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INVESTIGATION OF MISSILE ACTIVITY OVER SCANDINAVIA

The attached report has been prepared jointly by A.D.I.(Science) and A.I.2.(g) to summarise the known facts in relation to reported missile activity over Scandinavia.

D.of I.(R).
9th September, 1946.

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INVESTIGATION OF REPORTED MISSILE ACTIVITY OVER
SCANDINAVIA

1. The evidence.

1.1. On 25th May, 1946, a Swedish newspaper carried a report of a wingless cigar-shaped object, the size of a small aircraft, spurting sparks and flame from its tail, having been observed from Landskrona, in southern Sweden. It was flying horizontally on a south-westerly course at a height of about 300 ft. During the following days, relatively trivial reports of further bright moving lights in the sky over Sweden and Denmark appeared in the newspapers. On the 9th June a bright object moving fast across the sky was observed at several places in southern Finland, and a similar observation was made there later in the month. Both in Sweden and Finland these first incidents were inclined to be attributed to meteorites; a number of comments by Finnish professors in the Press of that country gave support to this idea.

1.2. In July, however, the number of observations made in Sweden increased greatly, and during the same period so-called missiles were observed over Norway; more were also seen over Finland. On the 25th July in Norway, and earlier in the month in Sweden, an appeal was made to the public to report any unusual observations. Initially the Press of these countries reported the incidents in some detail and openly attributed them to missiles fired over Scandinavia by the Russians. Investigations were started by the Norwegian and Swedish authorities, and towards the end of July the Press was requested not to mention exact details or localities where supposed missiles were seen, in order to avoid helping the country assumed to be firing them by giving information on where they were going.

1.3. Missile observations still continue to be made over Scandinavia; on average days only 6-8 are reported, on two days - 9th July and 11th August - some 200 to 300 observations on each day were made. In spite of suggestions to the contrary which have appeared in the British Press, it has not yet been possible to confirm that a single missile has landed in any Scandinavian territory. Information given in special articles by Press representatives, in so far as it goes beyond the few proven facts known to us, is purely guess work. In view of the interest excited by the Press articles, however, it has been considered expedient for Air Intelligence to summarise the known facts. This we now do, although the present report is more in the nature of a reassurance that we are not unaware of the problem rather than a logical explanation of the information received.

1.4. Visual Observations over Scandinavia.

A large number of visual observations have been obtained from Scandinavia. Some of the best come from Norway. In general, the observations have been made by untrained observers and experience in Britain during the war showed how unreliable such reports are. An analysis, however, suggests the most notable characteristics of the projectile to be

- (a) great speed
- (b) intense light frequently associated with missile
- (c) lack of sound
- (d) approximate horizontal flight

On a number of occasions falling objects have been reported. These seem more likely to refer to parts of the missile shed during flight than to the missile itself. A few small samples of

/material

material alleged to have been shed in this way are now being analysed; the results should indicate whether they have, in fact, come from a projectile or are merely extraneous matter.

Few observers refer to wings on the projectile. For long range horizontal flight within the atmosphere, however, some form of wing would be necessary, and if the missile were at a considerable altitude, especially if it did not pass directly overhead, it is possible that small wings could be overlooked.

1.5. Two of the more detailed Norwegian reports do indicate winged objects. One refers to an incident on 18th July 1946, at Lake Mjosa near Feiring, where two missiles were seen to fall into the lake with a splash rising to a height of several metres. Witnesses who saw the missiles from a distance of 50 yards state that -

- (a) the missiles barely cleared the woods
- (b) they were similar to pictures of the German flying bomb
- (c) the length was approximately $2\frac{1}{2}$ metres, wing span 2 metres
- (d) wings were set approximately 1 metre from nose
- (e) a fluttering suggested wings were made of fabric
- (f) wings and centre section of fuselage were black, nose and tail were silver
- (g) there seemed to be a kind of steering apparatus towards the tail
- (h) there was no flame
- (i) noise resembled a strong whistle or sough
- (j) no explosion when they hit the water
- (k) the two missiles were flying fairly close together

This report describes a winged object in such detail that it can scarcely be put down to imagination.

1.6. The second report refers to an incident seen on 22nd July from Gardermoen Airfield. Three airmen, one a sergeant who had seen several flying bombs in England during the war, observed at 0100 hours what they termed a flying bomb passing over their airfield at a "terrific" speed. The height was difficult to judge but might have been 2000-3000 ft. All witnesses stated that fire and sparks were issuing from the tail but no noise was heard. They deprecated the suggestion that the object might have been a meteor or other natural phenomenon.

1.7. The majority of the observations over Scandinavia refer either to light phenomena, to bright, shining, luminous or fiery balls, or else to cylindrical or cigar-shaped objects, sometimes with a bright light in the tail, occasionally in the nose. The following are some examples of descriptions given by observers:

- (a) Like a glowing iron rod, thicker and light red in front, turning to orange at the back. Two metres long at 200-300 metres range.
- (b) Magnesium-like light in front; behind that a section narrowing conically, partly lighted by a yellowish light coming from the back. The yellowish light dropped bright particles. Visible 15 secs.
- (c) White core surrounded by bluish green colour, the size of a full moon. Four stars spurted off and were extinguished, after which the ball of fire died out and a black, roughly oblong, pointed object, 1.5 metres long went on with a pale red colouration behind. No wings or tail, no sound.

/K:

- (d) Shining ball with long bluish white tail dying out over the horizon.
- (e) Oblong torpedo-shaped object more than 1 metre long with pale yellowish point, blue shimmering tail, more than 0.5 metres long.
- (f) Black object followed by flame with very bright light.
- (g) A rocket about 5 metres long and dark coloured, flying at height of about 1000 metres, speed estimated at 1000 km. per hour.
- (h) Missile observed through binoculars for 2 minutes. Length estimated as 2 metres. Said to be glowing all over, (a light yellow-red colour) and the body gave out a clear flashing flame, like a short tail behind it. Trajectory was uneven, sometimes up a little, sometimes down a little, in an irregular manner. Looked like a burning torpedo with no wings, tail or propulsion unit.

2. The interpretation as missiles.

- 2.1. Insufficient facts are as yet available to permit any definite conclusion to be reached at this stage. Yet it is difficult to believe that all, or even the majority, of such observations as those given above are imaginary, and it must be accepted that at least on the two days of 9th July and 11th August something was seen by the 200-300 observers on each day. It is difficult to account for all the incidents as natural phenomena, especially as the bulk of them were seen in daylight.
- 2.2. Experience in Britain during the war, in the period of flying bomb and rocket attacks, showed that very rarely did even untrained observers report seeing non-existent objects in the air during daylight; often the shape or performance of missiles was greatly distorted and wrong deductions of their identity made; but practically always a report of something seen was substantiated, even if the observer wrongly described its form or origin. Thus it is not unreasonable to believe that something, and something unusual, is being seen over Scandinavia. For surely the Scandinavians are familiar with any natural displays commonly seen in their skies. During the war, when they and many neighbouring countries watched the sky continuously and with the closest attention, and when at times tension was at least as pronounced as it is now, no frequently recurring large scale observations of real or imagined meteors - in daylight - were reported.
- 2.3. Thus if the phenomena now observed are of natural origin, they are unusual; sufficiently unusual to make possible the alternative explanation that at least some are missiles. If this is so, they must be of Russian origin.
- 2.4. If such information as the Norwegian reports quoted above is accepted as true, it indicates winged missiles with a range of over 400 miles from the nearest Russian occupied territory in Northern Germany, assuming them to be ground launched. If they are launched from aircraft or ships, their range could be much less; no reports of aircraft or shipping associated with the missiles, however, have been received. There is insufficient evidence to estimate other performance characteristics such as speed.
- 2.5. To assume that all, or the majority, of observations are of such winged missiles or other long range projectiles, however, would make, it very surprising that there has not been a single confirmation of a missile crashing on Scandinavian territory. When

the Germans were experimenting with their flying bombs and rockets for example, there were many failures which resulted in the missiles crashing prematurely. In the first few months of flying bomb trials at least 50% of the missiles crashed between launching ramp and target; so if the Russians have developed a long range missile it would have to be almost incredibly reliable. This makes it unlikely that more than a proportion of the observations made have been of long range missiles.

2.6. There is still a possibility that the many observations of luminous or fiery balls could result from flares or combustible material dropped over Scandinavia by a few high-flying Russian aircraft. Although probable, it is by no means certain that these aircraft would be picked up by existing Norwegian or Swedish radar equipment. None has been picked up so far. The Russians might make such demonstrations to cause a scare by suggesting that they have missiles capable of high performance. Indeed, uneasiness has already been shown in Scandinavia. Alternatively, a few flares might be dropped in widely separated places and an occasional missile fired, giving the impression of better missile performance or a greater number of missiles. Again, it might be that a few experimental missiles have flown, off course, over Scandinavia; there is good reason for believing that the Russians are taking a close interest in former German guided projectile developments and may even have fired some experimentally. To turn attention from any such erratic flights, flares dropped at several places, unlikely as they are to leave any trace on the ground beneath them, might well cause confusion.

2.7. These, and similar explanations, do not seem to lie outside the bounds of possibility.

3. The Conservative View-point.

3.1. It would convey a false impression if we did not emphasize that so far there has been no evidence, acceptable in a court of law, proving conclusively that there have been any flying missiles, or foreign fireworks of any description, over Scandinavia at all; and some grave reasons for maintaining a strictly conservative and sceptical attitude. It is difficult to understand the Russian motive for such a demonstration. It might conceivably be the intimidation of the Scandinavian Countries, but it seems likely that if the Russians had an improved weapon they would reserve it for actual warfare; and it would be wrong to attribute such methods of intimidation to them save on excellent evidence.

3.2. In view of the foregoing doubts we must examine the value of the evidence. There is a great bulk of it, but nearly all comes from unskilled observers and there have been many instances in the past of such evidence being very misleading. It is only necessary to recall the scare of 1938-39 that the Germans had developed a motor car engine stopping ray, the scare of Autumn 1939-40 that German aircraft were dropping gossamer over France and this country, and the scare of May 1940 that Fifth Columnists were launching fireworks around many of our airfields. In all these cases there were many convincing stories told and there was doubtless some underlying explanation. We traced the engine stopping story to V.E.F. propagation experiments by the German Post Office and the gossamer to amorous spiders. We were not so successful in explaining the Loch Ness Monster.

The large bulk of evidence, while at first sight impressive, therefore loses weight in the light of our earlier experience of earlier scares: and scares at the present time are natural enough in a country near to Russia. All the evidence, therefore, probably amounts to but a few genuine observations. It remains to be considered whether these are of missiles or may be ascribed to natural causes.

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3.3. The greater part of the Swedish observations are those made on the two outstanding days, July 9th and August 11th. The striking fact about these observations is that they are practical simultaneous over large areas (the whole Southern half of Sweden in the first case - a day of very good visibility). An unusually brilliant meteor would account for either set of observations better than anything else. The occurrence of two meteors visible by day in the same area in two successive months is an odd coincidence, but not impossible. With regard to the very detailed description from Norway, the odd circumstance is that two missiles were flying together: the theory has been advanced that the observers saw a pair of swans. Innocent explanations of sundry other observations can likewise be found. Stories of strange aircraft or missiles flying from Oesel may be true, but where there is evidence of their departure, there is none of their arrival in Sweden. In short, there are very few cases in which for the maintenance of a sceptical attitude it is necessary to ascribe to the reporters actual dishonest "cashing in" on a good story, or pathological imagination beyond what is normal in a time of public excitement.

3.4. Great importance, therefore, attaches to the results of analysis of the small fragments alleged to have fallen from missiles. If any of them turn out to be substances whose origin cannot be ascribed to innocent activities, they will form the most important piece of evidence we have. Pending these results, we must reserve judgment, remarking that there is at least a chance of an entirely innocent explanation.

D. of I. (R).
9th September, 1946.

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V - 68275

J. H. DOOLITTLE
MUTUAL OF OMAHA INSURANCE CO.
1015 CASS ST. - SUITE 3
MONTEREY, CALIF. 93940

(408) 373-3292

29 August 1984

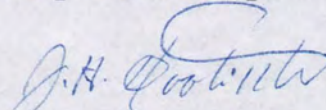
Mr. Barry J. Greenwood
6 West Hancock Street
Stoneham, Massachusetts 02180

Dear Mr. Greenwood:

I have no firm knowledge of actual rockets or "ghost rockets" in Sweden. Did know, of course, that various hypotheses were being bandied about - largely by the press.

Every good wish.

Very sincerely,


J. H. Doolittle

superose

Gilbert bond

25/0000

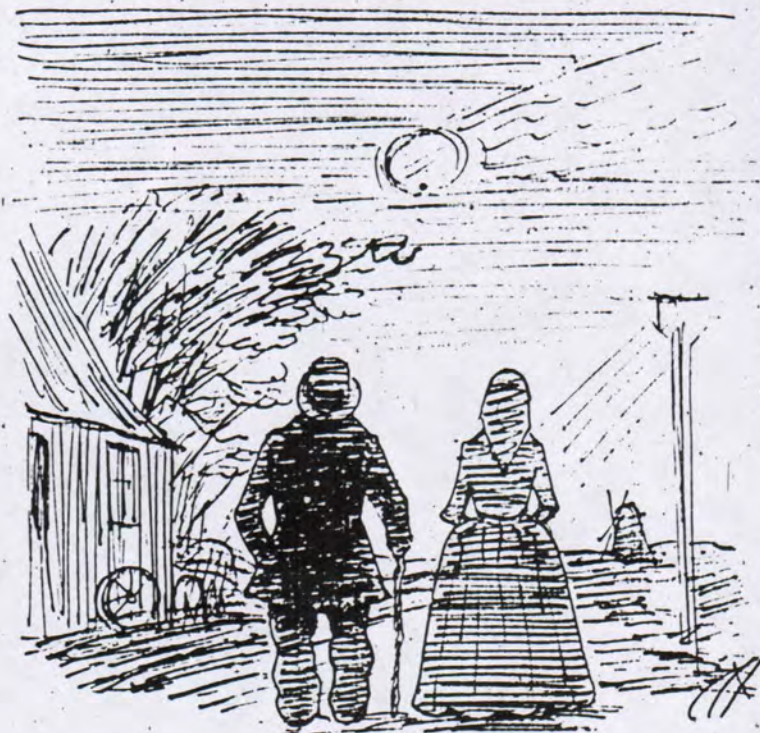
July 31
1946

Dagens Ærbødigt

Det meddeles fra Høng, at man har observeret en af de mystiske Spøgelsesraketter over Byen.

Man blev lidt opskræmt i Høng forleden. Der opstod Uro i Menigheden. Det var, som om en stor Meteor i en Bue hen over Egnen fo'r.

Man tænkte straks paa disse Raketter, der farer saa mystisk i lyse Nætter af Sted som en lysende Stjernesol, som om den var indsvøbt i Staniol.



En Uhyggestemning bli'r der tilbage ved saadan en lysende Spøgelsesdrage, der farer forbi i de særeste Slyng. Men man kan vist være rolig i Høng.

Det var ikke en Stormagt, i Færd med at ruste. Det var en af de landskendte Høng'ske Oste, der var blevet lidt for levende igen og tog sig en Tur over Tagene hen.

Ærbødigt

„Spøgelsesraket“ over Sjælland

En iagttagelse paa Slagelse-Egnen Lørdag Eftermiddag

Fra vor Korrespondent

SLAGELSE, MANDAG AFTEN

De mystiske „Spøgelsesraketter“, der i den sidste Tid gentagne Gange har vist sig over Sverige og givet Anledning til mange Gisninger i hele Verdenspressen, synes nu ogsaa at skulle iagttages fra Danmark.

I Høng Nord for Slagelse saa flere af Beboerne saaledes Lørdag Eftermiddag en blank, sølvglinsende Genstand af Form som et Projektil, der med stor

Hastighed gled over den klare, blaa Himmel med Retning fra Syd-Øst mod Nord-Vest.

Dette skete meget hurtigt, formentlig i Løbet af ca. 10 Sekunder, og ingen af Øjenvidnerne var i Stand til at redagere for Enkelthederne i det overraskende Syn. Iagttagelserne med Hensyn til Tidspunkt og Udseende stemmer imidlertid nøje overens, og der var Enighed om, at der ikke kunde være Tale om nogen Flyvemaskine, ligesom der heller ikke viste sig Ild eller Røg i Forbindelse med Fænomenet i Modsetning til, hvad der var Tilfældet i de Legemer, der har været iagttaget over Sverige. Maa ske skyldes dette den skarpe Middagssol, men det taler afgjort til Gunst for Iagttagernes nøjterne Syn, at ingen har udstyret „Projektilet“ med Omstændigheder, som paa Forhaand var kendt fra svenske Fortilsælde.

Berlingske Tidende
Copenhagen Denmark
July 30, 1946

New York Times

Aug 21 1946

DOOLITTLE, SARNOFF STIR SWEDISH TALK

Special to THE NEW YORK TIMES.

STOCKHOLM, Aug. 20—Two United States experts on aerial warfare, Gen. James Doolittle and David Sarnoff, arrived in Stockholm today, apparently independent of each other. The official explanation is that General Doolittle, who is now vice president of the Shell Oil Company, is inspecting Shell branch offices in Europe and selling oil and gasoline, while General Sarnoff, who is president of the Radio Corporation of America and a former member of Gen. Dwight D. Eisenhower's London staff, is studying the market for radio equipment.

The two men arrive here as reports on "phantom bombs" are more numerous than ever. The Chief of the Swedish Defense Staff, Col. C. R. S. Kempf, said tonight he was extremely interested in asking the two generals' advice and, if possible, would place all available reports before them.

General Doolittle, who arrived from Oslo, where he saw King Haakon of Norway, said on his arrival that he was merely on a business trip but was willing to place his knowledge and experience at the disposal of Swedish authorities in case they wanted his advice. He pointed out that it had been possible in England during the war to detect the range of German planes, the place where they took off and their height. He was highly surprised that the Swedes had not yet found a trace of a rocket and also that no theory had been advanced.

General Sarnoff said definitely that it was possible today by means of radar to detect the range, height and even the place from which rockets are fired. He said he was willing to give advice if the Swedes wanted it.

New York Times

Aug. 22, 1946

DOOLITTLE CONSULTED BY SWEDES ON BOMBS

Special to THE NEW YORK TIMES.

STOCKHOLM, Sweden, Aug. 21—Swedish authorities consulted Gen. James H. Doolittle today on the mystery missiles that have been coming over Sweden. General Doolittle met the commander of the Swedish Air Force and several of his staff to discuss the phantom bombs and he read the reports that the Swedish General Staff had received.

Simultaneously a spokesman for the Swedish Defense Staff stated that the Swedes had obtained "certain results with radar, which registered the presence of bombs over the country."

Registrations were made during days when reports on the bombs were most numerous. It is believed that in the near future they will reveal the type and identity of the bomb.

General Doolittle said he was unable to make any statement, as it was up to the Swedes to publish anything about military happenings in their country.

A Swedish spokesman said that action had been discussed and certain new measures suggested.

Special to THE NEW YORK TIMES.

LONDON, Aug. 21—The Swedish Government, in an effort to trace the source of rockets that have been falling on Swedish territory over the last three months, has approached Great Britain with a view to buying radar equipment.

At the moment British experts are demonstrating radar to Swedish emissaries and there is not much doubt that a deal will be made and that both equipment and operators will be shipped to Sweden in the near future.

Washington Post
Aug. 12, 1946

Swedes Count 'Ghost' Rockets By Hundreds

Stockholm, Aug. 11 (AP).—Ghost rockets—mysterious spool-shaped speeding objects with fiery tails—have become a common sight in Sweden, and military officials no longer doubt that the country is in a target area for experimentation with remotely controlled missiles.

Since July 1, newspapers have published reports of the flying fireballs nearly every day.

Between July 9 and July 12 military authorities received 300 reports of the missiles and since that time reports have poured in daily. Fragments examined by scientists gave little in the way of clues, except to indicate the presence of coke and other common materials.

Authorities, promising a communique on the results of the investigation within a few days, have cautioned Swedish newspapers not to publish the names of places where the ghost rockets appear, so that the senders would not be provided with important data. It is believed the rockets come from some place along the Baltic coast of Germany.

The Swedish public has taken the rockets with surprising calm. Nobody seems to think these rockets indicate any military preparation against Sweden.

In general, the ghost rocket is described as a small object with a flaming tail which speeds at great height and vanishes within a few seconds. Eyewitnesses say the rockets make no appreciable sound.

Only in a few cases is it known that the missiles actually landed in Sweden. Military authorities said the missiles evidently passed over Sweden in a huge curve. Some reports indicated the objects carried a device for self-destruction, and military experts said some apparently had exploded in the air. The longest flight of any of the missiles, so far as military experts could determine, was about 600 miles, as compared with the range of 35 to 45 miles for the first German V-2 rocket bombs.

There is no comparison, however, with the rocket bombs. The mystery missiles are small, and at low altitudes seem almost square. The bottom of the object appeared to have been painted red, eyewitnesses said. Some observed these missiles flying extremely low.

Washington Post
Aug. 10, 1946

Phantom Rockets Zip Over Sweden

Stockholm, Aug. 9.—A phantom rocket which a foreign power, presumably Russia, has been shooting

over Sweden almost daily since late June, exceeds 875 miles hourly, and has been seen at points of nothern Sweden 1500 kilometers from Peenemunde, the probable launching site, it was learned today.

Thus they are of considerably longer range than the German V-bombs which did not exceed 500 kilometers. Close examination of the burst fragments by the Swedish defense staff revealed little. But a government spokesman said that he is still in doubt whether they emanated from rockets. There is no longer any doubt, however, that Sweden has become the testing ground for the new weapon and that the matter has entered upon a new and serious stage.

More than 500 reports on the rockets have been received by the defense staff since the first was sighted last May, and the staff has been able to trace a general course of the projectiles. They come in over the southeast coast in an arch-shaped course veering eastward.

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London Daily Telegraph

Aug 7 1946

SWEDEN'S 300 ROCKET REPORTS

SOUTHERN APPROACH

From Our Own Correspondent
STOCKHOLM, Tuesday.

Reports that radio-controlled rockets which cross Swedish territory generally come from the south and leave in an easterly direction were confirmed to-day in a statement by the Swedish Defence Staff.

The announcement declares that the majority of nearly 300 reports of rockets are probably exaggerated, but enough reliable evidence remains to enable the conclusion to be drawn that some rockets are being sent.

No rocket parts have been found, but eye-witness accounts indicate types similar to German and other radio rockets known to have been completed at the end of the war.

7-8-46 7-8-46

London Daily Telegraph
Aug. 17 1946

LIGHTNING LED TO "V" REPORT

From Our Own Correspondent
STOCKHOLM Friday.

Window panes were broken in Tromso, South-West Sweden, to-day, by an explosion which was at first thought to be due to a rocket projectile.

Meteorological authorities consulted by the Swedish Defence Staff, however, considered that the incident was due to lightning. 17-8-46