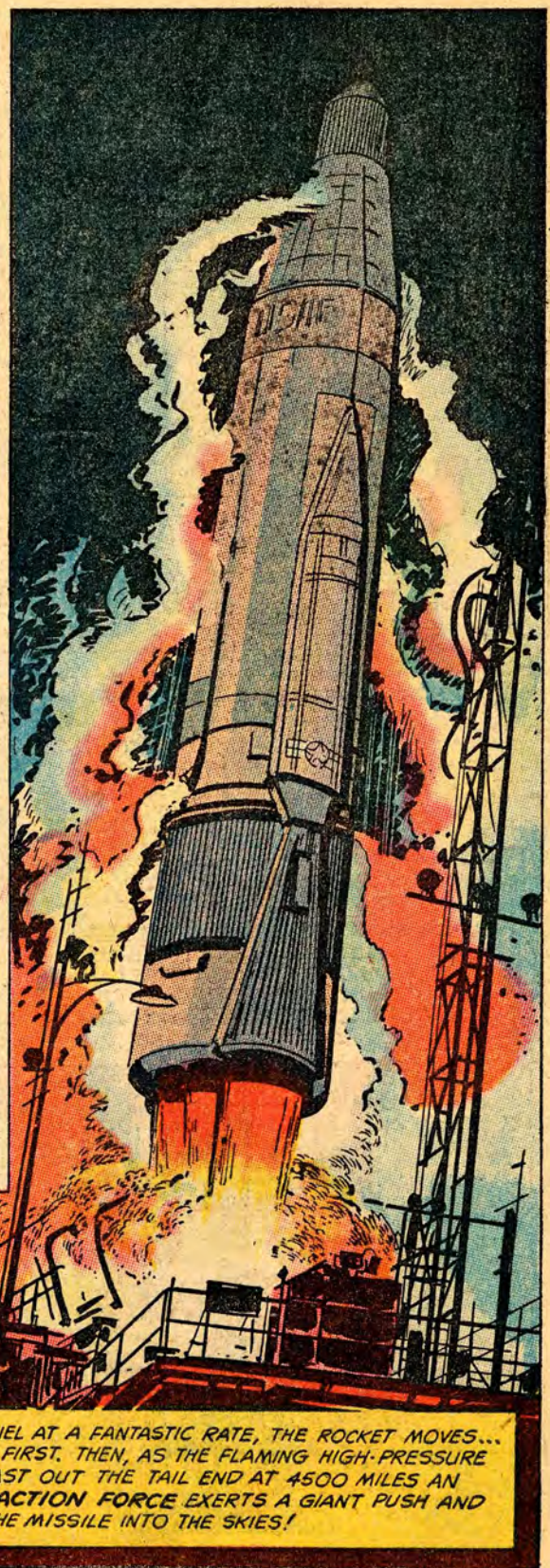
THE COUNT-DOWN STARTS... MEN AND MACHINES CHECK OUT THE EQUIPMENT, ONE BY ONE. AS EACH VITAL DETAIL IS COVERED, THE BACKWARD COUNT CONTINUES .... 5 ... 4 ... 3 ... 2 ...



...1...0!-- AND THE FIRING BUTTON IS PUSHED!



BURNING FUEL AT A FANTASTIC RATE, THE ROCKET MOVES... SLOWLY AT FIRST, THEN, AS THE FLAMING HIGH-PRESSURE GASES BLAST OUT THE TAIL END AT 4500 MILES AN HOUR, REACTION FORCE EXERTS A GIANT PUSH AND PROPELS THE MISSILE INTO THE SKIES!

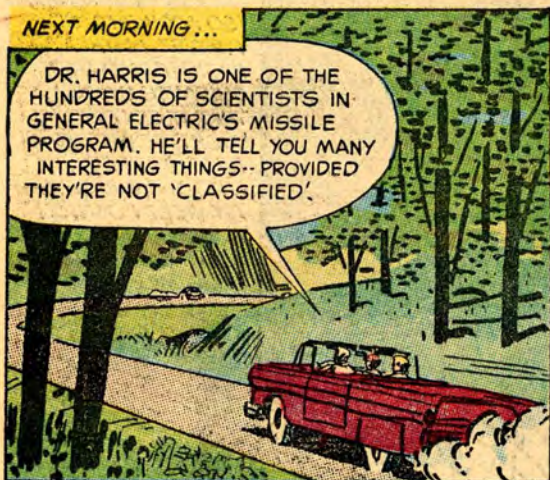




THE MINUTE THE TV SHOW ENDS...



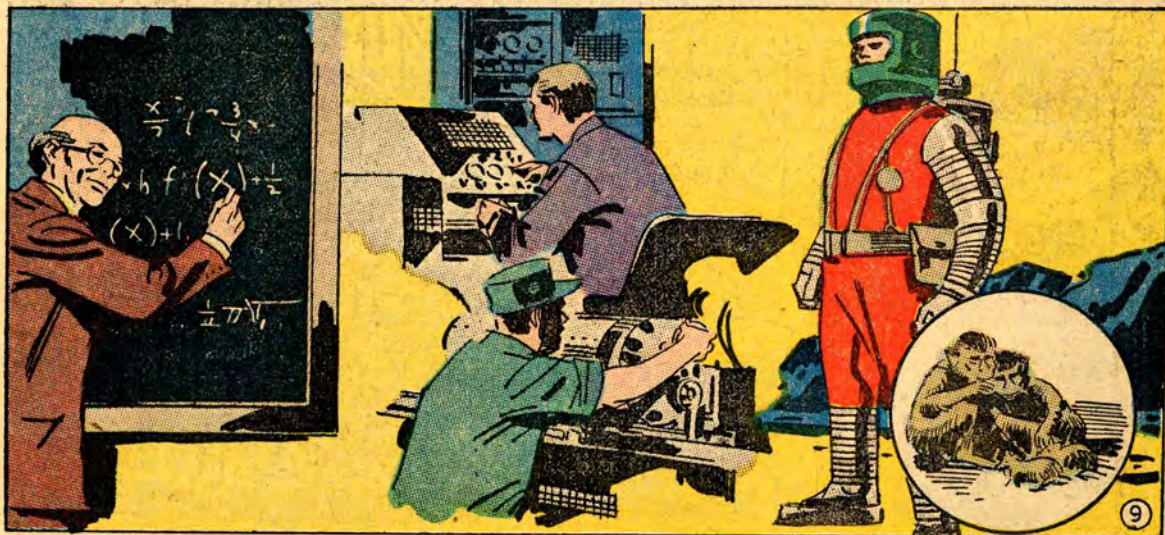
NEXT MORNING...



AFTER THE INTRODUCTIONS ARE MADE...

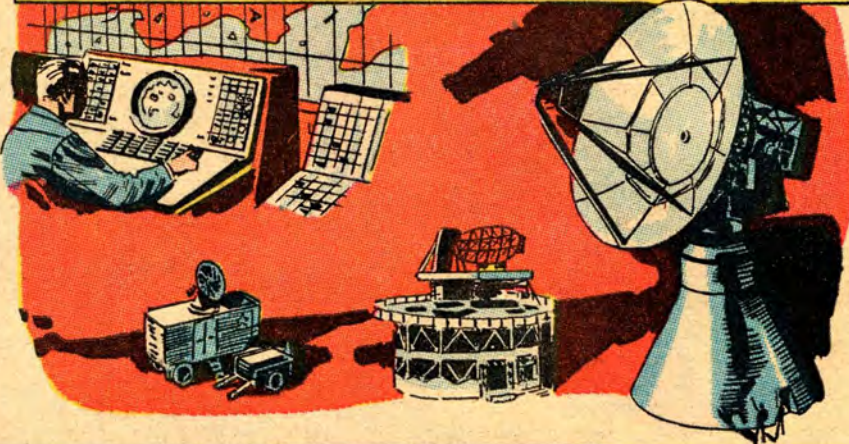


"THROUGHOUT THE COUNTRY, HUNDREDS OF COMPANIES, THOUSANDS OF SCIENTISTS, ENGINEERS, BUILDERS -- AND EVEN SOME WELL-EDUCATED ANIMALS -- ARE BUSILY AT WORK, EACH ADDING SPECIFIC SKILL AND KNOWLEDGE TO THE GROWTH AND DEVELOPMENT OF THE U.S. MISSILE PROGRAM..."

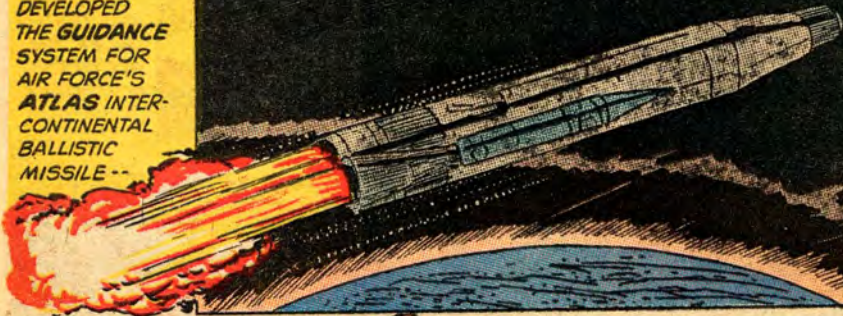




"AT SYRACUSE, N. Y. DEFENSE ELECTRONICS DIVISION HEADQUARTERS-- PIONEER IN EARLY RADAR RESEARCH-- WE PRODUCE AND DEVELOP ADVANCED ELECTRONIC SYSTEMS FOR THE ARMED FORCES."



"HERE WE DEVELOPED THE GUIDANCE SYSTEM FOR AIR FORCE'S ATLAS INTER-CONTINENTAL BALLISTIC MISSILE--



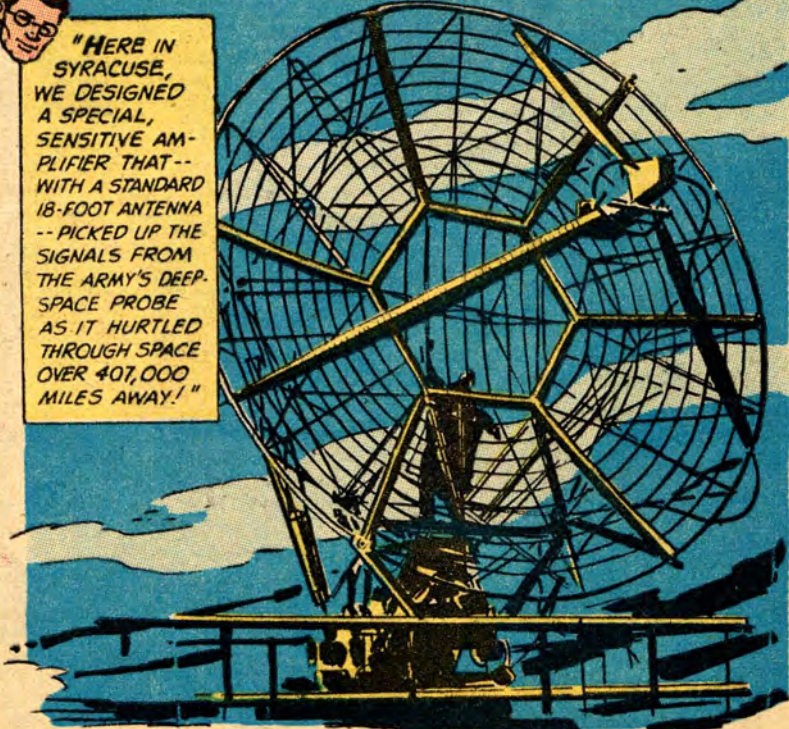
"SO ACCURATE, SO PRECISE IS THIS RADIO-COMMAND GUIDANCE SYSTEM, THAT IT SENT ATLAS 'RIGHT DOWN THE RIFLE BARREL' ONTO THE BULLSEYE-- A TARGET POSITION FAR OFF IN THE SOUTH ATLANTIC-- 6000 MILES AWAY!"



AS PART OF THE JOB, G. E. TRAINS FUTURE MISSILEERS IN THE OPERATION OF LAUNCHING AND GUIDANCE SYSTEMS-- GIVING THEM PRACTICAL, ON-THE-SPOT EXPERIENCE.

THAT'S FOR ME!

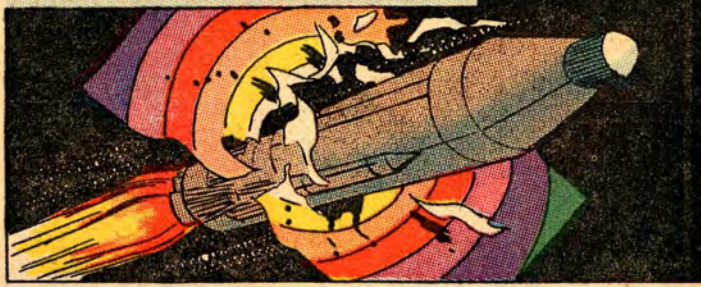
"HERE IN SYRACUSE, WE DESIGNED A SPECIAL, SENSITIVE AMPLIFIER THAT-- WITH A STANDARD 18-FOOT ANTENNA -- PICKED UP THE SIGNALS FROM THE ARMY'S DEEP-SPACE PROBE AS IT HURTTLED THROUGH SPACE OVER 407,000 MILES AWAY!"



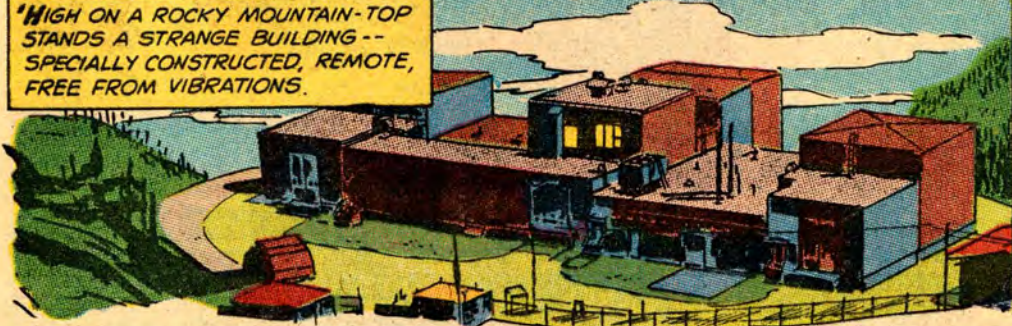
NOW, LET'S 'TRAVEL' TO PITTSFIELD, MASS.-- HOME OF THE ATLAS GUIDANCE TRACKER, A VITAL PART OF THE GUIDANCE SYSTEM...



"... FOLLOWING THE MISSILE IN ITS POWERED PHASE, THE TRACKER REPORTS THE EXACT POSITION TO THE GUIDANCE COMPUTERS, SIGNALLING THE FLIGHT CONTROLS THAT DIRECT THE MISSILE TO THE TARGET!"



"HIGH ON A ROCKY MOUNTAIN-TOP STANDS A STRANGE BUILDING-- SPECIALLY CONSTRUCTED, REMOTE, FREE FROM VIBRATIONS."



"HERE, THESE DELICATE, SENSITIVE TRACKERS ARE ASSEMBLED AND TESTED UNDER THE STRICTEST CONDITIONS."

"SINCE EVEN INVISIBLE DUST PARTICLES MAY DISTURB THE FINE BALANCE OF A TRACKER..."

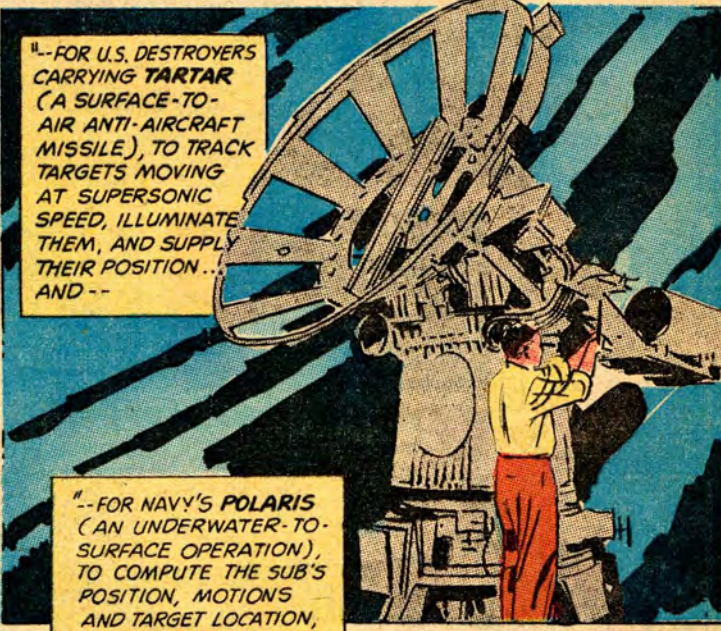
"FIRE CONTROL EQUIPMENT IS BEING DEVELOPED AT PITTSFIELD--"



"...EMPLOYEES, IN NYLON SUITS, MUST PASS THROUGH AN AIR-BATH VACUUM CLEANER..."

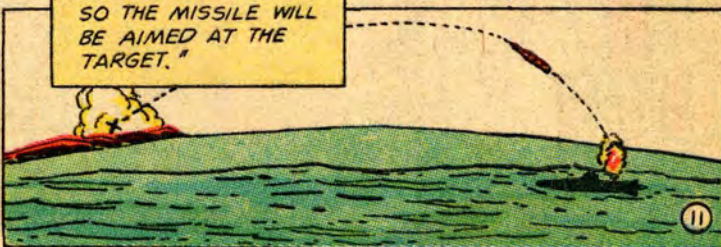
"THEIR SHOES ARE CLEANED BY A POWER-DRIVEN MACHINE..."

"AND DOORS OPEN AND LOCK ELECTRONICALLY, ONE AT A TIME, TO KEEP THE FILTERED AIR PURE AND SUPER-CLEAN."



"--FOR U.S. DESTROYERS CARRYING TARTAR (A SURFACE-TO-AIR ANTI-AIRCRAFT MISSILE), TO TRACK TARGETS MOVING AT SUPERSONIC SPEED, ILLUMINATE THEM, AND SUPPLY THEIR POSITION... AND --"

"--FOR NAVY'S POLARIS (AN UNDERWATER-TO-SURFACE OPERATION), TO COMPUTE THE SUB'S POSITION, MOTIONS AND TARGET LOCATION, SO THE MISSILE WILL BE AIMED AT THE TARGET."

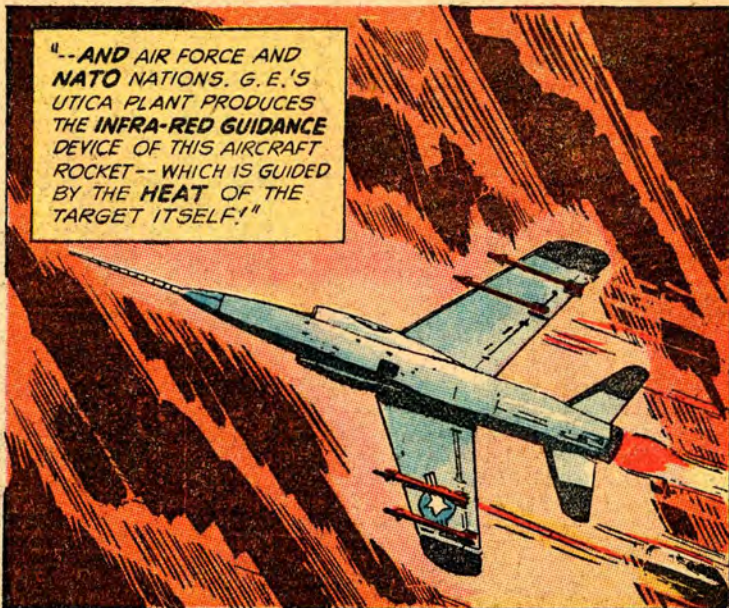


NOW, HERE'S UTICA, N. Y.; WHERE WE CONCENTRATE ON AIRBORNE AND SPACE ELECTRONICS. DO YOU BOYS KNOW ANYTHING ABOUT 'SIDEWINDER'?

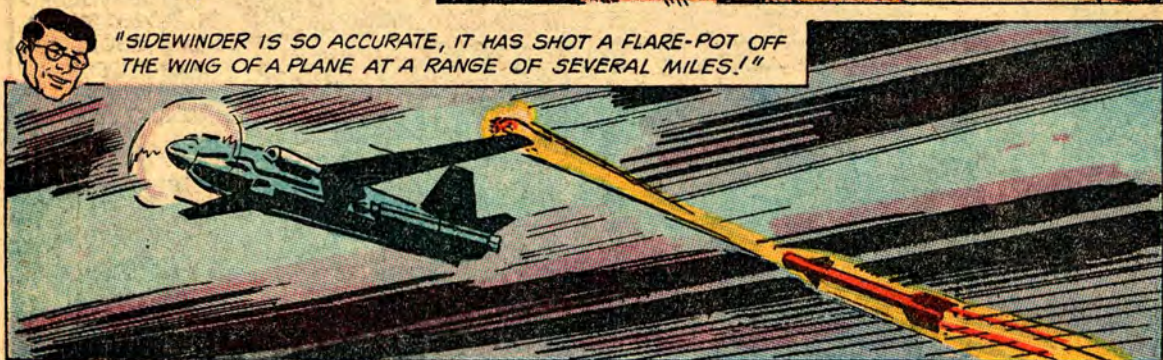


YES, SIR! IT'S AN AIR-TO-AIR MISSILE USED BY THE NAVY...

"--AND AIR FORCE AND NATO NATIONS. G. E.'S UTICA PLANT PRODUCES THE INFRA-RED GUIDANCE DEVICE OF THIS AIRCRAFT ROCKET-- WHICH IS GUIDED BY THE HEAT OF THE TARGET ITSELF!"



"SIDEWINDER IS SO ACCURATE, IT HAS SHOT A FLARE-POT OFF THE WING OF A PLANE AT A RANGE OF SEVERAL MILES!"



"BACK IN 1943, WE BEGAN TO EXPLORE THE MYSTERIOUS INFRA-RED RAY, WHOSE LONGER WAVE-LENGTHS GIVE IT SPECIAL PROPERTIES... NOW, AT ITHACA, WE ARE DELVING INTO NEW AND EXCITING SCIENTIFIC USES."

ULTRAVIOLET

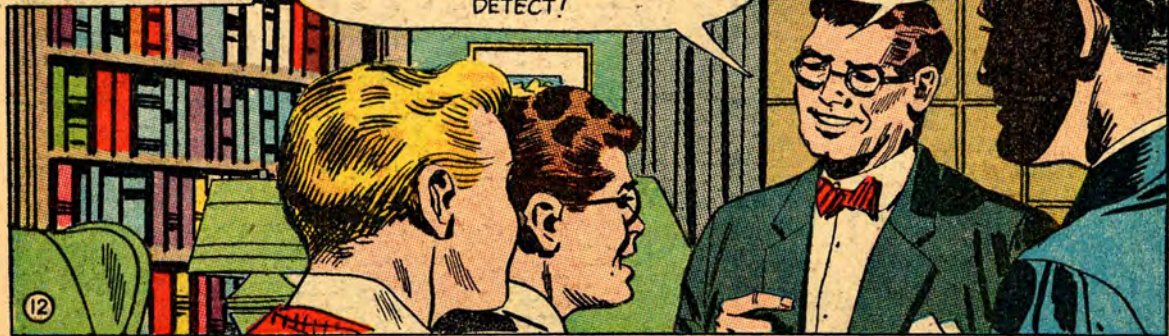
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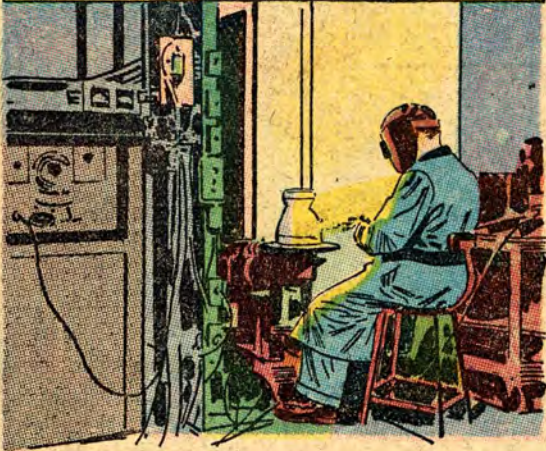
VIOLET BLUE GREEN YELLOW ORANGE RED

THIS INVISIBLE RAY, WHICH CAN BE MEASURED AND TRANSMITTED, IS AT LAST BEING PUT TO WORK IN TRACKING SYSTEMS THAT THE ENEMY CANNOT DETECT!

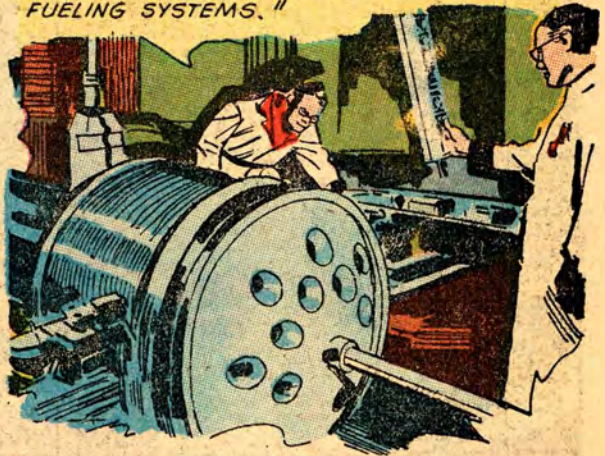
NOW, LET'S MOVE ON TO--



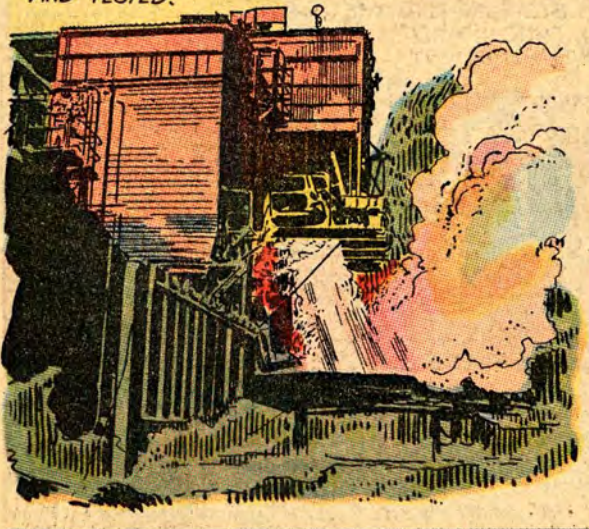
"...EVENDALE, OHIO, WHERE METALS AND CERAMICS ARE BEING DEVELOPED AND IMPROVED TO BOOST MISSILE PERFORMANCE. NEW TECHNIQUES HAVE PRODUCED MISSILE COMPONENTS THAT WITHSTAND A FLAME TEMPERATURE OF 6000° F."



"EVENDALE RESEARCH HAS PRODUCED IMPROVED CASES FOR **SOLID PROPELLANTS** -- THE SIMPLEST AND MOST PRACTICAL OF MISSILE FUELING SYSTEMS."



"AND, AT THE MALTA, N.Y., ROCKET TEST STATION, ADVANCED VERSIONS OF THE LIQUID ROCKET ENGINE WHICH POWERED THE FIRST STAGE OF VANGUARD ARE BEING DEVELOPED AND TESTED."



AND NOW, CAN YOU BOYS GUESS WHAT THIS OBJECT IS?

THIS 'TOY'-- DEVELOPED BY G. E. AT OWENSBORO, KY., IS ONE OF OUR MIGHTIEST MESSENGERS FROM OUTER SPACE!

IT LOOKS LIKE A TOY ELECTRONIC TUBE, DR. HARRIS.



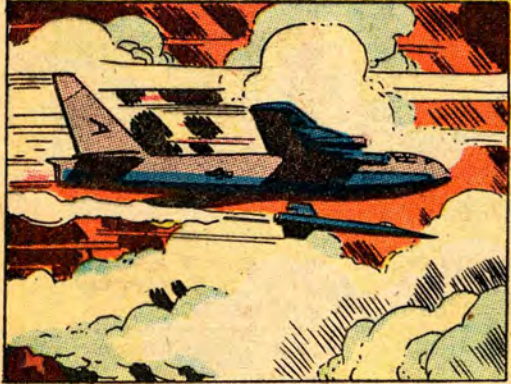
"USED AS A TRANSMITTING TUBE IN **PIONEER IV**, THIS TINY OBJECT OF METAL AND CERAMIC CONTINUED TO SEND INFORMATION TO EARTH LONG AFTER THE SATELLITE PASSED THE MOON AND ENTERED ITS ORBIT AROUND THE SUN-- A DISTANCE OF MORE THAN 400,000 MILES-- AN ALL-TIME COMMUNICATIONS RECORD!"





"TO DESCRIBE OUR WORK AT LYNN, MASS., I'LL TELL YOU ABOUT NORTH AMERICAN'S X-15. ONLY 50 FEET LONG, IT'S THE MOST ADVANCED ROCKET TO CARRY A HUMAN BEING--AND BRING HIM TO THE FRINGES OF SPACE..."

"LAUNCHED FROM THE UNDERSIDE OF A B-52 JET BOMBER, ROCKET AND PILOT RACE 100 MILES INTO UPPER ATMOSPHERE, AT A SPEED OF OVER 3,600 MILES AN HOUR!"



"THERE, MAN AND MACHINE RECORD THE EFFECTS OF EXTREME ALTITUDE FLIGHT FOR FUTURE SPACE VOYAGERS."

IS THE X-15 LAUNCHED FROM THE BOMBER BY A REACTION MOTOR?-- LIKE A REGULAR ROCKET?

YES-- AND ALSO AN AUXILIARY POWER UNIT-- DEVELOPED BY GENERAL ELECTRIC TO PRODUCE ALL THE POWER NECESSARY TO KEEP THE PILOT ALIVE AND BRING THE SPACE RESEARCH PLANE BACK TO EARTH!

YOU SEE, JOHNNY, A ROCKET ENGINE PROVIDES ONLY PROPULSION ... YOU NEED A SEPARATE SOURCE OF POWER AFTER THE ENGINE HAS DIED OUT, TO KEEP THE PILOT WARM, AND OPERATE THE GUIDANCE SYSTEMS AND THE COMMUNICATION AND RECORDING EQUIPMENT.

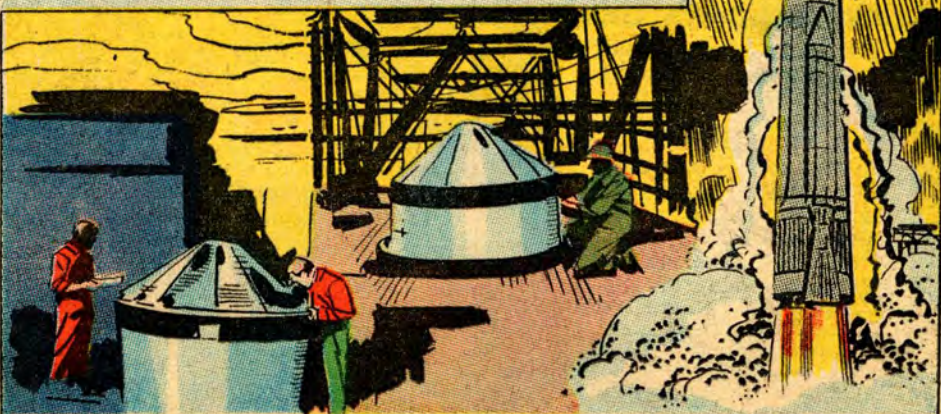
AND OPERATE THE SPEED BRAKES, LANDING FLAPS AND CONTROLS THAT BRING MAN AND MACHINE BACK SAFELY.

ALREADY, G-E. SCIENTISTS ARE WORKING ON NEW POWER SOURCES THAT STAGGER THE IMAGINATION -- SUCH AS A DEVICE THAT NEEDS NO FUEL, HAS NO MOVING PARTS-- AND WILL PRODUCE ELECTRICITY FOREVER!

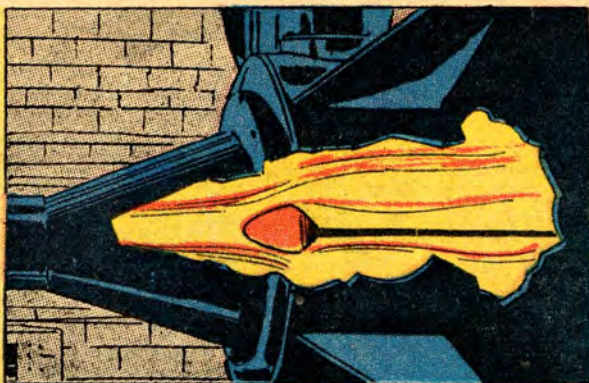


LAST, A QUICK 'TRIP' TO PHILADELPHIA, PA., WHERE--AS PART OF A SCIENCE-INDUSTRY-GOVERNMENT TEAM--G.E. WORKS ON MISSILE RE-ENTRY VEHICLES FOR THE U.S. AIR FORCE...

"HOUSING THE PAYLOAD--A NUCLEAR WARHEAD-- THE RE-ENTRY VEHICLE MUST BE MADE OF MATERIALS TO SHIELD IT FROM THE FANTASTIC HEAT GENERATED AS IT PLUNGES BACK INTO THE ATMOSPHERE FROM OUTER SPACE-- FROM A PEAK HEIGHT OF CLOSE TO A THOUSAND MILES!"



"TO TEST RE-ENTRY VEHICLE MATERIALS AND SHAPES FOR HEAT RESISTANCE, G-E SCIENTISTS DEvised A **SHOCK TUNNEL** IN WHICH SPECIMENS ARE EXPOSED TO **HYPERSONIC SHOCK WAVES**, AND A **LARGE AIR ARC** THAT PRODUCES TEMPERATURES UP TO 12,000° F."



WHEN A TEST VEHICLE IS FIRED, MISSILE ENGINEERS ON EARTH NEED A COMPLETE RECORD OF ITS PERFORMANCE...

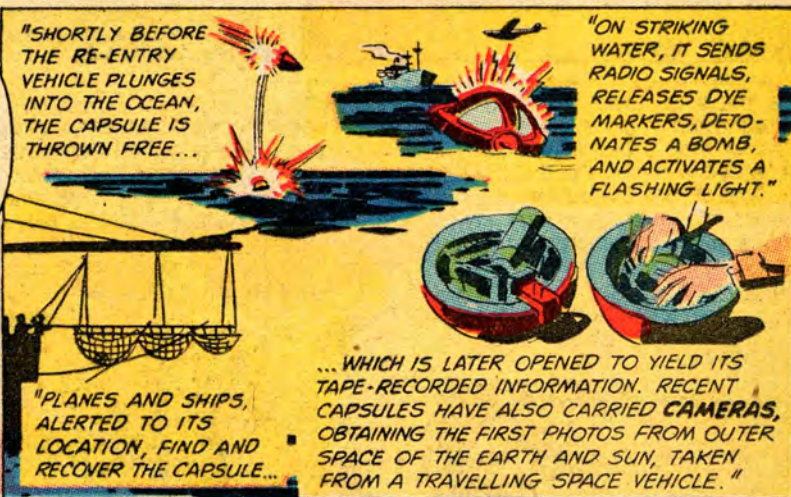
HOW CAN THEY GET THIS INFORMATION OUT OF SPACE?

THE VEHICLE'S RADIO RELAYS TO EARTH ALL IMPORTANT DATA ON THE ENVIRONMENT ENCOUNTERED, AS WELL AS ON THE VEHICLE'S OWN PERFORMANCE. THEN, TO BACK UP THIS INFORMATION--



"--THE VEHICLE ALSO CARRIES THE 'MISSILE DATA RECOVERY CAPSULE'-- DEVELOPED IN PHILADELPHIA. THIS ELECTRONIC 'MESSENGER' RECORDS FLIGHT INFORMATION..."

"SHORTLY BEFORE THE RE-ENTRY VEHICLE PLUNGES INTO THE OCEAN, THE CAPSULE IS THROWN FREE..."



"ON STRIKING WATER, IT SENDS RADIO SIGNALS, RELEASES DYE MARKERS, DETONATES A BOMB, AND ACTIVATES A FLASHING LIGHT."

"PLANES AND SHIPS, ALERTED TO ITS LOCATION, FIND AND RECOVER THE CAPSULE..."

"...WHICH IS LATER OPENED TO YIELD ITS TAPE-RECORDED INFORMATION. RECENT CAPSULES HAVE ALSO CARRIED **CAMERAS**, OBTAINING THE FIRST PHOTOS FROM OUTER SPACE OF THE EARTH AND SUN, TAKEN FROM A TRAVELLING SPACE VEHICLE."

"**LIFE SUPPORT** -- MAINTAINING LIFE IN OUTER SPACE -- IS AN IMPORTANT STUDY HERE. MICE, MONKEYS AND MAN -- ALL MUST BE PROTECTED BY A SPECIAL LIFE CELL WITH AN INTERNAL TEMPERATURE OF AROUND 75° F."



"G.E. IS CONTINUALLY PREPARING FOR THE ULTIMATE GOAL -- **MANNED INTER-PLANETARY FLIGHT!** FOR EXAMPLE, TO PROTECT OUR SPACEMAN AGAINST THE ENORMOUS FORCES OF GRAVITY IN TAKE-OFF AND RE-ENTRY, HE MAY TRAVEL IN AN INDIVIDUALLY TAILORED CONTOUR SEAT, MOLDED FROM A PLASTER CAST OF HIS OWN BODY IN 'FLIGHT' POSITION."



AS THE VISIT ENDS...



THANKS, DR. HARRIS. IT WAS A GREAT 'GUIDED TOUR'.

THAT WAS ONLY A QUICK LOOK, BUT I THINK YOU'VE GOTTEN THE IDEA. WE'RE A LARGE TEAM, POOLING OUR SKILLS AND KNOWLEDGE TO LAUNCH AMERICA INTO SPACE--AS SWIFTLY AND MIGHTILY AS WE CAN!

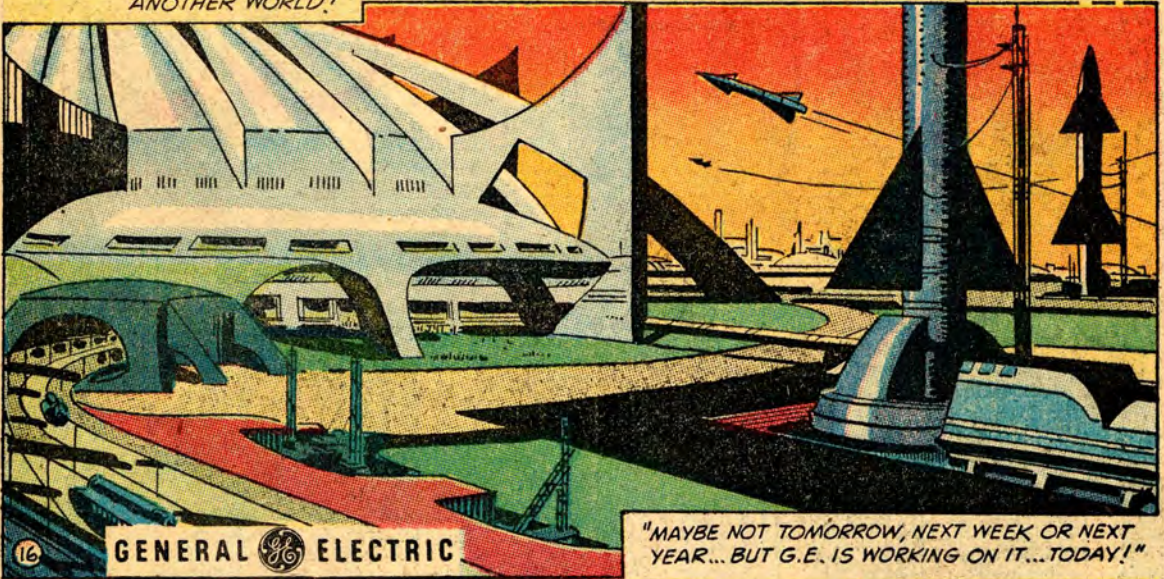


I GUESS MISSILES ARE THE MOST POWERFUL WEAPONS IN HISTORY!

THEY ARE. ALREADY, THEY'VE INCREASED OUR KNOWLEDGE OF THE UNIVERSE... HELPED US TO FIND NEW TECHNIQUES OF WEATHER OBSERVATION, NEW METHODS OF COSMIC RAY STUDIES, NEW COMMUNICATIONS...



AND IN THE FUTURE--WHO KNOWS? PERHAPS WE'LL BE TAKING MONORAIL TRAINS AND AIR TAXIS TO THE NEAREST "SPACEPORT"--READY TO TAKE OFF FOR MARS OR VENUS. ON THE LAUNCHING PADS, GROUND CREWS WILL SERVICE AND REFUEL THE SHIPS... INTO THE SPACE-LINER WE'LL GO... THEN THE COUNTDOWN--3...2...1...ZERO! WITH A MIGHTY ROAR, WE'RE OFF ON OUR INTERPLANETARY TRANSPORT--OFF ON A VISIT TO ANOTHER WORLD!



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"MAYBE NOT TOMORROW, NEXT WEEK OR NEXT YEAR... BUT G.E. IS WORKING ON IT...TODAY!"

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