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The Case History of Another Nuclear Deception

On January 5 last the White House created world-wide consternation by issuing a statement which said that new data showed it was more difficult to identify underground nuclear explosions than had been thought by the Geneva Conference of Experts last summer. The news coincided with the resumption, after the holiday recess, of the negotiations at Geneva for a nuclear test suspension agreement. The general impression in Washington as elsewhere was accurately summed up by the *New York Times* the following Sunday in its News of the Week: "the view was that the doubts cast on the reliability of the proposed detection system make agreement on a workable nuclear test ban more remote." The prospect was pictured more darkly by *Time Magazine* in a story leaked to it and in type before the White House announcement. *Time* said the new data "were enough to curl the scientists' hair" and it raised a "soul-searching question" designed to make the public's hair stand up in a permanent wave of horror. "Should the U. S.," *Time* asked, "trust to any stop-test agreement where the chances of deception are so great as to be a major risk to survival?" Similar fears were expressed in Congress. Senator Albert Gore (D. Tenn.) whom Lyndon Johnson had appointed observer at the new Geneva talks, rose on the Senate floor January 17 to call the system of inspection unanimously recommended by the East-West experts last summer "impractical and unreliable" and to say anti-climactically this was "now clearly demonstrated" by the new data "to be inadequate." Next day Hanson Baldwin in the *New York Times* (Jan. 18) recalled Dr. Edward Teller's constant argument that "the Geneva system might provide the shadow of a monitoring system without its substance" and concluded that he had been "proven right once again—his critics wrong—on an issue of high importance to the world." *Time* soon went even further (Feb. 2) and said the new data showed "the Russians could presumably cheat on any agreement at will."

The Art of Misinforming the Public

All this high-pitched, almost hysterical alarm, was the result of well-calculated deception. Thanks to a series of executive session hearings by the Humphrey disarmament subcommittee, the censored transcripts of which have just been made available, the truth can now be seen and told. Carefully and literally re-read in the light of those hearings and of a speech by Humphrey in the Senate January 20, the White House statement of January 5 and the Defense Department release amplifying it on January 16 contain no untruths. But looked at from the standpoint of public relations, i.e. the art of public misinformation, both statements were designed to create a false impression by the facts they omitted. Like the clean bomb affair, this was another bit of nuclear flim-flam.

When Philip J. Farley, special assistant to the Secretary of State for disarmament and atomic energy, was before the

Interesting Admission

"It must be recognized that the Soviet Union has suspicions of us also. The Soviet Union claims, and no doubt to some extent believes, that the United States does not want any disarmament agreement and that evidence of this fact can be seen in our alleged past withdrawals from proposals put forward by us just as soon as there is any prospect of Soviet acceptance. This Soviet suspicion was somewhat apparent in their reception of the important new data on detection and identification of underground tests which we introduced on January 5."

—Philip J. Farley, special assistant to the Secretary of State for disarmament and atomic energy, executive committee testimony Jan. 13 to the Joint Committee on Atomic Energy.

subcommittee in an executive session on January 28, Senator Humphrey asked him, "Why was no attempt made by those responsible for releasing this new data to really explain its significance?" Mr. Farley admitted lamely, "I think it is true that the implications that were inferred by most of the newspapers went in one direction," i.e. the direction of assuming that the results of the new data were wholly bad and upset the basis of the Geneva technical agreement last summer. Mr. Farley said "It was an awkward situation because it was, in effect, technical data whose meaning was not fully understood." But the trained propaganda analyst and the shrewd public relations man who reviews the record will see that the real fault was not "awkwardness." On the contrary great skill was shown in arranging the releases to make sure that the inferences drawn by the press *would* all go "in one direction", i.e. of pessimism and alarm.

Just Fair Play and the Public's Right to Know

Testifying that day behind closed doors and before Senators with access to information not available to the public, Mr. Farley treated the new data derived from last October's underground tests in Nevada with striking equanimity. He declared the new information bore "only on a limited part of the control system described last summer by the Geneva experts" and that "prospects are encouraging that ways will be found to maintain the full effectiveness of that system." He even went so far as to concede that "There has been an understandable initial Soviet suspicion of U. S. motives in transmitting and subsequently publishing the new data; we need only ask ourselves how we should have reacted had the Soviet Union come up with such new information and proposed reopening the Geneva report." This unwonted magnanimity was balanced off immediately afterward however with a passage of pure Pecksniffianism.

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Public Not Told We Didn't Use Instrumentation Recommended at Geneva . . .

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"The Soviet Union," Mr. Farley said, "does not readily grasp the conviction of our Government that it has a responsibility to inform the public of the United States of such important developments, nor does it appreciate the sense of fair play that led us to bring these data promptly to the attention of the Soviets. When our continuing studies of the possible ways of overcoming these technical difficulties have reached the stage when they can be communicated in their turn to the Soviet Union, this may help persuade them of the probity of our intentions."

The information given out by White House and Defense Department not only misled our own people and poisoned the atmosphere of the Geneva negotiations but the harm has not been undone. Little attention has been paid by the press to the testimony released by the Humphrey subcommittee. What remains in the public mind is the impress of those first headlines and of the alarmist treatment given them by mass circulation periodicals like *Time* which are opposed, like the Atomic Energy Commission and the Defense Department, to any agreement for the cessation of nuclear testing. Here are some of the basic facts which were withheld:

1. *Instrumentation.* The Defense Department release of January 16 said the new underground tests in Nevada last October were "extensively instrumented with seismographs and as a result a great deal of very significant data" was obtained. This sounded impressive.

What the Defense Department release did not say was that the instruments used were not those recommended by the Geneva conference last summer, and that the instrumentation of the special "listening posts" set up for the October tests were inferior to those recommended at Geneva.

Soviet Scientists Question U. S. Findings

The fact that the instrumentation was not that recommended at Geneva was charged in an article by two Soviet scientists discussing the new American test data in *Pravda* on January 20*. This was reported next morning by the *Baltimore Sun* in a cable from its Moscow bureau and a translation was later furnished this correspondent at the State Department when he inquired about it. Later at an executive hearing on January 28 Senator Humphrey questioned Dr. Carl Romney, the Air Force seismologist who headed the Defense Department panel on the new test data, about this Soviet charge. "Is the criticism valid," Humphrey asked, "that the instrumentation was not according to that recommended by the experts at Geneva?" Dr. Romney replied, "It was not claimed that the equipment at these stations is identical to what a control post would have, according to the Geneva recommendations." But it is also true that neither the White House nor the Defense Department disclosed this to the public nor explained that the instrumentation was not as sensitive as that recommended at Geneva.

The *Pravda* article also claimed that the temporary stations set up specially to monitor the new tests last October were not even as good as the regular Coast and Geodetic survey stations. Dr. Romney denied this, saying that "on the aver-

*"New Attempts of the United States to Hamper Negotiations on Discontinuance of Nuclear Weapons Tests," by Y. Bzinchenko and L. Brekhovskikh, corresponding members of the Academy of Science of the USSR, *Pravda*, Jan. 20.

Significant Cheating Not Possible

Mr. FARLEY, Special Assistant to the Secretary of State: I agree that it is always going to be possible that an underground shot might be conducted without being detected. It is very unlikely that anyone could achieve a significant new nuclear capability or a significant improvement of his existing capability without being clearly and publicly in the position of having violated or otherwise evaded the agreement.

—Humphrey Disarmament Subcommittee, Jan. 28.

age" the temporary stations gave better results because they had "better equipment than the average of the permanent stations at the same distance." Just what this reference to "averages" meant was never explained. But when Dr. Hans Bethe, who was himself a member of the Defense Department panel headed by Dr. Romney, appeared before the Humphrey subcommittee on February 2, he gave a somewhat different answer. "These special stations set up for the purpose of observing Logan and Blanca," i.e. the two larger underground shots last October, Dr. Bethe said, "were not as good in general as the permanent stations, but the Geneva proposal stations are much better still than almost any now existing stations."

Some Dubious Arithmetic

2. *Unidentifiable earthquakes.* The signals emitted by the underground blasts as registered by these instruments were found to be smaller than was expected. It was also concluded that the magnitude of the first nuclear underground explosion, Rainier, should be revised downward from 4.25 on the Richter earthquake measuring scale to 4.1. As a result of the fainter signals and the revision, it was estimated that the number of unidentifiable earthquakes equivalent to 5 kilotons or larger would be about ten times as great as that forecast at last summer's conference in Geneva. If true, this seemed to mean that there would be ten times as many occasions when it would be impossible to determine without on-the-spot inspection whether a blast was nuclear or an earthquake.

All this alarming arithmetic is dubious. Apparently in our as yet unpublished note to the Russians we admitted what did not appear in the press releases—that the precision of these calculations is not high. The Soviet scientists in *Pravda* said, "The precision of the calculations and specifications, as the authors of the [U. S.] note themselves admit, is not high." Senator Humphrey asked Dr. Romney whether this was correct and the latter answered, "That is correct." The article in *Pravda* said "the seismic intensity of the explosions expressed by figures between 4.1 and 5 is gauged with the margin of 0.4 more or less." Just how much a margin of 0.4 more or less means on the earthquake scale was brought out by the Senator's interrogation of Dr. Romney.

What 0.4 "More or Less" Can Mean

The Senator first elicited the information that the revision of Rainier on the earthquake scale had been from 4.25 down to 4.1, i.e. a revision of only .15—as against the 0.4 general margin of imprecision "more or less" in the new data calculations. Yet this .15 as the Senator pointed out "meant for identification purposes about 10,000 more earthquakes."

"If the Rainier calculation," the Senator asked, "was re-

... Nor That Our "Unidentifiable Earthquake" Estimates Were Very Imprecise

adjusted downward from 4.25 to 4.1, and therefore, made it appear there would be many more earthquakes to identify than believed previously, then do not these estimates with margins of error of 0.4 [more than 2½ times as great—IFS] for the Blanca and Logan explosions [the new ones last October] become very important in the problem of identification of earthquakes and nuclear explosions?" In other words, how useful were figures with such wide margins of error? After many evasions, Humphrey finally got these replies:

Dr. ROMNEY. Seismologists do not claim the estimates are very precise. . . . When a seismologist says there are so many earthquakes of a given size, he is tempted not to say that there are a thousand earthquakes, but there are 500 to 2,000 earthquakes.

Sen. HUMPHREY. Yes.

Dr. ROMNEY. We do not know exactly.

Sen. HUMPHREY. I would like to ask Mr. Murphy, the Chief of the Seismology Branch of the Coast and Geodetic Survey, if he has any comments on this technical field that can enlighten a layman.

Mr. MURPHY. . . . It seems that we can determine magnitudes probably more accurately than plus or minus 0.4 of a unit. That does seem to me to be a rather wide range. . . .

Where there is a good distribution of earthquakes in an area, there are good instruments, well calibrated, and people who are fairly well acquainted with magnitude determination, we are able to reduce the range to 0.1 or 0.2.

Sen. HUMPHREY. Are you saying that the plus or minus 0.4 is rather large?

Mr. MURPHY. It seems to be large. . . . Even for most distant earthquakes it does seem to be a somewhat large range.

The Hopeful Was Suppressed

3. *Favorable results withheld from public knowledge.* In two respects the new data was hopeful, but both were omitted from the White House and Defense Department releases. The first was the discovery that so-called "surface waves" could also be used (as at least two seismologists had predicted a year ago in reply to questionnaires sent out by the Humphrey committee) to distinguish nuclear explosions from earthquakes.

The other was the discovery—as we reported exclusively in our issue of Jan. 19—that signals much better than expected could be obtained in the so-called "shadow zone." As Dr. Bethe testified before the Humphrey subcommittee in executive session Feb. 2 [censored transcript released to the press

Sidelight on the Earthquake Problem

Sen. HUMPHREY. With high seismicity, would it be hard to conceal underground tests more readily?

Mr. [Leonard M.] MURPHY, chief seismologist, Coast and Geodetic Survey. The greater the seismicity [earthquakes] the more difficult identification becomes.

—Disarmament Subcommittee, Jan. 28.

Dr. [Hans] BETHE [in answer to a question from Senator Wiley]. There are certain areas of the globe where earthquakes are extremely rare. For instance in Washington, and over most of the Soviet Union, the same is the case. It is only the eastern border of Siberia, and a little bit of the southern border which has frequent earthquakes, and likewise in this country, only California has frequent earthquakes. —Same, Feb. 2.

Mr. MURPHY. It [China] has seismicity equal to the USSR or the United States. —Same, January 28.

Censor Blocks Out Possible Compromise

Sen. HUMPHREY. Have you contemplated the possibility of both parties [US and USSR] agreeing upon a neutral chairman of the [nuclear test] inspection team?

Mr. Philip J. FARLEY, Special Assistant to the Secretary of State for Disarmament and Atomic Energy: [Deleted] We see some difficulties for a number of practical reasons. [Deleted.]

—Disarmament Subcommittee, Jan. 28.

Feb. 19], "There was one result which was surprisingly favorable, namely, it was possible to see the signal, to perceive the seismic signal in the so-called shadow region. It is known from earthquakes," Dr. Bethe explained, "that, at a distance between 600 and about 1,400 miles, the seismic signal is very weak and quite anomalous, and this was taken into account by the Conference of Experts last summer in Geneva. The Conference of Experts decided not to pay any attention to signals received in this intervening region, in this shadow zone, but to rely on signals received at stations within 600 miles, which is called the first zone, and stations beyond 1400 miles, which is called the second zone of detection. Now, it turned out in the October tests that there were signals even in the shadow zone." Dr. Bethe said these signals would be useful in detecting explosions though not in distinguishing them from earthquakes.

The No. 1 Whopper

4. *A shocking distortion.* Dr. Bethe's explanation now enables us to understand the most shocking distortion in the Defense Department release of January 16. This said—and it sounded impressively scientific—"It appears from the recent data that first motion is not usable as an identification characteristic of earthquakes which are equivalent to 20 kilotons or less when recorded at distances between 1100 kilometers and 2500 kilometers." This trickery misrepresented the significance of the signals to which Dr. Bethe referred. It gave a completely false impression to lay readers because it did not explain that this referred only to signals in the so-called shadow zone or "skip region" which the Geneva experts did not rely upon anyway. As Prof. Jay Orear of Cornell at once pointed out in a letter January 17 to the *New York Times* (which that paper declined to publish but we printed in our issue of January 26), "The Geneva experts designed their system in such a way that data from the skip region would not be used. As long as signals in the skip region are ignored, the direction-of-first-motion technique is still just as foolproof as the Geneva experts had planned."

5. *New detection techniques already available.* The most important thing hidden from the public by the White House and the Defense Department is that new and improved detection techniques are already available which promise the operation at full efficiency of the system recommended at Geneva.

Indeed Senator Humphrey revealed in a Senate speech on January 20, "the new data on underground explosions prompted further research. . . . Already new methods of detection have been found. . . . We have now been able, through a special study panel appointed by the President's Science

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Humphrey Hearings Show Obstacles to Agreement Political, Not Technical

Full Story of Improved Detection Techniques Still Hidden by Censorship

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Advisory Committee to find new and improved methods of detection. . . . I understand there are several promising techniques to improve the capabilities without increasing the size of the system recommended by the experts at Geneva. . . . I hope and urge that its report be made public . . . many of the scientists who have studied these results feel that through improvements in scientific instruments and further research the capabilities of the control system can be increased. In fact, the President's Science Advisory Committee has so indicated." But its report is still kept secret.

Revelations No One Challenged

It is significant that Senator Humphrey's assertions were not challenged by a single member of the Joint Congressional Committee on Atomic Energy which held four days of executive sessions the week of January 12, hearing Dr. Bethe as well as Dr. Teller and his supporters behind closed doors. It has released neither this testimony nor the findings it promised on "the dependability of the detection system proposed by the Geneva panel last summer." Since a majority of the Joint Committee is opposed to a test cessation agreement, the inference is strong that its findings do not support its preconceptions.

The transcript released by the Humphrey subcommittee on February 8 showed that in executive session January 28, Dr. James Fisk, chairman of the Western delegation to the Geneva talks last summer, testified that "new or modified methods . . . give real promise of restoring the Geneva system to the capability which was stated in last summer's report." Dr. Romney, head of the Defense Department panel on the new data, agreed with Dr. Fisk, "the door is not closed for improvements, and the methods by which one would proceed to detect small shots are quite clear," though he added invidiously, "Whether we could get the Russians to agree is a question we cannot answer."

There would seem to be sufficient answer in last summer's Geneva agreement which provides at two points for constant

The Basic Military Opposition

Sen. HICKENLOOPER. The Defense Department considers that there are vast areas in which many believe that knowledge vital for the national security could be obtained from various future tests. I do not know of any responsible military people who are happy over this matter [suspension of nuclear tests] from the standpoint of the military. It is like a battleship admiral, he never has too many battleships.

—Humphrey Disarmament Subcommittce, Jan. 28.

research by the test control agency to improve methods of detection. The importance of such constant improvement was also stressed by the two Soviet scientists in the *Pravda* article, which concluded that "Allowance for and application of new scientific data on methods for the detection of explosions will be part and parcel of the functions of the control organization."

A One-Sided Race

More light was cast on improved techniques by Dr. Bethe. "In my opinion," Dr. Bethe testified, "there are a number, actually a large number, of very good methods to improve the system which was devised last summer in Geneva." Some of these were already described by Senator Humphrey in his Senate speech of January 20. "It is clear from Dr. Bethe's testimony," Senator Humphrey said in a statement February 19 which most papers ignored, "that technical problems are not the main obstacle to an agreement on the stopping of nuclear weapons tests. The main problem is political." This is the exact reverse of the impression so skillfully created by the White House and Defense Department statements in January. They made it appear that unexpected technical difficulties had upset the very basis of last summer's agreement at Geneva. Unfortunately this is the impression most people still have, thanks to the poor press coverage of the testimony taken by the Humphrey committee. This one-sided race between distortion and truth is painful to watch, especially when it concerns a matter so vital to the survival of mankind.

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