

**DISPOSITION FORM**~~SECURITY INFORMATION~~  
~~CONFIDENTIAL~~

FILE NO.

SUBJECT

Comments on Dr. Cairns' Memo of 24 March 1953  
to NSA SAB on SCAMP 1953

TO

S/ASST ~~██████████~~

FROM

TECHDIR/PROD

DATE

21 April 1953

COMMENT NO. 1

1. I have been expecting from Dr. Leibler a memo on the subject of SCAMP which would clarify for this office the views of NSA-03 on the purposes of SCAMP and the Agency's philosophy concerning it. I was hoping to use this memo as a means of clarifying our own views on the matter and coming to an understanding with NSA-03 of what the appropriate use of SCAMP should be.

2. Pending the arrival of this memo I had been delaying sending you the comments prepared by Frank Raven on the communication from Dr. Cairns. I now have Leibler's ideas and am sending you my views on them, along with Raven's comments on Dr. Cairns' memo.

*A. Sinkov*A. SINKOV  
Technical Director  
Production

3 Incls.

1. Copy of Dr. Leibler's note, and reply thereto.
2. Mr. Raven's memo.
3. Dr. Cairns' memo.

TO: Dr, Campaigne, R/D *HC* FROM: S/ASST

23 Apr 53

COMMENT 2

For comment on suggested subdivision of SCAMP, 1953.

*for S. Pierce*  
WILLIAM F. FRIEDMAN  
Special Assistant~~CONFIDENTIAL~~

NSA-34

TECHDIR/PROD

21 April 1953

1. Not long ago Mr. Friedman sent to this office a memorandum on the 1953 SCAMP Program which had been prepared by Professor Cairns and addressed to the members of the Scientific Advisory Board. Mr. Friedman had requested comments from any O6 personnel interested in the program. Such comments were prepared by Mr. Raven with the help of Mr. Levenson and Dr. Shaw, but I delayed sending them because I had been advised by Mr. Levenson that you were going to send me a statement of NSA-03's philosophy and program in connection with SCAMP.

2. I have now received your note and find that in the main it is in line with the comments by Professor Cairns, stating that SCAMP's general purpose is the desire to increase the knowledge available concerning discreet problems and their computational solution. As a secondary field of consideration, mention is made of the fact that a class of problems of more immediate interest to the Agency will also be considered.

3. In effect then we are combining into one program a series of very long-range problems whose contribution is essentially in the field of methodology and a class of problems of shorter range of more direct interest to the Agency's immediate effort.

4. Although these two different objectives are to an extent complementary, there is more loss than gain, I should think, in merging them. In the main, different groups of people are called for in the two separate types of effort. The clearance requirements are radically different for the two groups: in one instance, no clearance at all is necessary (as evidenced by SCAMP 1952); in the other, the very highest clearance is indispensable. The study of discreet problems should be conducted at a location such as Los Angeles where related activities like INA and SWAC can assist the effort; the more immediate problem must be handled here at the Agency, and may derive considerable profit from the background and experience of mathematicians previously associated intimately with our effort.

5. I therefore propose that SCAMP be subdivided into two parts with the part of immediate interest to O6 conducted at NSA, Washington, and with whatever help from O6 personnel as you may desire.

6. I am sending along a copy of Raven's comment which follows along the same general lines as my own ideas.

Inclosure  
a/s

*Same comment  
to A.S. from  
W.F.F.*

AL SINKOV  
Technical Director  
Production

PROD Attn: Dr. A. Sinkov

10 April 1953

R/D

## SCAMP Program 1953

1. You have in your possession a memorandum by S. Cairns dated 24 March 1953, for members of NSA Scientific Advisory Board on the SCAMP program for 1953. I believe it gives an accurate description of how we expect SCAMP to develop this year, and the steps it sets forth meet with 34's concurrence.

2. Our fundamental purpose in holding SCAMP is, as Cairns states, to increase the general knowledge available concerning (discreet) problems and their computational solutions. Two of the starting points for this aim will be the study of finite projective planes and convex regions. A third starting point will be a class of problems which are of more immediate interest to the Agency.

3. Art Levenson, Sam Schmitt and Bob Shaw are now helping me to prepare a list of Agency problems which we expect some members of SCAMP to use as a starting point for their investigations. It is planned to have these problems presented to the members of SCAMP by such people as Marshall Hall, Al Clifford and Andy Gleason. It is also hoped that a few members of 06 will be able to attend SCAMP for the full two months in order to help guide the work along lines of interest to NSA. If you concur I would appreciate your nominations in the near future.

FOR ACTING ASSISTANT DIRECTOR RESEARCH AND DEVELOPMENT:

R. A. LEIBLER  
Chief

Mathematical Research Division

cc: 30  
3012 (2)

1222 468 14 12 50

1222 468 14 64 1 20

RECEIVED

Richard: You'll  
have to be a bit  
more discreet  
about forwarding  
letters or memos  
containing ortho-  
graphic dis-  
crepancies.  
W.Z.Z.

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REF ID: A71786

~~SECURITY INFORMATION~~

9 April 1953

Memorandum for the Consultant

Through: Technical Director, Production

Subject: Comments on Dr. Cairns' memo of 24 Mar '53 to NSA SAB on SCAMP 1953.

1. Dr. Cairns' memo establishes a SCAMP 1953 which is entirely a long-range research project. It is considered that the first general objective, that of "increasing the general knowledge available concerning discrete problems and their computational solution," is appropriate to the mission of such a project and will, in the long run, prove of interest to PROD. The second general objective, that of "educating competent mathematicians in mathematical theory and techniques of interest to the sponsor," seems to be stated the wrong way round. Not only would educating mathematicians in our techniques represent a consequential security threat; it might indeed, in requiring an otherwise unnecessary security clearance, prejudice the first mission of SCAMP by excluding mathematicians - e.g., Stanislaw M. Ulam - peculiarly fitted to make substantial contributions to a carefully directed program on discrete problems. Surely the second objective should be producing mathematical theory and techniques of interest to the sponsor.

2. Such a project seems wholly acceptable; with careful direction by personnel of R/D, it should produce results which in ten or fifteen years may be of value to PROD. It seems highly undesirable to present the participants with a discussion of current PROD problems; the doings of the agency should be presented, if at all, about at the level of Sacco or Helen Fouche Gaines. There is therefore no need for PROD personnel to attend such a project; the PROD interest will be satisfied if we are provided with an evaluated summary of results.

3. We contemplated that, as a result of the comments made on SCAMP 1952, the 1953 project would be something quite different from what Dr. Cairns describes. This hypothetical project, which PROD could have supported with considerable enthusiasm, would consist in having a panel of competent mathematicians (conceivably those actually named for SCAMP 1953), fully cleared, to discuss certain PROD and C/SEC operational problems and to perform research either directly on these problems or on the techniques they considered appropriate to these problems. We have, in fact, a tentative list of thirteen such problems, prepared when there seemed to be some possibility that they would constitute the agenda of SCAMP 1953. It would be desirable and appropriate for PROD to provide representatives at such a colloquium to present the problems and to assist in the direction of research.

4. Since SCAMP 1953 is intended as a long range research project, we feel that there is a need for a separate project devoted to the study of problems of more immediate concern to the Office of Production. This group would meet at Arlington Hall and be composed entirely of completely cleared individuals to do research on a specific list of problems. We suggest M. Hall Jr., A.M. Gleason, A.H. Clifford, E. Hansen, R.J. Levitt, W.W. Jacobs, George Kramer, and Al Whiteman.

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*FAC*

## MEMO ROUTING SLIP

NEVER USE FOR APPROVALS, DISAPPROVALS,  
CONCURRENCES, OR SIMILAR ACTIONS

1 NAME OR TITLE Dr. A. Sinkov	INITIALS		CIRCULATE
ORGANIZATION AND LOCATION PROD	DATE		COORDINATION
2			FILE
			INFORMATION
3			NECESSARY ACTION
			NOTE AND RETURN
4			SEE ME
			SIGNATURE

## REMARKS

Comments would be appreciated from any of your people who are interested in SCAMP 1953.

FROM NAME OR TITLE	DATE 25 Mar 60
ORGANIZATION AND LOCATION WILLIAM F. FRIEDMAN SPECIAL ASSISTANT	TELEPHONE 60493

~~CONFIDENTIAL - SECURITY INFORMATION~~

24 March 1953

MEMORANDUM FOR: Members of NSA Scientific Advisory Board

SUBJECT: SCAMP Program 1953

1. A symposium known as SCAMP was sponsored in the summer of 1952 by the Armed Forces Security Agency (now called the National Security Agency) at the Institute for Numerical Analysis of the National Bureau of Standards on the campus of the University of California at Los Angeles. A sequel, SCAMP 1953, is planned for this coming summer. The project is to be financed by funds transferred from the NSA to the NBS through the Office of Naval Research. Accordingly, Dr. Mina Rees of the ONR and Dr. John H. Curtiss of the NBS are interested both in the scientific quality of the SCAMP program and in its relevance to the practical problems of the National Security Agency. I accordingly agreed to describe to the Advisory Board the present plans for SCAMP and to transmit the Board's comments to Dr. Rees. Since time did not permit us to consider this matter at our meeting on 5 February, I am soliciting your opinions by mail, though I realize that some of you are relatively near to the problems involved.

2. Aside from NSA personnel, the expected SCAMP participants are A. A. Albert, R. H. Bruck, K. A. Bush, S. S. Cairns (Chairman), Randolph Church, A. H. Clifford, W. S. Connor, R. P. Dilworth, A. M. Gleason, R. A. Good, D. W. Hall, Marshall Hall, A. J. Hoffman, V. L. Klee, Erwin Kleinfeld, J. C. Koken, Morris Newman, L. J. Paige (Executive Secretary), Gordon Pall, A. E. Roberts, and C. B. Tompkins.

3. The general objectives of SCAMP were expressed as follows in a letter of 23 January 1953 from John H. Curtiss to the Chief of Naval Research:

- a. "Increasing the general knowledge available concerning discrete problems and their computational solution."
- b. "Educating competent mathematicians in mathematical theory and techniques of interest to the sponsor."

4. Although details remain to be worked out, it is contemplated that the first objective shall be pursued as follows:

- a. As background material, and as a nucleus about which this year's research may be built, the participants will be supplied with:
  - (1) An expository account, now being prepared, of last summer's work and of closely related topics,
  - (2) A paper "Discrete problems and computers" (copy being sent separately to members of the Advisory Board) prepared by C. B. Tompkins subsequent to SCAMP 1952,

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- (3) Material concerning convex regions and their use in discrete computational problems, being developed and prepared in a suitable form for use by participants,
- (4) Appropriate computations prepared for SWAC in advance of the symposium, together with coding and full descriptions of the problems for expository purposes.

b. During July and August, research will be conducted by the participants listed above, in collaboration with personnel assigned to SCAMP by the National Security Agency. The latter will, besides participating in the research, help guide it in directions of particular interest to the NSA. The participants have been selected because of their demonstrated ability and independent interest in discrete problems more or less related to the purposes of SCAMP. It is considered best not to confine their activities by assigning to them a set of specific problems, but rather to leave them free to carry out the mission of SCAMP with the aid of the preparatory measures just listed, the educational program about to be described and the continuing advice of NSA personnel.

5. To promote the second objective under item 3 above, material concerning communications and some of the engineering aspects of computers will be made available to the participants, according to present plans, as follows:

- a. A course of eight lectures will be devoted to selected topics in military communications. These will be planned within the NSA and presumably delivered by NSA personnel.
- b. Another course of eight lectures will describe engineering aspects of computer components in order that the participants may be in a position to assess the possibility of solving certain problems with the aid of special purpose equipment. Mr. Joseph Desch of National Cash Register has expressed a willingness to cooperate in this lecture course, and Mr. John McPherson has assured me that IBM personnel will also provide expert assistance.

Attendance at the lecture courses is to be optional, and the series on engineering aspects of computers will be open to interested persons who are not members of SCAMP.

6. I should appreciate your comments on the SCAMP program at an early date. They should be addressed to me at the Mathematics Department, University of Illinois, Urbana, Illinois.

S. S. CAIRNS  
Chairman of the Advisory Board