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"WHERE WE STAND"

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Produced by CBS News

WHERE WE STAND

January 5, 1958 - 5:30-7:00 PM

- | | | | |
|-----------|--|-----------|---|
| 1. | OPENING | Live | Cronkite & planets; notebook |
| | | Film | Prudential opening |
| | | Live | 1st Commercial |
| 2. | SATELLITES | Live | Cronkite, sputnik animations,
headlines |
| | | Film | |
| | | Live | Cronkite into Hagen |
| | | Film | Kendrick & Hagen |
| | | Live | Cronkite (insert Ike tape) |
| | | Live | Cronkite into sputnik-view
animations |
| | | Film | Gavin |
| | | Film | Space platform animations |
| | | Live | Cronkite wrapup |
| | | Film | 2nd Commercial |
| | | 3. | ROCKETS &
MISSILES |
| Film | Russ. scientist, V-2, Turkey
radar animations | | |
| Live-film | Cronkite with comparisons US
& Sov missile | | |
| Film | Atlas test | | |
| Film | Kendrick at Sacramento | | |
| Film | Cronkite sets up Redstone | | |
| Film | Kendrick & Medaris | | |
| Live | Kendrick wraps up missiles | | |
| Film | 3rd Commercial | | |
| 4. | ARMS & ARMS
SYSTEMS | Live | Cronkite setup into
blackboard animations |
| | | Film | Clarke interview (Herman) |
| | | Film | Bradley interview |
| | | Film | SAC |
| | | Live | Smith on SAC-NATO |
| | | Live | Smith wrapup |
| 5. | DEFENSES | Live-film | Cronkite intro...DEW line etc. |
| | | Film | Gavin interview #2 |
| | | Film | Morris plains Smith VO -
Novins interviews |
| | | Live | Smith covers Rockefeller-
Gaither Report |
| | | Live | Schorr - Russian Civil Defense |
| | | Live | Smith Wrapup
STATION BREAK |

- | | | | |
|----|-----------|-----------|------------------------------|
| 6. | ECONOMICS | Live | Smith intro |
| | | Film | Comparison animations |
| | | Film | Bergson interview |
| | | Live-film | Schorr on Russia |
| | | Live | Smith wrapup |
| | | Film | 4th Commercial |
| 7. | EDUCATION | Live | Smith intro |
| | | Film | Animations |
| | | Live | Schorr on Russia |
| | | Film | Alhambra HS |
| | | Film | Bronx HS - Meister interview |
| | | Live | Smith wrapup |
| 8. | SUMMATION | Live | Smith |
| | | Film | Final commercial |
| 9. | CLOSING | | |

I. OPENING

CRONKITE (LIVE):

SLOW DOLLY THROUGH
SET. PLANETS
SUSPENDED IN ORDER
OF DISTANCE FROM
EARTH.

Saturn. Nine times larger than earth.
Ringed with billions of tiny satellites.

APPROACHING JUPITER,
SURROUNDED BY 12
SATELLITES (MOONS)

Jupiter. A planet with twelve moons.
The source of man's first hint that his
earth was not the center of the universe.

APPROACH MARS

Mars. The nearest planet. And the
only other one showing signs of living
matter.

PASS MARS, ON
TOWARD EARTH

Other planets, always before man's
eye...tempting his ambitions. Now
they're coming into his reach -- and
into the range of his conflicts.

DOLLY STOPS
AT EARTH

Cold war, competitive co-existence --
whichever it is, it's grown too big for
this earth. The boundaries are gone.
East...(CRONKITE GIVES GLOBE A HALF TURN
SO THAT USSR COMES UP ON OPPOSITE SIDE
FROM WHERE IT WAS)...and West --
directions are lost in space. This is
the age of the rocket, which travels out
...The satellite, which surrounds all

CRONKITE (LIVE)....CONTD:

of us...And the missile, which could
destroy us. (SPINS THE GLOBE FAST)

I/2. OPENING:

CRONKITE (LIVE)....CONTD:

In the competition for leadership in space, in the race run by rocket, where is the finish line? Do we end up in a nuclear war? Or do we try to live with the constant fear of one? Scientists and military men have told CBS News correspondents what that prospect really means:

(CRONKITE READS)

Perhaps a quarter of our population dead in the first hours of a nuclear holocaust. Our biggest cities...gone. Leveled by the bomb.

The survivors condemned to radioactive danger -- not just for the hours of an attack, but for days, possibly weeks, afterwards. Food, water -- the air itself -- poison to the touch.

And to do no more than wait in constant readiness would be so costly -- in dollars and discipline -- that it would change this country into something totally different from the one we are now trying to defend.

I/3. OPENING:

DOLLY INTO EARTH
BEHIND CRONKITE

CRONKITE (LIVE)....CONTD:

The challenge -- and how we measure up
to it...This is our subject for the next

SUPER PROGRAM TITLES:

ninety minutes, as....CBS News reports

CBS NEWS REPORTS
TO THE NATION

to the nation: Where we stand.

WHERE WE STAND

HOLD "WHERE WE STAND"

A special edition of....The Twentieth
Century.

CUT TO SERIES TITLE:

(NO COPY)

PRUDENTIAL LIFE INSURANCE
COMPANY OF AMERICA
PRESENTS

THE TWENTIETH CENTURY

I A. PRUDENTIAL MESSAGECRONKITE (LIVE):CRONKITE IN
LIMBO

For a number of years the Prudential Insurance Company of America has been associated with CBS Television programs which have dealt with subjects of interest and importance to all Americans -- such programs as "You Are There" and "Air Power," in the past, as well as the current series, "Twentieth Century." Today, Prudential joins with CBS News in bringing you a special program dealing with some of the newest and most vital facts of life in the Twentieth Century...a program based on the conviction that it's better to be informed than misinformed, that it's safer to know than to wonder.

There has been much cause for wonder since the Russian satellites were so spectacularly launched, while our own first attempt failed to get off the ground. There's been much confusion

I A/2. PRUDENTIAL MESSAGE

CRONKITE (LIVE)....CONTD:

as to where we stand, compared to where they stand. The purpose of this program is to clear up some of this confusion by presenting the facts as plainly and as surely as they can be determined.

For the last three months, CBS News -- its editors and researchers, its staff of correspondents at home and around the world -- has been seeking out the truth about America's position and the Soviet Union's -- in the fields of satellites...missiles...other arms ...defenses...economics...and education.

Whatever the facts, on both sides, we must know them and face them if we are to live up to the challenge...if, indeed, we are to survive as a free nation.

Now...let's see...where we stand.

II. SATELLITES

CRONKITE (LIVE):

For a generation, the most powerful force in world affairs has been the United States of America. The strength of the American economy, the depth of America's arsenal, the appeal of American ideas have made it possible for us to choose our own course, and persuade others to follow it with us.

CRONKITE (OVER FILM):

FILM ANIMATION:
SPUTNIK I COMES OVER
TOP OF GLOBE, STARTS
CIRCLING

SOUND UNDER: BLEEP BLEEP

Just three months ago, last October Fourth, a new moon, no bigger than the span of a man's arms, came over the horizon and cast a different light on our affairs. Sputnik One was a serious threat, if not to our immediate security, then to our sense of security.

It shook the confidence of our allies, the respect of the neutrals. (PAUSE)

MOSCOW's mood has been one of new confidence.

II/2. SATELLITES:

CRONKITE (OVER FILM)....CONTD:

HEADLINES

Exultation in the Soviet press.

"Ours -- a Soviet sputnik is first in the world."

"Entire World Ecstatic over great victory of Soviet science."

HOLD LAST HEADLINE

"First step into the cosmos: sputnik over all continents."

II B. SATELLITES:

CRONKITE ON SET,
EARTH BEHIND HIM

CRONKITE (LIVE):

But the Russians have taken the first
step into space with their satellites.

CBS News correspondent Alex Kendrick
went to find out how far behind them

we are....

hagen interview

II C. KENDRICK AND HAGEN (OVER FILM):

This is America's satellite, the 21½ lb sphere, the size of a medicine ball, about 1/50 the size of the soviet sputnik #2; in fact it's just about the size of the soviet sputnik #2. And this was America's first step in satellite development -- 6" in diameter, 4 lbs in weight -- this is Dr. John P. Hagen, the Director of the American Satellite Program, in his office at the Naval Research Lab in Washington. Why are our satellites so small compared with the Russian ones?

HAGEN: Well, the suspicion is that the Russians used an approach which is different from ours. They started with military vehicles and fitted the satellite to the existing military vehicle.

We believe that the art of miniaturization -- this art is so far advanced in this country -- that we can put a great deal of scientific experimentation in a small size and weight. The miniaturized telemetering system... This thing weighs four - five ounces, when built for our probing rocket work, it weighs something on the order of 15 lbs.

KENDRICK: Sir, what about the military implications of the launching of a satellite?

HAGEN: I think there really are very few implications there of a military nature. The kind of guidance and control that we require to put a satellite into an orbit is altogether different from the kind that one uses for missiles.

hagen interview

II C/2. KENDRICK AND HAGEN (OVER FILM) ..CONTD:

KENDRICK: Sir, what kind of difference is there in the degree of accuracy between a satellite and between a well-aimed ballistic missile?

HAGEN: Oh, there's a factor of a hundred or a thousand in accuracy.

KENDRICK: Doctor, what are the Russians doing in their satellite program that we're not doing in ours?

HAGEN: I think that the principal thing is that they started earlier on the missilery back of their satellite. They started with military missiles. And these missiles do have a large thrust to perform the mission for which they're designed. Our thrust was made just large enough to efficiently put the 20 lb. satellite in an orbit.

KENDRICK: That means that the American satellite program has nothing to do with the American missile program -- is that what you're saying?

HAGEN: There's an absolute chasm between them. The satellite program was developed from the beginning as a scientific program, and is not related to the military program.

II D. SATELLITESCRONKITE (LIVE):

Because, as Dr. Hagen says, we have learned how to shrink scientific instruments down to miniature size and squeeze them into a small space, our small satellites may be a closer match for the big Russian models than they seem. But the difference in size is still crucial.

So was that decision Dr. Hagen mentioned, to separate the satellite program from the military missile program. It meant we did not give our satellite program high priorities and large funds. It meant that instead of giving it the latest in military rockets for a launching engine, we gave it a small, discarded rocket.

Even after the first sputnik went up, Washington was reluctant to make any official connection between space science and military science, between

II D/2 SATELLITES:

CRONKITE (LIVE)...CONTD:

satellites and military security.

The sputnik? "Only a hunk of iron,"

one top Navy admiral called it.

President Eisenhower expressed his

view in a White House news conference.

TAPE OVER ANIMINATION

EISENHOWER TAPE: "Now as far as the satellite itself is concerned, that does not raise my apprehensions, not one iota. I see nothing at the moment, at this stage of development, that is significant in that development, as far as security is concerned, except as is pointed out, it does prove the possession by the Russian scientists of a very powerful step in their rocketry."

CRONKITE (LIVE).... CONTD:

As far as the nation's security is concerned, and apart from rocketry, there are several significant things about satellites. They are, in the words of one government scientist, and in view of many others, "a gigantic weapon," in themselves. A satellite is, to begin with, the only really accurate source of information you need to aim a ballistic missile -- information about

II D/3 SATELLITES:CRONKITE (LIVE)...CONTD:

the exact shape of the earth, the pull of gravity, the density of space...all things that affect the course of a missile on its way to a target. We have already learned much about these things by tracking the Russian sputniks -- and the Russians probably have learned more.

A satellite is also the basis of any possible defense against missiles. It can serve as a radar station in space, a warning system detecting a missile attack. And it can scout another country's territory as no ordinary reconnaissance plane can.

CRONKITE (OVER FILM ANIMATION):SATELLITE VIEW
OF EARTH

A satellite no bigger than sputnik two could carry equipment to survey a country, and relay the information home, in the form of electronic messages, or a picture on a television screen.

II D/4 SATELLITES:

CRONKITE (OVER FILM ANIMATION) (CONTD)

HIGH ALTITUDE VIEW
OF NEW YORK

Camera techniques now being refined already can bring the earth into sharp view from high altitudes. The image of a city, from eight miles up.

BLOW-UP PHOTO

Imagine enlarged...enlarged again...

HOLD FAMILY IN YARD

and again. Until finally it brings into

clear focus a suburban family sitting

in its own back yard (PAUSE). Or a

single airplane, sitting on its runway,

With telescopic eyes now under development,

a satellite can make this kind of inspection of the earth.

LIVE OR SATELLITE
FILM ANIMATION

These are only a few of the facts about satellites -- about science in space --

that, officially, we are now beginning

to face, and only now are beginning to be

recognized in our policy. (The Army's chief

of weapons research and development, Lieu-

tenant General James M. Gavin... spelled out

some of the details in answer to a broad

question from Correspondent Alex Kendrick:

General Gavin, would you say we can separate

a military program from a purely scientific

one?

HIT FILM KENDRICK-
GAVIN. KENDRICK
SOUND UNDER

II E. SATELLITES:SOUND UP. GAVIN SOF:

Oh no, no, no, no. War is a science in itself although it has frequently been called an art, and all the components that go into a warmaking capacity in there whether it is an offensive or defensive war or both, must be scientific instruments in themselves. No, they're inseparable, I would say. One could launch a re-entry body, somewhat like a missile, off a satellite, and of course one could launch missiles to further go out into space off satellite platforms, of course. Next, we should be able to go beyond and man auto vehicles and then go into outer space where we will learn a tremendous amount of benefit to man, but as a byproduct, we will learn things that we must know if we elect to control space. We may have to do this. In fact it isn't at all far-fetched to say the control of the surface of the moon may be of tremendous importance to the western world in the foreseeable future.

II F. SATELLITES:

FILM ANIMATION:

CRONKITE (OVER FILM ANIMATION):

SPACE PLATFORM

This is the next step beyond the satellite -- and not very far beyond. This is the kind of satellite platform that military men are thinking about. Russian military men, too. A huge satellite, spinning slowly in its orbit, creating its own artificial gravity for the men inside.

A space laboratory -- science. Or a space weapon. Inside it, instruments to measure, map, survey...the earth and space around it, gathering knowledge, which is power. And instruments to explode and destroy. It can carry missiles of its own, and drop them with sharp accuracy...offer unerring guidance to earth-launched missiles...fight unimaginable wars of its own in space.

II F/1 SATELLITES:

CRONKITE (OVER FILM ANIMATION) (CONTD):

HOLD SPACE PLATFORM
OVER THIS PARAGRAPH

COME OUT ON
OVER-ALL SHOT OF
SPACE PLATFORM,
NOT A CUTAWAY

Space fiction, a few years ago. A few years ago, our military services were telling their spokesmen not to talk about "space." Too visionary, they said. Too embarrassing. Now, in its strategy, the Pentagon must reach for the moon with satellites like this ... just a few years away, perhaps...but is the Pentagon reaching fast enough? Well, the very news of the imminent retirement of General Gavin we heard a moment ago... he's leaving the Army at the age of 50, discouraged, say those in the know, by the Pentagon failure to move fast enough in the missile and satellite field.

II G. CRONKITE (LIVE):

In the race for control of the moon's surface, here's where we stand. Here's our first space vehicle -- still on the ground. It might have been launched more than a year ago -- a year ahead of the Russians. Originally, there was a joint Army-Navy project to put a satellite into orbit in 1956, using military rocketry. But the White House deliberately canceled that, in favor of the lower-priority scientific program.

Right now, there is no problem in the theory or technique of orbiting a satellite that we haven't licked. But it's a laboratory licking. We need tests, and more tests. And in every quantity of tests there is a definite number of failures. The Russians keep their failures to themselves. We don't.

To sum up: In satellites, we are a year behind the Russians -- the year we lost in the switch from the military to the scientific program. We hope to make up some time by using satellites with better instruments than theirs contain, and thereby collect more information with ours. But

II G/2. CRONKITE (LIVE)....CONTD:

the Russians are gathering valuable data right now. And that data has uses in the military field right now. As Dr. Hagen said, the accuracy of an ICBM must be at least a hundred times more than the accuracy of a satellite. So the fact that the Russians launched a successful satellite may not prove that they can also launch a successful, accurate long-range missile. But it does prove that at least they're getting close.

That's Chapter Two of our report, which continues immediately after this word from Prudential.

III. ROCKETS & MISSILES:

CRONKITE (LIVE):

The technique of putting a satellite into orbit is a combination of science and engineering, trial and error, called rocketry. If the Russians are ahead of us in rocketry, then they have an important jump on us in military power. Because a rocket carrying a hydrogen bomb, instead of a satellite, is the most potent of modern weapons -- the ballistic missile.

There is nothing new about rockets themselves.

ARTKINO FILM ON
SPUTNIK I:
BEARDED RUSSIAN
SCIENTIST WITH
TELESCOPE &
NOTEBOOKS AND
DIAGRAMS OF
SEVERAL-STAGE
ROCKETS.

As early as 1905, a Russian scientist named Tsiolkovski (Tsil - kiff - ski) was recommending two- or three-stage rockets as vehicles for exploring space. And as early as 1934, the Kremlin set up a coordinated rocket research program -- ten years ahead of the United States.

(russian)

DISSOLVE TO MATCHING
DRAWING OF V-2 ON RP,
LIVE SET, WITH CRONKITE
IN BACKGROUND

III A. ROCKETS & MISSILES:

CRONKITE (OVER FILM):

Just how far the Russians have come in
missiles --- where they stand right now ---
this is a large area of guesswork, partly
filled in by scientific reasoning and by
some important military intelligence. Some
of the facts, the Defense Department ad-
mitted recently, have been known for a
couple of years. And they are impressive.
They come from an American observation post
on the very borders of Russia -- a base in
Turkey, one of our NATO allies.

MAP:
ESTABLISH TURKEY IN
RELATION TO USSR

US BASE IN TURKEY
(NO NEED TO NAME IT)
RADAR WAVES SPREAD OUT

Powerful American radar instruments lo-
cated there have been peering across the
Iron Curtain, tracking missile tests in-
side the Soviet borders.

WAVES HIT PATH OF IRBM.
IRBM FLIES ITS COURSE.
(ANIMATION OR PAN OR
WHATEVER YOU WANT)

Intermediate-range Russian missiles, fired
from test-stands there above the Caucasus...
into a target area in the Asian desert.

WAVES SPREAD TO PATH OF
ICBM. ICBM FLIES ITS
COURSE.

A distance of 900 miles.
Long-range Russian missiles; fired from
the same test-centers...across Siberia...
into the Pacific Ocean, beyond.

DISSOLVE FROM FILM MAP TO
LIVE SET: MAP OF SOVUNION
ON RP...REPORTER IN SHOT.

Behind these Soviet missile tests is a
high-priority program of research, develop-

III A/2. ROCKETS & MISSILES:CRONKITE (OVER FILM).... CONTD:

production -- a missile program that has been going full speed ever since 1945. It's a program that has already produced a large arsenal of missiles of all types.

The Soviet T-1 -- the Russians' improvement on the German V-2. It stands as high as a four-story building.

Its range would barely carry across the Iron Curtain.

But the T-1 mounted on another, bigger rocket equals the T-2. The two stages together stand at least a hundred feet high. This is Russia's IRBM, her Intermediate Range Ballistic Missile. Not just a drawing board scheme. It's heavily stockpiled at launching bases along the frontier, zeroed in on NATO bases, in London, Paris, Ankara, Turkey.

This is the big one. The T-3. The ICBM. The Intercontinental Ballistic Missile. Two, possibly three stages -- possibly 150 feet tall. This is what used to be called the ultimate weapon.

DISSOLVE OUT MAP
DISSOLVE IN MISSILE
LABELED T-1. SYMBOL
OF MAN OR HOUSE TO
SCALE -- ALL THIS ON
LEFT OF SCREEN HOLD
MISSILE, DISSOLVE OR
POP ON TO RIGHT HAND
SIDE WORDS: "RANGE:
400-600 MILES" PLUS
MAP WITH ARROWS FROM
BASES TO WEST EUROP-
EAN CITIES.

MISSILE

MISSILE PLUS MAP

THREE STAGE SOVIET
MISSILE, LABELED
T-3. FIGURE OF MAN
OR HOUSE TO SCALE.

ALL ON LEFT SIDE OF
RP SCREEN.

III A/3 ROCKETS & MISSILES:

CRONKITE (OVER FILM).... CONTD:

HOLD MISSILE, & POP
ON MAP SHOWING DOTTED
LINE OR ARROW FROM
SIBERIAN BASES TO
U. S. CITIES.

Fired from launching bases in Russian
Siberia, across the North Pole...it
could reach New York, Chicago, St. Louis,
San Francisco. This is the rocket that
probably launched the sputniks. How
accurate as a missile, we don't know.
Probably accurate enough to threaten us
soon.

But it has been successfully tested, and
the Russians say their forces already have
it.

III A/3. ROCKETS & MISSILES:

CRONKITE (OVER FILM) CONTD:

FILM: ATLAS TEST

This is our intercontinental ballistic missile... The Atlas. Still in the process of trial and error. One small valve could jam. One electronic tube could fail -- one part in 300 thousand. Or -- it happened in one missile test -- somebody could push the wrong button.

Tests went wrong in Russia, too: but earlier.

MISSILE BLOWS UP

BOOM!

MISSILE DISINTEG-
RATING, FALLING

Since this failure, we have had successful tests. And an even bigger ICBM is also coming along, as Alex Kendrick reports now from California....

KENDRICK NARRATION AT AEROJET (SOF):

This is the Gold Rush country of Alifornia, near Sacramento. There was gold in these hills. \$70,000,000 worth has been dredged out of the past century and now \$70,000,000 has been put back on this land in the form of modern installations of the missile era. This is one of the test stands of the Aerojet Corp. A test stand for rocket engines, rocket engines that power the inter-continental ballistic missile, the Titan. The Titan has been called by the Air Force the most sophisticated long-range missile. It is the big baby. The most horrible weapon yet devised by man. The Titan engine comes to fruition on this test stand, but its story begins $3\frac{1}{2}$ mi from here in the drafting room of the world's largest drafting plant -- unless, of course, the Russians have one larger.

In the drafting room of Aerojet General 500 men and women at work, designing the 4500 parts of a 1st-stage rocket engine. Next door there is another drafting room just as big as this one, at work on another missile engine with its many parts and this is only a small portion of the 83,000 people engaged in missile production for the Air Force alone. One out of every 6 persons in this room has a technical degree. There is no shortage of engineers here and from these drafting boards is growing the mightiest weapon the United States has yet possessed - the Titan Intercontinental Missile.

The machine shop begins to translate the design into the finished rocket engine -- 1500 of the 4500 parts of the first stage engine are made right in this shop -- the other parts are American Industrial stock parts -- this stage of rocket building is known as cutting tin -- missile men call the parts the hardware.

And that's where the hardware's assembled -- behind that wall.

The finished rocket engine -- no closeups allowed in here.

KENDRICK & GATELY (OVER FILM):

KENDRICK: The next step, the fuel to get the rocket up there. Paul Gately, that's your job. What are you doing here?

GATELY: We're testing a liquid oxygen valve.

K: What do you do with that liquid oxygen?

G: Well, this is the oxidizer, which we mix with the kerosene fuel and burn to get our energy for our rocket. In the automobile you mix the gasoline with air, and this gives you the energy to make it go. Air is not a good enough oxidizer for us; so, in rockets we use liquid oxygen.

K: Well, now if I had a rocket that I wanted to shoot off at a target and I loaded it up with the fuel and the liquid oxidizer and set it up at a launching site, pointing at the target, would that be just the same as if I were filling my automobile tank with gas?

G: Well it isn't quite that simple, when your oxygen keeps evaporating off and you have to keep adding to it in order to keep the tank full in the car.

K: If this stuff is so volatile and dangerous -- and, incidentally, what is the danger involved?

G: Well, the dangerous part of liquid oxygen is that it can make almost any material extremely violent. The other part of the problem is that it is so extremely cold that there's difficulty keeping it in a container.

K: Then if it's so dangerous, why do you use it?

G: Well, because it's a very high energy oxidizer.

K: What about the solid fuel?

G: Well, here's an example of solid rocket propellant. It's simpler because the oxidizer mixes right in with the fuel. They're easier to package, and they give better reliability.

K: What do you mean by reliability?

G: Well, reliability is when you push the button. It goes.

K: Well, do you mean -- how far would this thing go if I pushed the button?

G: Well, this charge is roughly identical to a charge of TNT that size.

K: How powerful would it be? Would it blow up this room, for instance?

G: It'd ruin this whole corner of the building.

K: I'd better stand back here.

G: However, they don't usually give as high an energy as our liquid rocket, and to put it another way, you would have to build a larger solid rocket in order to do the same job as a smaller liquid rocket.

K: What about the Russians, who are working in the same field as you. Are they also concerned with liquid and solid propellents?

G: So far as we know they're working on both types.

transition from
gately to schriever

KENDRICK (SOF):

Another rocket engine has been tested and successfully. About 70% of engine tests are successful but an engine is only $\frac{1}{4}$ of a missile. There is the guidance system, the air frame, and the nose cone.

The man who is in charge of both components of all ballistic missiles for the Air Force is Major General Bernard Schriever...

KENDRICK AND SCHRIEVER (OVER FILM):

KENDRICK: General, Aerojet's an impressive place. Do you think there is a Russian Aerojet somewhere behind the Urals?

SCHRIEVER: Well, I would say, based upon known performance in the ballistic missile and the satellite field that they certainly must have facilities of that type.

KENDRICK: Could it be bigger than our biggest rocket plants in the world?

SCHRIEVER: Well that's hard to answer. I am sure they must have facilities that are at least equal to ours.

KENDRICK: I wonder if you can answer this question. Are we at the Russian level in the missile production?

SCHRIEVER: Oh, that is a difficult question to answer. I would say that they are ahead of us in the IRBM and possibly also slightly in the ICBM. But my own opinion is that their ICBM program is a development program and it's a nip and tuck race.

KENDRICK: Can we ever catch up with the Russians?

SCHRIEVER: I see no reason why we can't catch up.

KENDRICK: Is the Air Force aiming at the mass production of missiles and does that mean that you are going to reel them off an assembly line, just like automobiles?

SCHRIEVER: Well, certainly we won't mass-produce missiles the way we mass-produced aircraft during the last war. But we certainly will be producing them at rates of, say, ten, twenty or perhaps even more per month. The other part of your question, the problem of missiles, is quite different from automobiles. The producer doesn't have to worry about the roads. He doesn't have to worry about filling stations, garages or people who drive cars. They are all in being already. In our case, we have to establish this in terms of the bases and in terms of the people to operate and maintain them.

KENDRICK: General, why has it taken our country ten years to get to the stage of developing an ICBM? Didn't somebody know that we would need one? What did we do wrong in our program?

schriever interview/2

KENDRICK AND SCHRIEVER (OVER FILM).... CONTD:

SCHRIEVER: About the only thing I can say that we did wrong in our program is we perhaps started too late. We did start a program back in 1946 in the Air Force. And it was a valuable program, but it was research and experimental in nature. The long-range ballistic missile was not a very attractive weapon in those days because of the relatively high weight of the nuclear warhead. The thermonuclear breakthrough changed all that in 1952, and we made studies between 1952 and 1954 and it appeared that with the promise of the thermonuclear weapons that the long-range ballistic missile really became an attractive military weapon and we accelerated the program in 1954 and gave it the highest priority in the Air Force.

KENDRICK: Getting away from production and over to performance, what sort of odds are there against a missile's performance. In other words, can we hit ten targets with ten missiles or how many do we need?

SCHRIEVER: Initially, the reliability probably will be fairly low. I won't give you the exact percentage. But the German V-2 experience, for example, by the end of the war they were getting about a seventy to eighty per cent reliability. So we will have to fire more than ten to hit ten targets, but the reliability will definitely increase in time.

KENDRICK: Well, Sir, we have been talking about the big boys, the ICBM's, but that's not the only thing the Air Force does. They also do a 1500 missile that has growth potential to longer ranges. It is a single stage missile, and there are certain limitations as to the range of a single stage missile. When you go beyond a certain point, which I won't, I can't divulge, you have to go to staging more than one stage.

KENDRICK (VOICE OVER THOR):

This is a one-stage missile - the Intermediate Range Thor developed to cope with the present Soviet lead in this range. It is also supervised by General Schriever.

schriever interview/3

KENDRICK AND SCHRIEVER (OVER FILM)...CONTD:

K: General, when does this particular Thor become operational?

S: Well, these are production versions now and they will become operational in 1958. We'll have the unit overseas before the end of this year.

K: That's pretty fast. Does that mean you have a crash program for Thors?

S: Yes, this has been a crash program since its inception in December of 1955.

K: Well, General, why is that necessary when you have an intermediate missile that can only go 1500 miles and it can't really be fired from this country? Why do you have to crash program a thing like that?

S: Well, I think it's extremely important to extend our deterrent capability to the NATO countries.

K: Do the Russians have more of these IRBM's than we have?

S: I think it's safe to say they have IRBMs now, in operational units -- we do not.

K: They are, then, ahead of us...

S: Yes.

K: ... in IRBMs not only in number but in operational ability?

S: Yes..

K: Yes, well now, do you think we will ever catch up?

S: Yes, I do. This, this missile is very produceable -- I think that we can catch up by 1960.

III D. ROCKETS & MISSILES:KENDRICK (OVER FILM):

REDSTONE MISSILE

But 1960 is two years away. The only big ballistic missile we could fire in anger today is this one -- the Army's 70-foot Redstone. And its range is only two hundred and fifty miles.

VON BRAUN AT
REDSTONE

The Redstone is our version of the German V-2 of thirteen years ago (PAUSE). It was developed for us by the V-2 specialist, Wernher Von Braun. He is now at work, with 120 other German engineers and rocket scientists, at the Army missile agency -- at Redstone Arsenal, in Huntsville, Alabama.

REDSTONE UNIT
SETTING UP
MISSILE

The Redstone is the Army's baby because the Army is still officially limited to the shorter-range missiles. It has developed a bigger one, but can't use it. The Air Force takes over. That's one side of the conflict among the services -- conflict over who should make, and who should use, the various kinds of missiles.

It takes 208 men and nine vehicles to fire a Redstone. Our first Redstone missile unit is now being activated at Huntsville, and the plan is to have units of this sort sent

III D/2. ROCKETS & MISSILES.

KENDRICK (OVER FILM) ... CONTD:

overseas to man the missile bases we're asking
from European allies. (PAUSE)

The head of the Army missile program is Major-

ESTABLISH
MEDARIS

General John B. Mearis. I talked to him at
Huntsville.

KENDRICK & MEDARIS (SOF):

K: General, I was out there this morning in the
cold with your Forieth Group and I was struck by
the number of machines and also by the fact that it
takes about an hour to set up one of those Redstones
for firing. Now, do you think that's good enough
under war-time conditions?

M: I don't know any reason why not. We have had
very effective use out of heavy artillery that took
4 and 6 hours to emplace and go into position and
into action. And certainly the Redstone group as it
is presently constituted is no less heavy - or no
more heavy; and certainly more manageable than even
an armored battalion for example, and certainly more
so than any heavy artillery we have ever had. At
the same time it packs a tremendously greater wallop,
so that, proportionately, it's a very easy organiza-
tion to handle, I believe.

K: Are the Russians ahead of us in medium and
intermediate-range missiles?

M: I think it's pretty generally concluded that
they are at the present time.

K: Well, how far ahead are they? Can we never
catch up, or what?

M: No, I wouldn't say that but on the other hand
distance ahead in this game is not something you can
measure in terms of miles or days or minutes. The
question is: How fast do we progress? They're not
going to stand still, they're not standing still,
they will go straight ahead. And if we want to catch
up the only thing we can do is to move forward at a
faster rate of progress than they are achieving
presently. If we do that we can

rb-13

37

catch up -- if we don't do that we'll never catch up.]

KENDRICK (LIVE):

Where do we stand on missiles, then? Well, we're a year behind the Russians in intermediate range weapons, like Thor and Jupiter. We will have IRBMs ready for action by the end of this year -- but since the Russians are ahead, we won't catch up until 1960. And if the Russians step up their own program, it will take longer.

In inter-continental missiles, the professionals say we're in a neck-and-neck race. And if we reach a point where the Russians have the ICBM, and we don't, we are at a point of acute peril.

We're behind mainly because we started late. We waited for the small H-bomb that makes an ICBM practicable, while the Russians developed their ICBM on the reasonable assumption that the small H-bomb would be ready when required.

We have been hindered by interservice rivalries and jealousies. Security rules, and security clearance, have sometimes been used as a threat to keep critics in line and silence their ideas.

Security has also meant, at times, that an engineer or scientist had to work blind.

(MORE)

III E/1. ROCKETS & MISSILES:KENDRICK (LIVE).... CONTD:

And we have suffered because the general mood of the country has been one of hold-down and economy. As with satellites, we do have the know-how in missiles. What we haven't done is to put it to work efficiently, with direction, with coordination and imagination.

The Russians, meanwhile, are not just sitting on their missiles. They are seriously exploring the possibilities of nuclear power for rockets. And, they are not overlooking the other weapons in the arsenal of modern warfare. That side of the story next ... after a message from Prudential ...

III F. SECOND COMMERCIAL:

FILM COMMERCIAL F-209 (TIME 1:42)

IV. ARMS & ARMS SYSTEMS: CRONKITE (LIVE):

From all available evidence, it will be two years, at the very most, before Soviet Russia could bombard us, in a matter of minutes, from those Siberian bases of hers.

And right now there already exist, on both sides, other ways of throwing the H-bomb across vast distances, even across oceans. There are robot bombs, airplanes without pilots -- like the Air Force Snark and the Navy's Regulus. Not rockets, but jets -- a cruder form of missile...much slower than ballistic missiles...Flying much lower -- easier to spot in the air, though more accurate -- if they get through the defenses. The Russians have them too, all part of the power to wage war or to deter it.

Along with the new weapons, the old-fashioned instruments of war still weigh in the equation of military strength. And here, too, the Russians are ahead. Four million men under arms as a guess; we have 2,700,000 and are cutting down.

The Russian atomic artillery -- bigger,

(MORE)

IV. ARMS & ARMS SYSTEMS... CONTD:CRONKITE (LIVE)...CONTD:

more powerful tanks than ours. A guess: 28,000 Russian tanks. Our tank force, a secret. To give the figures, say the Army, would give comfort to the enemy. Our planes may be slightly better than the Russians, but in production the Russians are turning out 30 intercontinental bombers a month against our 12 B-52s.

On fighters, they probably outproduce us 10 to 1.

On the surface of the sea, we are probably ahead. But under the sea, Russia -- perhaps as many as 600 submarines; United States, about 110. And the submarine is one of the important weapons of the missile age. That's one thing you keep hearing in conversations with military authorities.

CBS News correspondent George Herman called on the head of the Navy Missile program, Rear Admiral John E. Clarke, to explain why:

(CUT TO FILM: CLARKE INTERVIEW)

clarke interview

HERMAN AND ADMIRAL CLARKE (OVER FILM):

CLARKE: The submarine is the perfect guided missile launching platform. When it is submerged, it is extremely stable. It is not affected by the wave and wind motion on the surface. A submarine is hard to find. An enemy cannot zero it in with their missiles. When a submarine is found, it is difficult to identify.

HERMAN: Well, Admiral Clarke, in your opinion, how about firing from under water? Is that practicable, or can it be worked out?

CLARKE: It is practicable and the Navy's Polaris missile -- that is our ballistic missile, our IRBM -- will be fired submerged, while the submarine is submerged.

HERMAN: Could you give us your opinion of the Russian capabilities in the missile submarine launching field?

CLARKE: We have information, including the Russians' own statements and comments in their papers, that they do have submarines that can launch missiles. I think the Red Star magazine said that they have a 750-mile missile.

HERMAN: What is the role of the surface vessels, the aircraft carriers with missiles or of cruisers you have mentioned, what is their value today?

CLARKE: I am very much afraid that current events have caused a great many of our people to develop a blind spot. We have become preoccupied with the idea of all-out nuclear war when, as a matter of fact, our greatest danger lies in neglecting our readiness to handle situations like the Korean situation. We can prepare for nuclear war, neglect the other, and the Russians can take this world a little piece at a time. That is why we build aircraft carriers, to be ready for the small war, the limited war. To compare the long-range guided missiles, ballistic missiles or the Regulus type missiles with aircraft carriers is to compare apples and oranges.

HERMAN: Why is it, sir, that we have so many aircraft carriers and super aircraft carriers, while the Russians have so few?

(MORE)

clarke interview/2

HERMAN AND CLARKE (OVER FILM).... CONTD.

CLARKE: I think the most significant indication of Russian long-range strategy lies in this very fact, the composition of her Navy. Let's look at the map. Russia is very much a landlocked nation. Russia does not need a navy, a strong striking navy, to reach the trouble spots of the world -- the Syrias, the Indochinas, the Burmas -- nor does Russia need a navy to support her allies or to join them. On the other hand, the United States must use the seas to reach the trouble spots of the world, and we must use the seas and control the seas to support our allies. In other words, Russia does not need a navy to project her power to the trouble spots or the potential trouble spots of the world -- the United States Navy does.

IV B. ARMS & ARMS SYSTEMS:

CRONKITE (OVER FILM):

FILM: ? ? ? ?

Not all military experts agree on the value of carriers. Some think they're too slow, too vulnerable as targets in this high-speed age. But almost all do agree that security in the missile age requires much more than missiles.

ESTABLISH PENTAGON
FOR BRADLEY INTERVIEW

Here is the view of a leading military elder statesman, a World War Two commander and former Chairman of the Joint Chiefs of Staff -- five-star General Omar N. Bradley:

KENDRICK: I'd like to ask you, Sir, how do you think this new weapon, the ballistic missile, alters the world's strategic situation?

BRADLEY: I would say that the development of the intercontinental ballistic missile has not changed our purpose or our policy or our world-wide strategy; it's merely changed somewhat the means by which we try to maintain that position. Our national psychology is such that we'd never start a war. We're a peace-loving nation. We would only fight if we're attacked, and I think the world knows that, so that we try to prevent a war by having a force, first, a Strategic Air Command, or a means for delivering weapons which would destroy any nation which tried to fight us, and we think that that would discourage them to the point that they would never start a war. At the same time we have to maintain sufficient land forces, or conventional forces as you might want to call them, to deter the starting of a small war, because small wars might very well develop into a world-wide, or World War III, because of miscalculation on the part of one side or the other, and so I think we must deter both world war and small wars like Korea as much as we can.

KENDRICK: General, a lot of people think the next war will be fought by men at control panels pushing buttons. What use would conventional forces be in an all out war?

BRADLEY: As I stated many times when asked about why we have a European army, and NATO, if we didn't have ground forces, for example, there's nothing to prevent an enemy from coming over and taking our launching sites. We must protect those launching sites. We

must protect our bases. We must maintain freedom of the seas because we're so dependent upon communications with other countries for supply and military assistance and the placing of our own troops in overseas bases. So that you must have a certain number of conventional forces even though you're going to fight a long range war, there's going to be some short range fighting, too, in my opinion; otherwise they'd just come over and take your launching sites.

KENDRICK: It's quite plain from what you say you don't regard war as obsolete or obsolescent, but what about weapons? Now aren't we developing weapons so rapidly now that they are becoming obsolescent almost as soon as we put them into production?

BRADLEY: Yes, that's true, and the ideal would be not to go into production on any weapon until you're ready to fight, but with our position of not fighting until we're attacked, we can't set that date. That gives any potential enemy great advantage. They might set a date ahead, let's say five or ten years, and build their weapons toward that. In the meantime we have to stay prepared to defend ourselves, and the weapons we produce today for that purpose may become obsolescent in another year or two. But we must have them.

KENDRICK: General Bradley, is the missile an ultimate weapon?

BRADLEY: No, I don't think so. I think that before many years you're going to be talking about satellites and space travel and that just throws the whole picture wide open. Up to ten years ago I thought that all this talk about travelling in space and going to the moon was just dreams. I don't think so any more.

KENDRICK: General, do you think that the present missile rate precludes any chance of disarmament?

BRADLEY: No. Far from it. I think that it makes it more imperative than ever. I think the mere fact that we have gone so far in the improvement of weapons, even since 1950, in the improvement, particularly in atomic and hydrogen weapons, that if Russia is definitely backing one side like she did in Korea of supplying equipment and ammunition and an ally, Chinese, and we're on the other side, like we were in Korea, I have grave doubts as to whether or not we could prevent that developing into World War III if it happened at this time.

IV. C. ARMS & ARMS SYSTEMS:

SMITH (OVER FILM):

CUT DIRECT FROM BRADLEY
TO FILM OF SAC BOMBERS
ON THE GROUND AT EXOTIC
AIR BASE -- MOROCCO?

Even now, in the missile age, this is still our best hope of preventing World War III. These are bombers -- non-ballistic, sub-sonic, with men and not computers, at the controls. This is part of SAC, the Strategic Air Command, still our chief deterrent, our first line of defense.

PLANES TAKING OFF

At bases around the world -- Britain, Spain, North Africa, and the United States, SAC planes are on round-the-clock alert. A threat of instant retaliation, in case of attack. A bond -- and also an issue -- between us and our allies.

IV. D. SMITH (LIVE):

My name is Howard Smith. For many years my assignment has been the Western Front in the Cold War -- the arc from North Africa up through Western Europe where in the NATO countries most of America's deterrent power rests nearest to Russia's western cities. The deterrent force, the Strategic Air Command, consists of long-range bombers each one of which can carry more destructive power than all the American bombers that flew throughout World War Two. Winston Churchill has said that this is what has stood between Europe and Russian domination. But now the age of missiles has begun, when unmanned vehicles can carry destruction thirty times as fast as airplanes. And the question is live: Couldn't the Russians destroy every U. S. air base before a single retaliating bomber could even take off? Is the Strategic Air Force not thus out of date and useless?

(MORE)

IV. D/2 SMITH (LIVE).... CONTD:

Khrushchev's answer has been yes, he said that that bombers are out of date. But Khrushchev's budget last month conspicuously called for more Russian bombers -- suggesting that Russia's missile capability is not yet complete. Meanwhile, to meet the threat, Strategic Air Command has begun a program of two parts -- one, to disperse our nuclear bombers over a greater number of bases, making it harder to knock them out quickly. And, two, increased alertness, so that they can take off within 15 minutes of an alarm. That is just about time enough to escape some ranges of missiles. There are even indications that some bombers are being kept in the air all the time, loaded with H-bombs, and need only to be turned towards the target if attack should come. But, in the long run, the only answer to the Soviet missile threat to our bases is to set up American missile bases.

(MORE)

IV. D/S SMITH (LIVE)... CONTD.

as soon as we can perfect and produce the
weapons.

Between now and then, our greatest weapon,
The Strategic Air Force, is in doubt ...
and in danger.

IV. E. ARMS AND ARMS SYSTEMS (SUMMATION):

SMITH (LIVE):

To draw up a balance of conventional armed forces, then, in this realm on land the Russians greatly outnumber and outweigh us. They are thus better able to fight local and brush-fire wars. However, their need to police an unwilling satellite empire is a limitation on the use of those forces against others. With missiles still in the relatively early stages of operation, America's bomber forces around Russia's perimeter are still a strong deterrent.

On the seas, American superiority in surface craft may be balanced by Russia's superiority in submarines. Now both sides face the problem of defending people and industries from attack from the air. How well are we equipped to defend ourselves? That story in a minute after a brief pause for station identification.

V. DEFENSES:CRONKITE (LIVE):

Military strength -- whether it's old-fashioned airplanes or new-fangled missiles -- it has to be measured by a complex equation. Not just weapons against weapons, but weapons against defenses. The weapons have been changing with appalling speed. The defenses are only beginning to catch up.

At a time when whole continents can be covered in minutes, our country's defenses are in another country.

MAP:
DEW LINE AND
PICKETS

RADAR STATIONS
TEXAS TOWERS

Our defense lines lie far to the north, across Canada and offshore in both oceans; picket fences of radar stations, giving warning of an attack to our fighter planes and anti-aircraft bases. A defense system ready to cope with enemy bombers, and that's the threat of yesterday and perhaps today.

MISSILE ANIMATION

What about tomorrow, in the age of the missile, with the enemy only twenty minutes away before we spot it,

(MORE)

V./2 DEFENSES:

CRONKITE (LIVE) CONTD:

traveling at thousands of miles an
hour. We asked General Gavin, the
Army Weapons Chief...

gavin interview

V. A. DEFENSES:

KENDRICK AND GAVIN (OVER FILM):

KENDRICK: Well, now, what's the best way of stopping a missile?

GAVIN: Of course, an ICBM warhead is like a ball that has left a pitcher's hand. It's comparatively out of control. We can predict its behavior, we have time and sufficient time to react with modern automation in the systems that we have to deal with such a thing. Then of course we want to deal with it well out into space so that the resultant what shall we say, the detonations or demolitions are not harmful to people we're trying to defend. This we feel too can be done. It was an impressive problem at the outset, certainly, and our scientists were not too encouraging at times, but the science of missile development has come along so fast, propulsion, metallurgy, heat-resistant materials, guidance and so on, radar, discrimination of objects in flight, to the point where now we can see clearly the achievement of a real antimissile missile capability. We're sure of it now.

KENDRICK: General, in addition to an anti-missile missile, we now hear talk of an anti-satellite satellite. What is that all about, if anything?

GAVIN: The American people are certainly entitled, if they wish and form a policy, to deny intrusion by a hostile satellite, regardless of what the purpose of the hostile satellite might be. If the American people want

(MORE)

V. A.2. DEFENSES:

KENDRICK AND GAVIN (OVER FILM) CONTD:

to deny such intrusion, certainly the Armed Forces must be able to provide the means for denying such a thing. And this simply means developing a device to stop a satellite or destroy a satellite.

KENDRICK: Would the Russians be developing devices to stop our satellites, then?

GAVIN: Oh, I'm sure they are. They would be far more backward than I presume them to be if they weren't. Their technology as we know very well now is not lagging ours. And perhaps that's the understatement of our time.

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QUIET STREETS OF
MORRIS PLAINS

SHELTER SIGNS
AND SHELTERS
(SCHOOL, QUONSET
HUT, CHURCHES)

V. B. DEFENSES:

SMITH (OVER FILM):

In the sky over any American town, the image of the missile and anti-missile, the satellite and counter-satellite, is still dim. This is the town of Morris Plains, New Jersey. Two square miles. Forty-six hundred people. An unlikely target for a missile. Yet only a few miles from some choice targets.

Morris Plains' defenses...facing squarely up to the kind of war that has already passed us by. Correspondent Stuart Novins took stock, with the local Civil Defense Chief, Ray Mills.

Morris plains

V.C.1 NOVINS AND MILLS (SOF):

NOVINS: These people walking along here on Main Street; do they know what they're supposed to do, where they're supposed to go?

MILLS: Sure, sure.

N: How do they know that?

M: Through drills and tests that we've had for the past six months or a year.

N: When was the last time you had a test?

M: December the 5th.

N: And from your experience in that test do you feel that this town is ready for the problems it might have to face?

M: I feel pretty confident.

N: What are some of the problems? You're here in pretty much the uncton point of several main highways. How many people do you expect would come in here as evacuees?

M: Well, we expect probably upwards of 30,000.

N: How many people live in the town?

M: 4600.

N: Are you prepared to take care of 30,000 people?

M: Well, we'll do a big job towards it.

N: I'm sure you would. How many beds do you have actually?

M: Well, in our stockpile, that's around through the country, which is

(MORE)

morris plains 2

V. C/2 DEFENSES:

NOVINS AND MILLS (SOF):

available and we can call on and have in five, ten minutes' time, we can get upwards of 2500 or 3000 beds.

N: 2500 or 3000. Which means that you're about 28,000 short. Is that right?

M: Oh, yes.

N: What about blankets?

M: Blankets -- there'll be about two for every cot. And they're in stockpiles.

N: Do you have a place to put these 30,000 people?

M: No, not 30,000 people. We'll take care of maybe, well, five, ten thousand of them for preliminary, temporary, overnight, one night; and then we'll send them on out into other areas.

N: Do you have food stockpiled, Mr. Mills?

M: No, we have no food stockpiled, but we know where we can go and obtain it.

N: Where would you get it?

M: Well, like down the street here to the Acme, and up the street here to another grocery store.

SMITH: The Acme supermarket is only two blocks away from the town's main shelter, which is in a school.

NOVINS & MAN ON STREET (SOF):

N: Do you know where the central area of shelter is here in Morris Plains?

1st Woman: I wouldn't know where the shelter is, no.

N: Do you know where the central area of shelter is in Morris Plains?

morris plains 3

V. C/3 DEFENSES:

NOVINS & MAN ON STREET (SOF) CONTD:

2nd Woman: No, I don't know that either.

N: What do you think would happen to a town like this if there were ever an actual air raid somewhere very close?

W: I think everything would be in a terrible mess. Nobody would know exactly what to do.

N: Do you know where the central shelter is here in Morris Plains?

3rd Woman: No, I don't.

N: Have you ever been to any Civil Defense meetings?

W: No, I haven't.

N: Do you have any kind of supply of food at home?

W: Yes, I do.

N: How long do you think you could live on the supply of food you have there?

W: Well, I have quite a lot in the freezer.

N: What would you do if the power were dead in a real alarm?

W: Oh, I would take all the stuff and put it out on the porch.

SMITH: The porch is the last place to put food when there's danger of radiation, but Mr. Mills is no worse informed than other local defense officials.

5 D. DEFENSES:SMITH (LIVE):

The Rockefeller Brothers Fund released tonight this report on International Security. It is a kind of an assessment of Where We Stand and What Lies Ahead... prepared over many months by a great many distinguished Americans, including Dr. James Kilian, President Eisenhower's Science Advisor; Dr. Edward Teller, the Father of the H-Bomb; General Lucius Clay and others. Its full conclusions you may read tomorrow in the newspapers.

On the Civil Defense the Report suggests that a Russian nuclear blow at 50 American cities could kill or injure -- that is, eliminate completely from action -- 60 million people, or about one-third of our total population.

A nation, the Report says, cannot take firm initiatives or answer challenges in world affairs unless it has a high degree of confidence. And part of having confidence is being able to know that a very substantial proportion of the population has protection against destruction of these high propor-

5 D/S. SMITH (LIVE).... CONTD:

tions if war should actually happen.

At present that kind of protection does not exist and is a limit on the sureness with which America can act in diplomacy and in world politics.

To provide protection, the Gaither committee heard experts recommend that 20 to 50 billion dollars be spent over a period of years to provide shelters.

OVER FILM
ANIMATION

Most authorities seem to think that shelters against explosion may be of little value, and we should concentrate on shelters like this one that protect mainly against radiation or fallout. They are cheaper to make, they protect many more people. They must not merely protect, but be equipped to sustain life for many days, until radiation danger has passed. Water and air must be filtered. There must be a monitor system to show when the air outside is safe once more.

(MORE)

5 D/3. SMITH (LIVE)...CONTD:

SMITH

(LIVE)

AGAIN

But today in America these do not

exist. They are not even plans.

They are as yet only unofficial recom-
mendations.

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CUT FROM SMITH
LIVE TO SCHORR
LIVE.....

IN FRONT OF RP
OF RED SQUARE...

5E. DEFENSES:

SCHORR (LIVE):

I am Daniel Schorr, CBS News' Moscow correspondent. My usual beat is here... in Red Square...Here, as on Main Street, there is no place to hide...but here, in addition, the man in the street has never been told there may ever be a need to hide.

Soviet civil defense is virtually non-existent. Only recently did government workers get -- secretly -- a pamphlet on decontamination, blast effects and other passive defense measures against atomic attack, with orders to bone up and be ready for exams on the subject. But, for the average Russian, not a word on what to do if and when the bombs fall.

The reason -- the Soviet regime, fearful of throwing the public into panic and for reasons of ideology, has never carried out an Operation Candor...has never told the people what an atomic explosion could do.

(MORE)

5E/1. DEFENSES:

SCHORR (LIVE)...CONTD:

The Soviet regime treats civil defense as a State secret...building no air-raid shelters, conducting no debates on how many billions to spend for holes in the ground. Today Russia's civil defense consists of the deep tunnels of the Moscow subway and the vast expanses of Siberia.

5F. DEFENSES:

SMITH (LIVE):

This is where we stand on civil defense.
Neither side is prepared to hold down the
nuclear toll.

United States hasn't decided what to do;
Russia, apparently, has decided to do
nothing.

6A. ECONOMICS:SMITH (LIVE):

The cost of security in the missile age is staggering. Twenty, thirty or fifty billion dollars for shelters. ICBMs at a million dollars apiece. Millions more to support a program of research and exploration in space...And still, if there is to be any meaning to survival, the daily needs of civilian life have to be met -- the needs of the consumer.

Can our system do this? And can their system do it? Here is the field for a test of strength where we are already engaged.

Even now, under Khrushchev, the communist system is reviving and even widening its original ambitions to outdo free enterprise in economics. It is striving to out-produce us, striving to keep its promise to provide a higher and broader standard of life as proof that the system works, that the revolution really pays off.

The picture shows great changes from thirty years ago, when our economy was already

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well developed; theirs just starting the growing pains of the five-year plans.

SMITH (OVER ANIMATION):

STEEL MILLS,
1928

The picture in steel, for example. Thirty years ago, this was the picture. Our steel production: thirteen times as great as Russia's.

(MORE)

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6A/2. ECONOMICS:SMITH (OVER ANIMATION)..., CONTD:

STEEL MILLS TODAY Today, it's just twice as big.

POWER PLANTS, 1928 Electric power. Thirty years ago, our power plants outproduced the Russians', twenty to one.

POWER PLANTS TODAY Today, our lead is only three to one.

SHOE SYMBOLS TODAY Consumer goods. The same kind of story. Thirty years ago, we made six times as many pairs of shoes as they did.

SHOES TODAY Today, the Russian public gets half as many as ours. These are just some of the results of the race.

ANIMATION:
POP ON US &
RUSSIA

An over-all economic race that has narrowed sharply in the years since World War Two.

US LINE CRAWLS

Our well-developed economy steadily expanding... on the average of four percent a year.

RUSSIAN LINE
CRAWLS

Their economy making a spectacular spurt from the bottom...ten percent each year.

es2

US LINE TAPERS
OFF

And the latest figures narrow the gap
even closer. Last year, our industrial
production showed no growth.

RUSSIAN LINE
TAPERS OFF

Theirs kept climbing.

That story from Harvard's Russian Research
Center, and economist Abram Bergson...

bergson interview

6B. KENDRICK AND BERGSON: (OVER FILM):

K: Prof. Bergson, in economic terms, how can the Russians support a vast missile and rocket program?

B: Well, the question certainly is in order, Mr. Kendrick - I think the answer is that Krushchev is giving this program very high priority.

It is a crash program in our sense but I think it might be a little misleading to speak of it as a crash program in the Russian sense - the point is that the Russians have been running crash programs for years - these are a normal feature of the Russian life.

You might say that this is a priority economy - some people would say it's a war economy even in peacetime.

K: Is it because they have carried out this series of crash programs that their production graph is rising so?

B: When you speak of the rise in their production you have to distinguish between heavy industrial production - this is what the crash programs are all about - and living standards. The heavy industrial output has risen spectacularly under the 5-yr. plans; at the same time living standards have only made very limited gains.

The Russian living standards are far below anything we experienced even during the war.

The basic policy is to build machinery in order to expand the machinery industries, in order to build more machinery - Krushchev is mainly concerned to expand his machinery industries - he is making concessions to consumers; nevertheless his main concern is to introduce more and more machinery in

(MORE)

6B/2. KENDRICK AND BERGSON...CONTD:

the Soviet economy. He's doing this in order to expand output and also to raise productivity.

K: Professor, even though the Russians are ahead in rockets and missiles, would it be fair to say they are far behind us in industrial production in general?

B: Even in basic industrial production, Mr. Kendrick, the Russians are still far behind us. They have made giant strides under the five-year plans but they are still producing much less even of basic industrial goods than we are.

This perhaps is something that's worth recalling now in view of all the excitement about Russia's earth satellites. I think it's important to bear in mind that the Russians are still weak in some respects; nevertheless, I wouldn't like this to be too reassuring. We have to bear in mind the special nature of the Russian economy that I mentioned a moment ago. In their priority economy a ton of steel means something very different from what it means in the United States. They're using their steel to a much greater extent than we are for heavy industry, for the production of more machinery, for the expansion of heavy industry and for munitions.

Last year the Russians produced about 100,000 passenger cars. Well, you know we produced 50 times as many passenger cars as that. This takes a lot of steel. They're using their steel for other purposes.

K: Aside from that, what about the rate of production? Even though they may be far behind us in absolute figures, is their rate of production such that at some point they will do what Mr. Khrushchev says they'll do -- namely, overtake and surpass us?

B: Well, you know compound interest works the same way in Russia as in the United

(MORE)

6B/2. KENDRICK AND BERGSON ...CONTD:

States. If the Russians continue to grow as they have been growing and we continue to grow as we have been growing lately, perhaps at some point in the distant future, perhaps in the 1970s or 1980s, the Russians would overtake us.

soviet economy

6C. SCHORR (LIVE):

Soviet economy has expanded, but unevenly, creating perilous contradictions. In the past two years, working in Moscow and traveling through the Soviet Union from the virgin lands of Siberia to the factories of Riga, I have watched them grapple with three major programs aimed at stabilizing their economy.

First, aware that over-concentration of industrial control has reached the point of diminishing returns, they are engaged now in decentralizing and regionalizing, but this has brought a danger of dislocation... of vertical industrial empires being succeeded by geographical empires.

Problem No. 2--Agriculture. I have seen them strain to increase food supply by plowing up 75 million acres of new land in an area with subnormal rainfall. The

(MORE)

soviet economy/2

6C/2. SCHORR (LIVE) ...CONTD:

crop last year was under 1956. Still, Khrushchev promises to catch up with America in meat and dairy production -- a promise of a better life as an incentive to more production.

Problem Number 3 leads also to the better life -- the necessity of providing more consumer goods as an incentive in a directed economy. Consumer goods are now coming out just fast enough to tempt the worker...NOT fast enough to satisfy him.

The Russians have been making guns and machines at the expense of butter and shoes. Now they find they must provide more butter and shoes to get the worker to produce the guns and machines. Their goal? -- to provide both machines and shoes as we do. Khrushchev says they can succeed...in fact, out-produce us in food and consumer goods, as well as heavy industry. This year may tell.

6D. ECONOMICS:CRONKITE (LIVE):

If the communists should succeed in outproducing us in both guns and butter, if the Soviet export program continues, then the under-developed countries of Asia and Africa might be attracted to communism as a way of solving their own problems.

Soviet scientists are making substantial progress in developing industrial uses of nuclear power -- a matter of great need and appeal not only to Russia but also to those under-developed countries. In this field, however, we're still ahead.

(PAUSE)

Over-all, in economics, then, here is where we stand. Even within the Russians' own terms, we still hold a commanding lead. But the very fact that they can challenge us affords us no room for complacency.

In the immediate future, American economists seem to agree, the normal progress of our economy will enable us to meet the costs of defense within special measures --

(MORE)

wrapup/2

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6D/2. ECONOMICSCRONKITE (LIVE)...CONTD:

perhaps no more than lifting the present limit on government borrowing. But in the long run, we may face decisions that could alter our free-enterprise system -- priorities and controls, even in peacetime; higher government spending for ventures into space, and therefore higher taxes.

The difference between us and the Russian people is that they have no share in making such decisions. We have -- the decisions are up to us.

Problems and decisions in another vital field -- we'll pick up there after a message from Prudential.

7. EDUCATION:SCHORR (LIVE):

The Russians began their satellite program right after the Revolution, with an immense building project. What they built was...schoolhouses. They announced they would master the world by mastering science, and they needed people educated in science to man that program.

The communists took over a country in which three-quarters of the adults couldn't read or write. Today, their literacy rate is as high as ours, and their pool of scientifically trained manpower keeps deepening.

Thirty years ago, we had six times as many scientists and engineers as the Soviet Union. Now, they have caught up with us. They have as many as we do.

And they are already forging ahead, because their colleges are turning out twice as many technical people this year as ours are.

(MORE)

7/2. EDUCATION:SCHORR (LIVE):

Education in Russia is a serious business ...serious for the government, serious for the students. In secondary schools there are almost twice as many students as 30 years ago...about 15 million today.

The Soviets like eggheads...as long as they can be kept under control. In a sense, Russia's own success in mass education has raised problems -- creating a class less easily pushed around, less amenable to indoctrination. The Kremlin has been successful in creating good scientists and technicians...less successful in creating blindly faithful Soviet citizens.

A stiff competitive exam eliminates four out of five applicants for the university. While at college, the Soviet student gets a stipend to support him. He pays that back by three years of work after graduation at a Government-assigned place.

(MORE)

7/2. EDUCATION:

SCHORR (LIVE):

To prepare for university: in high school, the Russian student works six days a week -- not five, as in America...often works on his homework well until after midnight... with more than half of his time spent on science and math.

7B. EDUCATION:

KENDRICK (LIVE):

At Alhambra High, in California -- a pretty good school, by American standards -- the grind is not so tough. You can graduate without a single course in science. You might prefer a course in health and safety, personal grooming, or cooking for boys and girls.

TRACK UP. SOF. KENDRICK AND KIDS.

alhambra students

KENDRICK AND STUDENTS (OVER FILM):

KENDRICK: What kind of industrial design are you going to do?

STUDENT: Well, designing of case and furniture and appliances and stuff like that.

K: Doesn't that require some science?

S: Well, not too much because all you are doing is just the designing and the people who are figuring out the things, they are the ones that have to have it.

K: You mean the scientists are up on top --

S: Yes.

K: -- you are down below?

S: Yes.

K: Well, are you taking any science here?

S: Well, I have taken modern science, general science and physiology.

K: How about chemistry and physics and things like that?

S: No; no, sir.

K: You are not considered to be an egghead, I suppose, on this campus?

S: No, no, no.

K: You are just taking the average courses that everybody takes here? What other things are you taking? For instance, you mentioned history and you mentioned art. What else is there?

S: Well, co-ed cooking.

K: What about that? How much time do you spend on co-ed cooking?

(MORE)

alhambra students/2

KENDRICK AND STUDENTS (OVER FILM)...CONTD:

S: Oh, about an hour.

K: An hour a day or an hour a week?

S: Just an hour a day.

K: An hour a day?

S: An hour a day, yes.

K: Why is that so easy?

S: Well, because all I do is cook, you know, put stuff together.

K: Why do you take it? I mean are you going to take up cooking as a career, or what?

S: No, it's just an elective, you know; you can take anything you want. I just plan to take that -- it's easy -- five credits.

KENDRICK AND ANOTHER STUDENT:

K: What about you? What are you studying? Are you taking co-ed cooking, too?

S: Yes.

K: Well, boy, you certainly don't look like a cook. Now, tell me, why are you doing this?

S: Well, I am also taking a science-math course. I took all my requirements through the ninth and tenth and eleventh grades. Actually, I am a senior now, and I have electives, so I took co-ed cooking and photography. I am taking machine, auto shop, auto mechanics, gym -- an easy course, you know; it is the party time.

K: These are all snap courses. Well, now, what kind of career are you preparing for

alhambra students/3

KENDRICK AND STUDENTS (OVER FILM)...CONTD:

if you are preparing for one? If you take the kind of --

S: Well, I was going to take electronics, but I think I will change to business course.

THIRD STUDENT:

K: Are you a senior here?

S: No, I am a freshman.

K: What are you studying, Fresh?

S: Well, you see, I take metal shop and orientation, English, study hall, and gym, and instrument.

K: What kind of instrument?

S: Clarinet.

FOURTH STUDENT:

K: What about you now? What kind of courses are you taking?

S: Well, I am taking a college prep course and I go through the day pretty much like Chuck does.

K: Yes.. Well, what are you studying to be -- in college -- I mean, do you have any idea in mind for your future?

S: Well, an engineer.

K: Well, now, this really does require science, doesn't it?

S: Yes.

K: How much science are you taking?

(MORE)

alhambra students/4

KENDRICK AND STUDENTS (OVER FILM)...CONTD:

THIRD STUDENT:

S: Well, I have had three years of it.

K: What is your easiest subject?

S: Oh, co-ed cooking, I guess.

K: That also. That's the elective thing?

S: Yes.

K: Why didn't you take up something harder than that because you really want to be a scientist or an engineer? Wouldn't that require a more difficult course than co-ed cooking? How are you going to apply co-ed cooking to a career as a scientist?

S: Well, you aren't, really. But say in three years or so, I will be out on my own and I will want to cook something on my own. I mean, I will know how to cook it. I mean, I will know all the measurements and that kind of stuff.

BRONX
HIGH SCHOOL
LAB

7C. EDUCATION:

At the Bronx High School of Science, in New York, the students concentrate on science and take their scrambled eggs for granted. It is anything but a typical school: entrance requirements are high and students must demonstrate the will to work hard.

SILENT

KENDRICK AND
MEISTER

The principal here is Dr. Morris Meister, who thinks more schools like this are needed.

MEISTER INTERVIEW:

KENDRICK: You have a special school here. Does that mean that you're operating a school for eggheads here?

MEISTER: That depends on how you define eggheads. If you mean that an egghead is a person who has intellectual interests, who reads widely, who likes to discuss subjects involving a certain degree of maturity of understanding -- well, then, I guess I plead guilty to having a school of eggheads. On the other hand, if you mean by "egghead" a boy or girl who has none of the normal interests of American children, then I'd say you're decidedly wrong, because they dance, they have dates, and they win athletic championships; they participate in every possible sport that is available to any other high-school child in New York City.

K: But isn't this still teaching for a minority?

(MORE)

7C. EDUCATION:

MEISTER INTERVIEW (CONTD):

M: No, I don't think it's teaching for a minority. I think we should give every individual an opportunity to develop the abilities that God gave him. If we believe in the doctrine of equal educational opportunity for all children, then I make the point that these too are children and to lose them in the masses so that their own abilities can't come to the surface would be about the most undemocratic procedure imaginable. Exposing everybody to the same kind of education isn't going to give you the development of talent at all -- I think the essence of democracy is giving every individual an opportunity to develop his talents in full.

In all schools, to give the able children a better opportunity than they're getting now -- I don't think we work our youngsters hard enough in some instances and we certainly can improve in that direction.

education wrap-up

SMITH (LIVE):

Two American schools -- the Bronx High School of Science, typical of a handful of our schools; Alhambra, typical of most of our schools. To sum up where we stand in education, let's go from the top to the bottom.

Scientists tell us that we lead in basic science, but the Russians are our equals at least in engineering. However, the rate of turning out scientists and engineers is much higher in Russia than it is here; so, as things are now moving, Russia will be well, well ahead before long.

In secondary and grammar schools our courses tend to be soft. Not only in the natural sciences but in the social sciences and the humanities, our teachers tell us: our education is failing us.

Some educators say blame must go deeper still: The American family is tending to send their children to school without that basic intellectual curiosity from home

(MORE)

education wrap-up/2

SMITH (LIVE)...CONTD:

reading and intelligent home discussion
on which teachers can build education.

We must improve. The cost will be high.
President Eisenhower is going to ask
Congress for a billion dollars to meet
crucial education problems over the next
four years. Educators say that will not
begin to meet the problem.

In this field, we face a problem more
basic than in missile technology. And
in this one, we have not yet made a start
or even fully recognized the problem.

summary

8. SUMMATION:

SMITH (LIVE):

And now, to sum up our entire report:

We have examined the facts that are available and the informed guesses.

Here are the conclusions that CBS News believes can be drawn:

We see that for the first time that our country is not first in strength. We have fallen behind in the field of missiles. We may fall behind in over-all strength if our pace and some of our attitudes are not changed. The challenge of Sputnik -- of course, Sputnik is only a symbol of this challenge -- is a challenge to our way of life and to our very survival.

We must, therefore, do at least these concrete things:

First, we must spend whatever is necessary in effort and money to achieve and maintain military parity with Russia.

(MORE)

summary/2

SMITH (LIVE)...CONTD:

Second, we must re-examine our whole educational system. Knowledge -- and not mere "social adjustment" -- must be restored as a purpose of education.

Third, as there is a possibility of war, we must decide what to do about the shelter program, and

Fourth, while building our strength, we must recognize that this is a means and not an end. This end is peace, and we should be prepared to use every reasonable opportunity to negotiate for disarmament.

* * * * *

The cry of the moment is -- We need leadership. Our leaders must answer that call by offering us a program to meet the dangers that Russia's technological and diplomatic strides portend. We will know more about that subject after the President delivers his State of the Union Message.

(MORE)

summary/3

SMITH (LIVE)...CONTD:

But we, the people, must participate in stimulating leadership. That implies sharp and frank re-examination of our own imperfections. It may be that we are over-addicted to physical comfort. It may be that we are indifferent to good government. It is probably true that we are over-complacent. It is certainly true that we have failed to understand the implications of the new world that science is opening up. We believe that no positive purpose can be served by recrimination or seeking scapegoats. We must not waste time on who is to blame. We must seek instead why mistakes were made, how they can be corrected, and how they can be avoided in the future.

We must, for example, find ways to break down inter-service chauvinism, and replace it with a sense of national interest -- not blame the military men whose attitudes are almost required by the present arrangement.

(MORE)

summary/4

SMITH (LIVE)...CONTD:

Our leaders have the grave and continuing duty to tell us the facts. We must be educated to danger. It is only then that we can meet it.

We must reward intelligence and learning, honor creativity, respect integrity.

We must be prepared to make sacrifices -- to pay higher taxes, to face controls -- if necessary to achieve our goals.

We may have to change the whole climate of American society. In a sense, we must restore some of the attitudes and values of our Founding Fathers.

We believe that the right mood for the present is not one of pessimism or fear.

The challenge is clear, and the very nature of the new fantastic weapons that bring on the challenge is itself a promise that the reward of strength and peace can be greater than anything the world has yet known.

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