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Minutes of SCAG Sessions  
June 4 and 5, 1951

The sessions proceeding according to the agenda, with the following changes and elaborations.

June 4, 1300:

Following LCDR Gleason's talk there was discussion on German success on our traffic, the enciphering of intercept, and the volume of traffic. There were also some questions about one-time additives, irregular stepping, and other complications for achieving security.

The following tour visited GOLDBERG, DEMON, a BOMBE, and ATLAS.

Then there was a session outlining AFSA's computer program: ATLAS I, ABNER, ATLAS II, and NOMAD.

June 5, 0900:

Mr. Raven gave an exposition of where ALBATROSS fitted into Russian communications, and what had already been recovered concerning it. Some questions elicited further details.

Mr. Shepard then gave an abbreviated account of the round robin search for depths on ALBATROSS.

Mr. Levenson described the important slow wheel isomorphs.

Mr. Marston elaborated on this with a worked out example.

After lunch SCAG reassembled in Dr. Highley's office, where a description of the logical design of SKATE was made. Then a tour of AFSA-22, examining principally the big and unusual equipments, SKATE, O'MALLEY, and the Chinese typewriter.

From here they went to see ROBIN and CONNIE in building B, and then ABNER.

June 5, 1445:

In room B2010, Mr. Raven spoke on isomorphism. Then Mr. Levenson brought up some general questions regarding wired wheels which have not yet

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been answered. They were, paraphrased,

- 1) How many distinct wheels are there with a given number of parallel pairs of wires?
- 2) How can cryptanalytic use be made of the fact that the number of parallelisms is restricted?
- 3) Can we recognise the re-use of a slow wheel in isomorphs from chains of the rod-square?
- 4) How many wheels are reconstructable from a given amount of data?

After some discussion of how people would make up wheels "at random", the group split into two at 1530.

Mr. Roberts made a presentation of SWEATER, which was cut short at 1615 without discussion.

Mr. Howard said that there were really two groups here, one of mathematicians and another of engineers, and that the two should be treated differently. Mr. Potter added that there also seemed to be two distinct problems, theory and practice. Dr. Tompkins objected that separately the engineers and mathematicians could not arrive at feasible solutions, but that together they might.

In the Headquarters building the Admiral asked each SCAG member for an impression. There was discussion of the feasibility of declassifying problems for outside study. The members agreed that they needed and wanted to know more. There was discussion about how SCAG should or could operate. Admiral Stone designated Capt. Harper as the official contact with SCAG members, and set the next full meeting to be on July 10 at 1000, to continue for the rest of that week.

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