

CB

8 July 1963

MEMORANDUM

TO: Dr. R. Keith Cannan
Dr. Richard H. Orr
Dr. Alice A. Leeds

FROM: Dr. Edwin B. Coyl

SUBJECT: Information desired by the Advisory Committee to the Study on Scientist-to-Scientist Communication Needs in the Biomedical Field.

The following areas are those on which one or more of the Committee asked, or expressed a desire to have more information. The list was extracted from a tape recording of the meeting.

Definition of "biomedical", is it worthwhile to pursue? Opinion seemed to be not at present time.

Is there evidence that the size of the average journal paper is changing? Number of words, extent of detailed data furnished? The word count may be best way to document a change.

Cost of subscriptions to journals as a factor in the world-wide distribution of biomedical information.

Is there evidence of the increased use of abstracts as a primary communication?

What is the status of citation indexes? Have adequate studies been done of their value and usefulness?

Recommendation
What is the status of letters to editors? Are they indexed? Are they usually for priority or for information?

What has happened to the microfilm and microcard programs? Extent of usage, etc.?

A continuous review was suggested of the guidelines for libraries. Services to be rendered, etc. (Not an item for this study, but might be an item in the report).

Would document services such as performed by ASTIA and OTS be valuable to the biomedical research community?

A long range plan should be adopted to attract biologists who have shown promise in a scientific field to make a career in "information" type of work. Can this be a part of the report.

Research^{IN} information theory and systems analysis should be continued. It may have a great potential meaning to the future of biomedical research. At intervals the theories and systems should be restudied.

The information problems of scientists and other information users at the present time should be sharply analyzed. Then a projection made of foreseeable future problems and this also carefully analyzed.

The actual requirement of the user is one of the most important and is the hardest part of the communication problem to accurately assess. Studies needed?

Is there a difference in the user requirements of the mission orientated versus the discipline orientated research worker?

The establishment of regional centers for research and service in the biomedical field was recommended. Should they be both research and service centers, or two centers adjacent to each other, one for research and one for services?

Plans and projections looking to the future in biomedical information should be along two lines, one a strengthening of the present institutions and systems and secondly, new approaches in the field of automation. It may be that services unthought of at the present time will be discovered.

Advanced thinking about machine title writing^{with} - key word systems. [

What value has been demonstrated to ensue from the support of conferences (especially international ones)? Are they necessary to supply current awareness, etc.? How to get younger people to conferences and meetings, especially those from 1-5 years post-doctoral?

Find out what are the responsibilities of various federal agencies in the field of information?

There was some discussion of the foreign translation program, and questions about its use.

*repetition of sig reader
availability*

Aug 19

CP to write general principles, cost estimates for recommended proposals

Radiology Aug 1963 pg 201 - Evaluation of a Computer Retrieved Radiographic Image
P. H. Meyers.

Effects of look of coord. in up field - ? give examples.

- 2 working papers: 1) index & habits #5
- 2) evidence on awareness of look of coord #6

2 weeks to get the drafts in.

needs much less certain than habits.
ideals - little or nothing known of this. mid-level reflection of needs

CB to do writing on needs & habits - within 2 weeks.

CB to edit biblio -

Thought extent done means current reference tools.
coord effectiveness of abstract vs. index ?

Good influence:

(1) AEC - credit given

(2) AIP - strong prof. soc. - monopoly on communication channels
they can decide what new journals are
needed, etc.

Bevin field doesn't have this.

Study - what is the extent of control of info channels in various fields?

13/11/77

Open section

Written records - translation (also by other is faster than cover to cover)

only cover to cover program in Russia - most of her is German & French.

Tracer - pub list of pub. - see how many get into the secondary pub.

check time lag w/ secondary publications (check discipline vs. pub. outlet services)

Index Medicus

Biob. abstr.

Costs of abstract publications. - What is the letter price for speed?

Kinds of service requested by users - Verification

- detail - others, names, lang., etc.

- copy of selected items

- ~~SDI~~

- Retrospective research in response to special questions

- ~~synthesis~~

- ~~present or state of the art.~~

Which are most important to functions? Relative frequency?

How are they satisfied? Where can they turn to?

What kind of services do people look for?

What local users do the users have?

user has allegiances in different fields e.g. subject discipline & public disc.

e.g. Review IRE Proc. + Interpreting or Dis-ward Eng.

ref. collecting only - only 2 days effort - commitment - other people that had to be completed.

Impressions - little if any factual data. Lots of pieces of opinions.

Mass vs. minor requirements - can make comments on mass, - but there doesn't seem to be a quantitative base for a good foundation. - Bits of pieces & opinions. - may have to speculate or opine.

Scientist is now a business man. - this is a change in the socio-economic environment which may change info requirements. - Success of academic role depends on your ability to acquire proper funding. - Now need more administrative products & controls - scientist not so free in his movement now.

Reporting is now required by administrative deadlines & contract terminations - rather than by the collection of a significant amount of data.

"Have don't write the results at the end of the project, will never get it written - will get too wrapped up on the new project."

Don't necessarily force the ^{order} size by day, come system. - Scientist must have some control.

→ Pivots - what constitutes the evidence for our argument.

Changes in info systems have requirements in user habits & usage restrictions. Force him into changing some of his work habits.

need network of "retailers" to re-purpose & distribute info to users - rather than simple large groups (NLR). - Some interest abstracts are prepared from Index Medicus - they should be software epidemiology by-product.

Info system is lagging behind the socio-pol. of performance of science. (Gannan)

current status, report list, abstract index, SIE & Natl Report Center

NIH - this project is deferring - Jan 3 -

Goal of SDI system for retail packaging on large scale?

orig article journals

reviewed journal

abstract publ.

index publ.

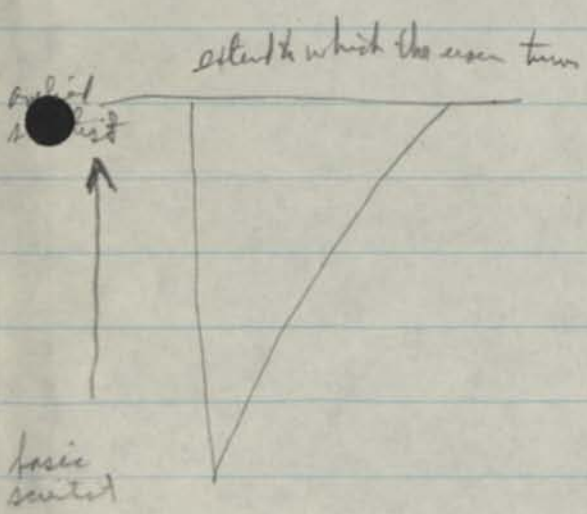
title annotation

reports

newsletters

continuation of obs.

monographs



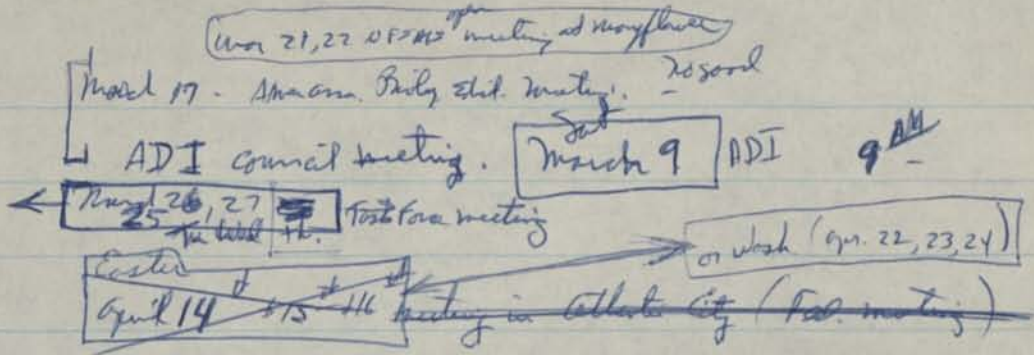
These publications are being subsidized. eg Chem Abstracts, DA, Excerpta Medica

They can be considered for several levels -

ASU
Alan Pies & Aldinger also seeing WFO research or service

March meeting -

not met by
16 noon by
date.



April meeting -

Murray Luck - Stanford Physiologist Annual Review Editor
old friend of ours, could provide some info.

John Lederberg - also at Stanford. - ~~role~~ Market ~~with~~ Paternation Project 1 mill from
Kensley Foundation.

Report lit. not only accounts to academic workers. - does OPA cost limit the
availability?

NIH extra-mural project reports are 'NIH-confidential' by law - - permission for
extra copies must be given by the author. NIH can not distribute these
reports.

Check NIH Grants Research Index for ^{list of} their publications. - Extra-mural projects
are now required to produce final reports.

BIG SCIENCE - -

main demand (historically) of commun. was the discipline - extension of minor curricula
curriculum is now being shifted to wider discipl - - maybe the
disciplinary approach is falling down.

last year Federation meeting was packaged on discipline basis. - check of colored books showed
very mixed lecture sessions of several disciplines. - date at Federation.
Buckman's scheduled their own meetings.

Berkman - 1957

Jan 63 - all tickets included in revised list.

Am & Eng. News 11 Feb 63

change from into pub - growth is only an aggregation.

"Characteristics of the War"

Characteristics of the Life Cycle

- 2 main threads -

biggest change in 1940. hair growth

^{total} cost of secondary pubs. & total circulation figures can be obtained by slips.

meeting's report - 3 day meeting

Research Volume

report list. - maintain archival file - no bibliography or paragraph control.

Primary record (archive & journals) - twice weekly newspaper (NSF study showed more newspapers in medical field)

Oral communication (conf., meetings, etc.)

Personal

not especially attributable to Science - no news info added.

(Secondary Records (Biblio Tools for Control, current awareness)

(Tertiary Records (Reviews - synthesis, etc. - some new values & info added)

→ oral comm. (how many meetings - attendance, NSF & NIH support of meeting, cost of meetings, no. of papers presented (w & w/o later publication).

source of sponsorship

Fed has 3000 papers, 14,000 articles.

time lag between papers & publication.

there are some reporting services

twice weekly

Debs - To help put your notes together, here ~~is~~ is a ~~brief~~ listing in brief form of some of the general principles or assumptions that I heard voiced at the Advisory Group meeting last week.

1. There should be no conscious duplication of ^{intellectual} effort.
2. Whenever possible, try to augment a present ^{service} ~~system~~, rather than establishing a completely new service.
3. The best service is local service.
4. Research sponsors should also share in the support of the distribution & utilization of information.
- 5.

July 31, 1963

NATIONAL ACADEMY OF SCIENCES -- STUDY OF SCIENTIST-TO-SCIENTIST
COMMUNICATION IN THE BIOMEDICAL FIELD

Report of Task-Force and Staff Meeting -- July 22-24, 1963

July 22 - Staff Meeting

Present: Abdian, Bourne, Coyl, Leeds, Orr and Pings

The data-collecting activities of the Staff during the past month and the unfinished tasks of this type were reviewed. Leeds and Coyl will finish the analyses proposed in Working Papers #1, #2, and #4. In addition, Leeds will complete a simple study on the number and sources of technical reports in the biomedical field. The questions raised by the Advisory Meeting were again discussed to see which suggested modest studies that could be accomplished in the remaining time. The only new study to be attempted is an investigation of the extent to which "shorties," such as the papers in Proc Soc, and promisory abstracts, such as in the April issue of Federation Proceedings, are followed-up by more complete publications.

July 23 - Staff Meeting

Present: Abdian, Bourne, Coyl, Leeds, Orr and Pings

Morning Session

The "package" of recommendations prepared by Pings pertaining to biomedical information services at the local level were discussed. These included support for biomedical libraries, improvement of the inter-library loan system, training of document processors, translations, and establishing centers for R&D aimed at improving local biomedical information services.

Afternoon Session

The various areas in which recommendations may be indicated were discussed, as was the appropriate form and organization of the recommendations to be presented to the Advisory Committee for consideration at the August 19-20 meeting.

July 24 - Task-Force Meeting

Morning Session

Present: Staff and Dr. Cannan (Guest--Dr. Thomas Kennedy)

Orr briefly reviewed the Staff's work in the past month and the plans for the coming month, when the major emphasis will be on drafting recommendations and preparing for the August meeting of the Advisory Committee. The Staff's concept of the nature and form of recommendations was discussed. Drs. Cannan and Kennedy commented on what they hoped would be accomplished by the report.

Areas in which recommendations may be indicated were discussed. The implications of supporting journals by page charges received special attention as did the question of how the biomedical information complex may be coordinated effectively and who should do the coordinating. It was decided to try to arrange the final meeting of the Advisory Committee for the week of September 30.

Afternoon Session

Present: Staff and Dr. Cannan

Staff responsibilities were assigned for the coming month. Drafts of recommendations are to be circulated among the Staff whenever possible. The aim will be to mail the final drafts to the Advisory Committee on August 9. Leeds and Coyl will finish data collection projects. Bourne will develop recommendations for an economic feasibility study of publication of separates and a systems study of the inter-library loan system. When these are completed he will prepare an essay on the implications of technologic advances for biomedical communication. Pings will finish the local information services "package" of recommendations and draft recommendations on the relation of libraries to "specialized information centers," and on other aspects of document and information processing. He will also prepare short essays on microforms, foreign literature, and abstracting/indexing services. Abdian and Orr will develop recommendations in areas not assigned specifically to others. and of B

Richard H. Orr
Staff Director

Distribution:

1. Task Force (Staff plus Drs. Cannan and Lee)
2. Dr. Visscher
3. Dr. Heumann
4. Dr. Harte

22 July 63

- **Recommend.** - King's package on local service
 - sent out before 9 Aug for Aug 1963 meeting.

Staff papers to help gather material for final report.

Rec. - 2 types : 1) general principles (expectations)
2) specific rec. for NHA or PHS - concentrate on plans that have not been hit yet

Short-term vs. long-term solutions
action vs. study in each of the above.

Form: ^{short}whence down, followed by specific recommendation

final oral suggested for end of October.

- **Principle** - final researcher shall turn attention to local data for all his needs - they are the retail outlets.

→ Must comment on prog changes - Dangers & advantages. - Where can this lead?

To propose study of separates (e.g. "economics of alternate forms of pull - different vs. mass, size of article, press run, composition technique, etc. 2. pilot study of each a system)

- #1 CB to prepare PR for local history systems } in one week
- #2 ~~CB to prepare PR for study of separates. (allocating resources?)~~
- #3 implications of automation
CRS to make recommendations in one week

System R&D in info handling - briefly identify scope & purpose of R&D - ~~if~~ i.e. the place of this type of activity - include examples - this methodology work

might be useful as part of implications of automation.

↓
~~CRS to send info on microform.~~

3
L514.

Current Physics Articles - to be published in early 1964 will
be pre-qualified assurance of article to be published in
20 AIP j - subscribers will now get additional service
(at extra fee) for reprint service - try it for a year.
Will provide preprint for 2 AIP journals.
Now should get papers at some cost/paper as ^{with} journal subscription.
(As alternatives to journal publication - not a replacement for
journal publication).

Vickrey - National Lending Library (G.B.) trying for last 2 years to implement
a doc. delivery system in G.B. -

Dwight Gray - Science - "R+D Staff" - "Lenses or Blind Robots"

Whitby - ask for unpublished doc abstract (look of funds) - for AD?

Write PAA letter regarding NSA covering for AD abstracts.

Open Abstracts - Carol S. Poy - John Baker?

make AD cumulative index in Oct 1964.

M

● Commentaries should be ready for Aug 19 meeting;

~~Sci. Comm. Corp. - at the end. (as well @ request)~~ ←

~~GI → NIH NINDS, try → OIS, ASTIA structure, Dwight Brant LC~~

~~MIT 20 mil over 7 yrs for kind instr. - NIH tech. monitor~~

Secondary Dist. Paper: take alternatives -- how to go about studying what choice to make:

We must develop secondary system - vol. types of demands. -

Which of these approaches is most satisfactory? Give a preliminary answer w/ supporting

data - e.g. Veris suggestions for existing existing research centers.

→ what other data do we need?

Write paper for this type of study - good enough to request bid on.
Get specific recommend. for study.

CB to do this

● Teleconference - 40 institutions in Detroit - giving prob. - each other gets 12 min. - clarity of pictures? Could experiment to set up local systems.

NLM has 5-day turn-around time - can't expect secondary system to initially provide more than this.

Med. Lib. availability to computers (people reach a SDE) is unknown. Med. Lib. committee (Touss - high) is looking at the way. Send out questionnaire to Lib. in ~ 2 mos.

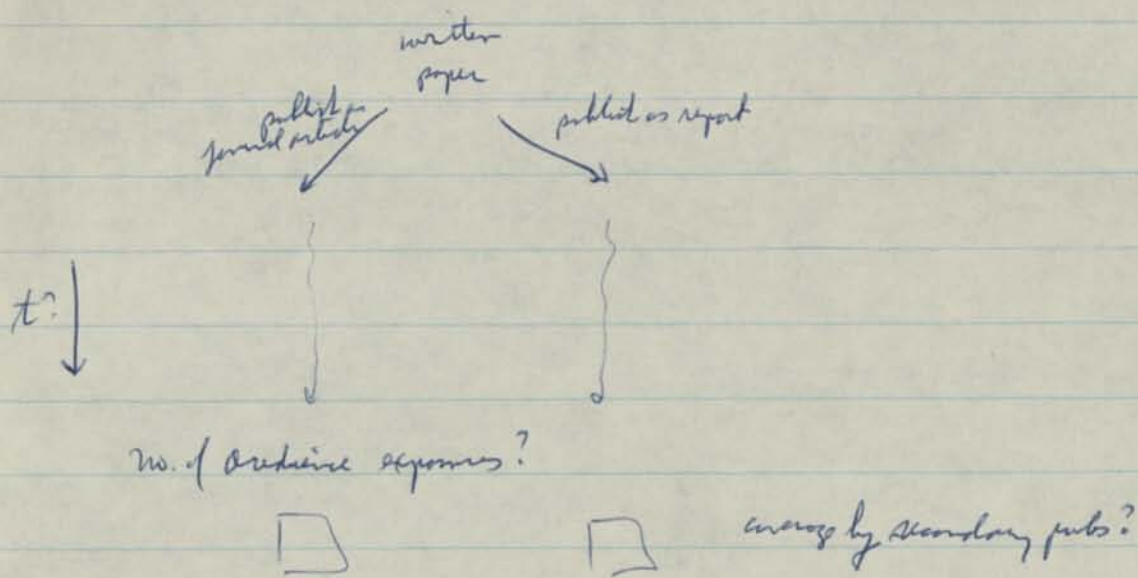
~~Suggestion: US to pay for ILL mail costs; 2) US to pay for ILL photocopy cost.~~

● Norton - Fed didn't get note on travel expenses.

→

housing? especially
of looking like
with by chance.
copy from
admission

~~Study of alternatives for primary publications (e.g. reprint or separate).
 Super funds become only thing left - with photocopies on demand.~~



CB to provide page counts for TAB, AEC, etc.

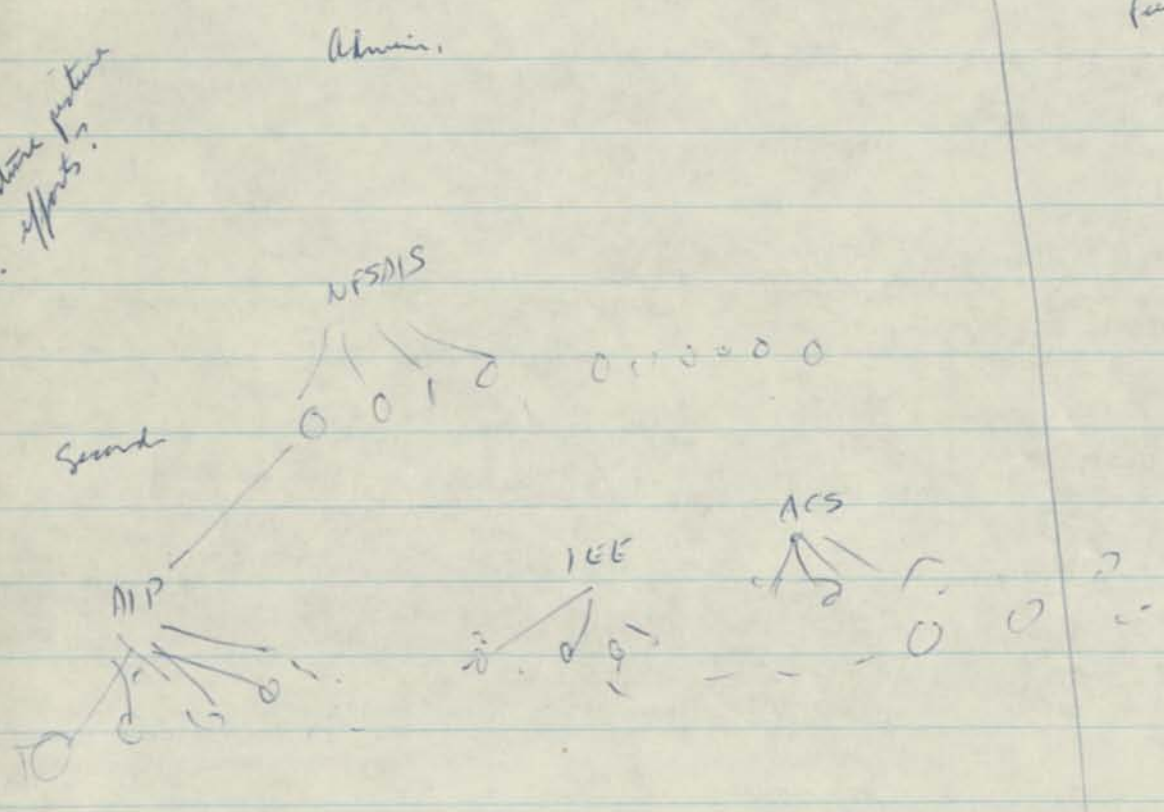
Recommendations:
 → OTS reduce price of photocopy service.
 Who can subscribe to TAB?
 Who can order from ASTIA?

~~NLM should assume responsibility of covering US tech report lit. for announcement.
 & providing copies on demand.~~

↓
 Also could get TAB from NLM, NIH, LC (telephone book? - cheap item)
 Dts cost \$15 for abstract of a project vs. in 2/11/1962 Grant Index, 1 only/ass with system.

CB - Doc. Delivery Service Study. ~~The~~ Subsidy is a short-term solution.
 i.e. attempt to get long range solution to doc delivery prob.

How to structure picture of coord. efforts?



Funding
Coord
Control
Policy

● Logical Design of Doc. Delivery Service - Here are the requirements -
What is the reasonable design?

~~Check CB description to J. Chan Doc.~~

CB study of size of items transmitted for ILL purposes
→ to get an estimate of mail costs.

generally noted, but make assumptions
to estimate number of items transmitted
to reasonable cost?

What solution?
What multiple?

June 7 - user studies deadline for delivery to ORR

903 library

For general purpose - you get little guidance from user studies.
They become more valuable when you are looking at a specific group.
Under what circumstances? ... were user studies 'info' developed?

1. Sw & E. prefer to do their own reading - support preferences w/ recorded fact -
[must show that user had preference - Depends on whether you have good help, etc.
modifier to each hypothesis.

- term to do, both -

2 things to satisfy Vischer: 1) Indexing & Abstracting Service in Med. Field. 2) Special Lib Centers

3) report lit. - vol., source, etc. : Patents? ARDIAN

4) legal brief of enabling legislation? ORR

[World Index & Abstr. Service 75 - NESAIS]

5) names of journals added & dropped during last 10 years.

6) productivity of researchers

7) types of library service & principles for establishing levels of service. - Difference w/ special info centers

System description: - Intro to final report - conceptual frameworks.

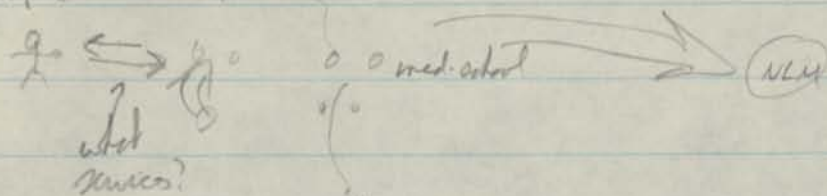
e.g. ILL System as part of the entire complex. - How to get unified viewpoint? Systems, sub-systems - oral traffic written traffic

DoD books, etc. - get a piece of chart for each group to read

15 min. or. - Eg. 6 basic components on main chart. - each item shown up by the speaker.

● People - Publications - Institutions : 3 possible viewpoints

people inst.



functions, agents ^{of production} (e.g. publishers), agents of control (ref. + identification), library (storage)
primary, secondary, tertiary jobs.

R+D function + time. + money. source + info

Perhaps ^{steps} to a single viewpoint for this group.

→ GB to prepare this systems view. after the structure is presented, then individual assignments will be made.

● Drydock user requirement study.

June 27, 1963

Dr. Richard H. Orr
IAMC
9650 Wisconsin Avenue
Bethesda 14, Maryland

Dear Dick:

I want to say again that I thought the meetings on Tuesday and Wednesday worked out very well, especially from the viewpoint of presenting the anatomy of the problem of information flow. It was a little more difficult to get the value judgments that you wanted, but I hope that I was successful, and not too untactful, in the way in which I manipulated the meeting to get as many specific points along that line discussed as possible.

I am a little sorry that I did not get the group to spend somewhat more time on the preliminary draft of the final report. As I indicated to you verbally, I have the feeling that this report should contain as much factual information as possible derived from other studies, and perhaps placed in appendices rather than in the body of the report. The limitations of the studies and qualifications that have to be made concerning their interpretation should, of course, be elaborated upon. Nevertheless, I feel sure that the report will have long-term value, at least as much in proportion to its usefulness in providing access to background information, as it will in providing guidelines for future development. The December 14, 1962 proposal outline implies that there will be a presentation of factual data.

In the report I think it is not necessary to follow the outline of the proposal, but I do think it is necessary to incorporate the items included in the proposal in order that we may not be subject to justifiable criticism. When it is impossible to provide data for evaluation, I think we must indicate why.

I am especially anxious that you prepare for the consideration of the Advisory Committee at its August meeting outlines of specific actions which could be taken to improve matters promptly, and also that you have suggestions for specific research projects. I would hope that you would come up with some of your own as well as that proposed by Jonathon Rhoades and the implications of Ralph Gerard's suggestions. The latter might be facilitated by some correspondence with Ralph concerning his ideas. He was not too specific, but I suppose I was to blame in not having allocated more than a half hour for the discussion of

Dr. Richard Orr
June 27, 1963

proposals with long-term implications as to implementation.

It might also be useful to ask Arthur Brayfield for some of his thoughts in connection with investigations into patterns of utilization of media of communication. He is a very knowledgeable person in this area, at least as it applies to the study of psychologists, and his judgment might be valuable in projecting studies of broader areas.

I have been thinking about how the Congress is going to react to what we may have to say, and especially, what Senator Humphrey will want to do with the results of the report from the Academy. I am sure that he will expect two kinds of propositions: One, our best judgment as to what could be done within the next year or two to make immediate improvements in the communications picture; and second, what we think would be desirable to do in the way of research studies relating to long-term possibilities for improvement in this field. I think we should not be too penurious in our suggestions as to what the Congress might do in the way of support, especially as to support in the first area. I have just looked up the summary statement of the expenditures for libraries at the University of Minnesota, and I find that our State appropriation for libraries was \$1,527,000 per annum for the year ending June 30, 1962. This is out of a total operation of approximately \$94,000,000. In other words, it is under two per cent. The comparable figure for the year ending June 30, 1958 was \$862,000 out of a total budget of \$67,000,000. This appears to be a very sizable increase, but it must be remembered that the student enrollment at the University of Minnesota increased very greatly over this period, and a large fraction of the library costs are determined by staff needs to meet undergraduate service requirements. I fear that one cannot use raw figures for library support as the justification for the need for additional support, but it would be a mistake not to present the facts on this score because we will certainly have to answer questions regarding this matter. My guess is that after this report is submitted to the NIH, there will be Congressional committees asking to learn about its contents, and I would not be surprised if you and others were called to testify before one or another committee in relation to the situation. This is one reason why I am so strongly convinced that the report should be buttressed by data insofar as possible. Where data do not exist, or where superficial use of data might lead to erroneous conclusions, the data will have to be very carefully interpreted.

I have looked rather superficially into the recent changes in library expenditures at the University of Minnesota and have found that sizable increases have been provided for. However, I can also tell you that our Library Committee is entirely unable to approve subscriptions to many new journals because of lack of funds. This is in spite of the increased appropriations. Gross numbers

Dr. Richard Orr
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obviously do not tell the whole story with respect to library services, and unless you have a great deal of breakdown as to what money is spent for, I think it would be unwise to present numerical data on the score of increased library support without calling attention to the serious defects that arise from inadequacy of information. I am laboring this point, because I think most of the members of the Advisory Committee are of the opinion that library appropriations are too small for effective use of our existing storage and retrieval systems and were unanimous in believing that we should recommend increased support for libraries under appropriate circumstances. The reservations expressed were in relation to the setting up of standards rather than with respect to the desirability of more money. Dr. Remsen's plan at the Squib Institute is one which would require support for implementation, but might be an exceedingly valuable type of thing to suggest as a pilot operation in academic institutions in which studies of its effectiveness might be made.

As you can see, I am attempting to put down on paper some of my more or less random thoughts after our meeting. I think it might be productive for us to correspond about some of these matters in the next while. I should tell you that I shall not be in Minneapolis during the week of July 7, but expect to be back on the Fifteenth.

With best regards,

Sincerely,



Maurice B. Visscher

MBV:re

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JULY 1, 1963

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DEPARTMENT OF PHYSIOLOGY

MEDICAL SCHOOL

UNIVERSITY OF MINNESOTA

MINNEAPOLIS 14, MINNESOTA

DEAR MAURICE:

THANKS FOR YOUR GOOD LETTER. I TOO WAS PLEASED WITH THE OUTCOME OF THE MEETING. IT SEEMS THAT WE DID EARN THE CONFIDENCE OF THE MEMBERS OF THE ADVISORY COMMITTEE, WHICH WAS THE MAIN PURPOSE IN MY EYES. IN ADDITION, WE OBTAINED A CONSIDERABLE AMOUNT OF VALUABLE FEEDBACK AND A NUMBER OF IDEAS.

AS TO THE VALUE JUDGMENTS THAT I WOULD LIKE, IT IS UNREASONABLE TO EXPECT SPECIFIC JUDGMENTS TO BE MADE OR REAL PRIORITIES TO BE ASSIGNED UNLESS CHOICE IS CONSTRAINED RATHER RIGIDLY, I.E., GIVEN A BUDGET OF \$ _____, WHICH MUST SUFFICE FOR ALL INFORMATION SERVICES, HOW SHOULD THE MONEY AND EFFORT BE ALLOCATED TO VARIOUS TYPES OF ACTIVITY. OF COURSE, THIS CAN'T BE DONE FOR THE ENTIRE BIOMEDICAL COMPLEX, BUT IT CAN FOR SOME PARTS. ANOTHER WAY TO OBTAIN VALUE JUDGMENTS IS FROM THE INDIVIDUAL SCIENTIST'S POINT OF VIEW. IF HE HAS SO MUCH TIME TO SPEND, HOW WOULD HE ALLOCATE THIS TIME?

I AM CIRCULATING COPIES OF YOUR LETTER AMONG THE STAFF, AND WE ARE GETTING BUSY ON DRAFTING SOME POSSIBLE RECOMMENDATIONS FOR ACTION AND FURTHER STUDY ALONG THE LINES SUGGESTED BY YOU AND THE ADVISORY COMMITTEE, AS WELL AS ALONG LINES THE STAFF THINKS INDICATED, FOR EXAMPLE, A PROPOSAL TO ESTABLISH SOME ORGANIZATIONAL MECHANISM SUCH AS BIOMEDIC TO INSURE COORDINATION OF EFFORT AND BALANCED SUPPORT OF THE COMPLEX.

WE ARE GOING TO STRUCTURE OUR RECOMMENDATIONS BY WHETHER THEY ARE SHORT-TERM (LESS THAN 5 YEARS) OR LONG-TERM (OVER 5 YEARS); ACTION (MAINLY FOR SHORT-TERM EFFECTS) OR STUDY; FOR IMPLEMENTATION BY NIH OR BY OTHER SEGMENTS OF THE BIOMEDICAL COMMUNITY.

JULY 1, 1963

I HOPE WE WILL HAVE AT LEAST THE MORE IMPORTANT RECOMMENDATIONS READY FOR CONSIDERATION AT THE AUGUST MEETING.

I WILL ALSO BE AWAY UNTIL JULY 15 SINCE I AM ATTENDING THE GORDON RESEARCH CONFERENCE ON SCIENTIFIC INFORMATION. HOWEVER, STAFF WORK WILL PROCEED IN MY ABSENCE.

THANKS AGAIN FOR THE HELPFUL SUGGESTIONS.

SINCERELY,

RICHARD H. ORR, M.D.
DIRECTOR

RHO:LWC

May 23, 1963

NATIONAL ACADEMY OF SCIENCES -- STUDY OF SCIENTIST-TO-SCIENTIST
COMMUNICATION IN THE BIOMEDICAL FIELD

Report of Task-Force and Staff Meetings--May 20-22, 1963

May 20--Staff Meetings

Present: Abdian, Bourne, Coyl, Leeds, Orr, and Pings

Morning and Afternoon Sessions

Both sessions were devoted to a group critique of the drafts for working papers prepared by Abdian and Pings.

May 21--Task Force Meetings

Present: Abdian, Bourne, Coyl, Lee, Leeds, Orr, Pings, and Visscher
(Guests--Drs. Kassab, Sherrington and Studer, and Roger
Sisson)

Morning Session

Orr reviewed progress to date. The major accomplishments in the four months of full operation are: 1. The questions we would like to be able to answer have been formulated and embodied in the "Tentative Outline of the Final Report." 2. A general approach has been developed for arriving at these answers. 3. Over 400 documents bearing on the study questions have been collected and organized for use. 4. These documents have been critically reviewed by the staff to assess their relevance and usefulness to the study and to identify major gaps in the data needed to answer the study questions. 5. A beginning has been made at devising and carrying out small sub-studies to help fill some of the critical gaps. 6. Preparation of working papers representing Staff consensus has begun. 7. In the course of the above activities, the Staff has become an effective team. The past month's effort has been concentrated on preparing working papers according to the plans summarized in the "Report of the Task-Force and Staff Meetings--April 22-24, 1963" (dated April 29).

Dr. Visscher remarked briefly on his hopes for the study and, in the discussion that followed, made the following suggestions concerning the final report: 1. A section should be included stating what we could not find, i.e., gaps in data and statistics essential for assessing the functioning of the biomedical communication complex. 2. Although we have properly limited ourselves largely to quantitative considerations of biomedical information, we should point out the need for intensive study of ways to assess the quality of the information output of the research effort.

3. Suggested plans for additional quantitative and qualitative studies should be given in an appendix to the final report. 4. If in our study it is not possible to investigate the time scientists currently spend in evaluating manuscripts for publication and in judging applications for research support, this subject is one that should be recommended for future study.

In a discussion of suitable objectives for the June meeting of the Advisory Committee, the following goals were outlined: 1. Orientation--to acquaint the Advisory Committee with the conceptual framework and the approach that the Staff has developed. 2. Assurance--to establish the Committee's confidence by demonstrating the Staff's competence and judgment. 3. Feedback--to obtain the Committee's reactions to the Staff's approach and suggestions for possible changes. 4. Stimulation--to afford the Staff an opportunity to learn at first-hand some of the viewpoints of users and generators of biomedical information. 5. Deliberation--to consider the desirability of making formal, preliminary recommendations to NIH before the final report is submitted.

Afternoon Session

It was agreed that the Advisory Committee will meet on June 25 and 26 at the National Academy of Sciences. The first day's program will be planned to supplement previously distributed written material in achieving objectives 1 and 2. Following introductory remarks by Drs. Cannan, Visscher, and Lee, the Staff will present a systems analysis of the biomedical information complex as a functional whole. The presentation will rely heavily on graphic materials. As now conceived, the program will not require more than 4 hours and a single session beginning at 1:30 should suffice. NAS will invite appropriate representatives of NIH and PHS to this session.

On June 26 the Committee will meet in business sessions to review the Staff's work and to consider the desirability of making preliminary recommendations to NIH. The Staff will be available to answer questions and to discuss the Committee's suggestions and reactions. A detailed agenda for these sessions remains to be developed.

In the first part of June, Orr will send members of the Advisory Committee a copy of the "Tentative Outline of the Final Report," modified along lines suggested by Dr. Visscher. A covering letter will state that Staff working papers and a Staff progress report will be mailed in time to reach them about a week before the meeting.

It was agreed that the only formal recommendations to NIH that might be considered at the June meeting should meet two criteria: first, the importance of the issues and the validity of supporting arguments must be readily apparent; second, the delay that would be entailed by waiting for the final report must be critical. Several possible recommendations were examined to see whether they met these criteria. The consensus seemed to be that we did not have enough definite information at present to warrant

asking the Advisory Committee to consider specific recommendations in June but that a valuable purpose might be served by an official Committee expression urging caution in implementing any major programs without careful study of possible unforeseen effects upon the entire information complex serving the biomedical and scientific community.

The week of August 19 was chosen for the second meeting of the Advisory Committee, possibly August 22 and 23. September 16 was tentatively selected for the final meeting of the Committee.

May 22--Staff Meetings

Present: Abdian, Bourne, Coyl, Leeds, Orr, and Pings

Morning Session

Working paper drafts by Coyl, Leeds, and Bourne were critically reviewed. Orr will prepare "next-to-final" drafts, roughly according to the following schedule: "Information Output of Research Effort"--May 27, "Secondary Distribution of Documents"--May 31, "Oral Communication"--June 3, "Characteristics of Serial Literature"--June 5, and "Review of User and Use Studies"--June 7.

Afternoon Session

In addition to collecting any additional data or information essential for the working papers, Staff assignments for the coming month include: Abdian--1. Preparation of a rough inventory and description of the biomedical technical report literature and its system; 2. Drafting a letter to appropriate government agencies requesting a summary of their responsibilities with regard to biomedical communication as these have been established by legislation or administrative decision. Pings--1. Preparation of rough inventories of biomedical abstracting and indexing services and of specialized information centers; 2. Development of principles for establishing standards for library services to research workers. Coyl--1. Compilation of a bibliography of publications on information problems by members of the Advisory Committee; 2. Preparation of briefs on the backgrounds of the Committee members. Bourne--1. Development of possible schemes for visualizing the biomedical information complex in the Staff presentation at the June meeting; 2. Preparation of visual materials for presentation. *In all participants?*

Tentative plans were developed for a Staff presentation to the Advisory Committee in which Orr would lead off by describing the entire information complex and be followed by the other Staff members, each analyzing in more detail a particular part of the complex. Examples would be given to illustrate specific interactions between parts of the system. Use of an overhead projector for all visual material seemed desirable, with the size of transparencies standardized at $8\frac{1}{2}$ by 11 inches. The presentation can be rehearsed on June 24.

The dates for the next Staff and Task Force meetings were set for July 22, 23, and 24. The meeting dates for August and September will be determined by decisions on the dates for Advisory Committee meetings.

Richard H. Orr
Staff Director

Distribution:

1. Task Force (Staff plus Drs. Cannan and Lee)
2. Dr. Visscher
3. Dr. Heumann
4. Dr. Harte

24 June 63

1. Working paper critique
2. Areas where new studies should be done in future?
3. Specific recommendations to be put into the report?
4. Structure of report outline

Statement of Objectives (with some indication of priority)

needs: special librarian or info sci. to work w/ dept. members.

"current users don't feel conscious of any present crisis, but there will be in the future."

Dr. Rhodes

specialty fields? why 4-11?
+ fed govt.

should NIH fund algorithm for subsequent collection of NIH grant applications?

What needs are not being met that prompt you to this suggestion?

justification for spending money for action rather than something else?
secondary processing



NIH setting up some special centers - e.g. brain research - this would be useful?

2 kinds of service programs - 1) extension of known services ; 2) ^{untested} operational schemes that need study in operation.

specialization vs. generalization. How to keep from creeping ^{into} further compartmentalization as more money is spent?

If growth of lit → manpower, & manpower in backlog, can we expect doubling of lit?
effect of team research & larger grants on rate of production of papers?
How to explain individual productivity figures?

books - suggest abstract vs. papers. conversion ADS and publ. program

Amber - His of Scientists ≈ 1959 - department to Dr. Crozier

Sheiner - criticism of abstracts: not enough later, just description only, anticipatory only.

Rejection rates? 60% for 12 pubs of APA.

FED study showed a lot of papers killed before publ. (controls at source, social controls, journal controls)

Different levels of journals just like different level of universities - not to say every

Dr. Hirsch
level of person
Types of journals: teaching; ^{presentation of specific} research results; ^{critical} review & analysis

"multiple forms of communication are desired" (oral, abstracts ...)

orig. research results should be avail. to all.

Phores - man has right to publish his work - Constitution states freedom of speech.

can copyright & store in LC

can evaluate personnel on basis of what journals they publish in.

How have prog changes affected publ. patterns? unfair disadvantage to commercial publisher who might be competing in a given area w/ a society publ.?

Individual pubs may underline their usefulness, whereas subscription pub way discont.

"probably impossible to generalize for entire human field,"
probably can't even generalize for NIH supported people.

"different info needs for different stages of user's career" beginner vs. advanced

depend on different ^{project} ^{journal} training.

● relative costs of various parts of info complex? ←

How to strengthen doc. distr. system? ←
- subsidize ILL grps.
establish regional TLM
augment academic libraries

Phos - needs for centers - justification

1. lack of journal subscriptions for local groups
2. lack of opportunities for experiments in book handling

Pimp - if libraries are to be subsidized, then some standards should be established on services to be provided, i.e. what min. services should be provided? Library Quart 4/63 "budgetary formula" ↗

↓ hint prog. does the cost of publishing journal?

Should journals be published to "run the society" i.e. to produce revenues?

Leske - suggested NIH journal.

Vicker - need for more available translations ←

study of extent to which reports are used (system costs, utilization by libraries)
"working" report files

Tash/one - need for training of info scientists (Les' figures on no. of people needed.)

Ursch - suggest evolutionary abstract journals to cover a field.

† 14 mil U.S. budget for abstracting services - basic ones

→ 38 mil - mission oriented (how much federal money here?)

How many people see Current Contents? 6

... find it useful? 4 - some have given it up because it's too large.

What fraction (if trends) of lit is small pieces (e.g. letters, correspondence) -
are these covered by secondary services? ←

space for publication ←
→

SDI

spread competences

good training program possibilities

Confusion about the intended role of abstracts & indexes. ←

How to allocate funds between abstract vs. index services.

oral communications -- extent & practice, & utility? e.g. worth of conferences.
telephone conferences?

NSF - Eileen Stewart studied 100 sci journals for cost of pub.

CB to write up E description for final report.

~~sent 144 report to Kern~~ ^{sent to Dick for review + forwarding on 3 July} → then send him request for Union list of abstract serv.

comment to Dick on suggested differences between bioind & phy. sci.

suggestions for improving common system (e.g. air mail 144 ...)

Proc. Soc. ~~Sci.~~ for Exper. Biol. & Medicine "Proc Soc" '58 + '63

(short prelim comm.) - see colleagues
followed up on
with the basis.

to count
send like McKis or Grant list

CP to get

take January 1959 issue
= 800 articles

Proc Soc

Proc. Soc. Egan Beil & Med. ^{11/yr.} ^{quant?}

find an issue of this in 1959 & check those items to see if they had been followed up by subsequent publs of the same kind

some people consider these full

check Ed Proc. history?

check Current list 1959

Ed & history 1960 - present.

author index.

Second - Long Range Implications of automation ^{> 5 yrs.} for Lp handling?

what kinds of studies might be started now?

e.g. "MHA should stimulate studies in the area of auto abstracting ... wireless ILL ... MT ..."

SDI?

Command.

study of near possibility of publ. of abstracts.

remote transmission of loc.

(pubs. of multiple users, stand-alone, etc.)

effects of users, etc.

possibility of wireless XMISSION ^{med. lib.} ^{CLR (scan + review)}
Howard - Ralph Estepant - study of ILL - typical changes ^{assess.}

What is cost of SRI ILL activity? (photocopy, personnel, postage ...)

Reils - writers of publications following of conference papers?

" - paper screening & publ. process?

Traffic pattern of depositors (OTS, AEC ...)?

What would UC position be to providing subsidized ILL? ^{Geo. distribution of workers?} ^{see Librarians No. 3.}

NATIONAL ACADEMY OF SCIENCES - NATIONAL RESEARCH COUNCIL
2101 Constitution Avenue
Washington 25, D. C.

Division of Medical Sciences

ADVISORY COMMITTEE
to the Study on
SCIENTIST-TO-SCIENTIST COMMUNICATION IN THE BIOMEDICAL FIELD

Chairman: Maurice B. Visscher

First Meeting
Tuesday & Wednesday, June 25 and 26, 1963
Reading Room
Academy-Research Council Building

TENTATIVE AGENDA

Tuesday, June 25, 1:30 p.m. Open Session

I. Introductory Remarks

The Chairman of the Committee

The Chairman, Division of Medical Sciences, NAS-NRC

The Project Officer, National Institutes of Health

II. Staff Presentations

"The Biomedical Communication Complex examined as a System
for service to Scientists"

Richard H. Orr - Director, Institute for Advancement of
Medical Communication

Gregory Abdian - Executive Vice-President, Herner and Company

Charles Bourne - Research Engineer, Stanford Research Institute

Alice A. Leeds - Research Associate, Institute for Advancement
of Medical Communication

Vern W. Pings - Medical Librarian and Assoc. Professor of
Medicine, Wayne State University

III. General Discussion

Wednesday, June 26

9:00 a.m. Closed Session

12:30 p.m. Lunch

1:30 p.m. Closed Session

WIREO BOND
12-10-11

June 6, 1963

Dr. Richard Orr
IAMC
8650 Wisconsin Avenue
Bethesda 14, Maryland

Dear Dick:

Here are some preliminary versions of some graphic representations that might be used to describe some of the aspects of the biomedical information complex. I wish I could have done more, but there is a limit to what can be accomplished on a one-day per week basis. I have some thoughts on some other displays, and will draw ^{them} up when I get another few moments.

The numbers on the charts are wrong in many cases, and represent my best guesses that were put there just to help structure the charts. They should all be verified before the final charts are made. I have not sent copies to the other team members because I thought that you might like to first make some modifications or additions (or perhaps scrap the whole collection).

I look forward to hearing your comments.

Sincerely,

Charles P. Bourne
Research Engineer

CPB:etm

Enclosures

P.S. Is there anything further that you want me to provide on the topic of user requirements?

INSTITUTE FOR ADVANCEMENT OF MEDICAL COMMUNICATION

9650 WISCONSIN AVENUE • BETHESDA 14, MARYLAND

Telephone: 656-2900

JULY 16, 1963

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George P. Hager, Ph.D.

Hans H. Hecht, M.D.

Hugh H. Hussey, M.D.

Victor Johnson, Ph.D., M.D.

Chauncey D. Leake, Ph.D.

Clayton G. Loosli, M.D.

Horace W. Magoun, Ph.D.

Walsh McDermott, M.D.

Aims C. McGuinness, M.D.

Clifford T. Morgan, Ph.D.

Jack D. Myers, M.D.

Irvine H. Page, M.D.

Otto H. Schmitt, Ph.D.

Marion B. Sulzberger, M.D.

Maurice B. Visscher, Ph.D., M.D.

Paul A. Weiss, Ph.D., M.D. (h.c.)

Irving S. Wright, M.D.

CHAUNCEY D. LEAKE, Ph.D.
DEPARTMENT OF PHARMACOLOGY
SCHOOL OF MEDICINE
UNIVERSITY OF CALIFORNIA
SAN FRANCISCO MEDICAL CENTER
SAN FRANCISCO 22, CALIFORNIA

DEAR CHAUNCEY:

MANY THANKS FOR YOUR HELPFUL SUGGESTIONS AND PROPOSALS, WHICH I FOUND AWAITING ME ON MY RETURN FROM THE GORDON CONFERENCE ON SCIENTIFIC INFORMATION. AS TO FACT-FINDING BY THE STAFF, WE ARE CERTAINLY GOING TO DO ALL THAT WE CAN IN THE TIME AVAILABLE AND RECOMMEND THE FUTURE SUPPORT OF IMPORTANT STUDIES THAT WE CANNOT ACCOMPLISH. WE WILL HAVE DATA ON THE FOLLOW-UP OF "SHORTIES" AS REPRESENTED BY A SAMPLE OF THE "PROMISORY ABSTRACTS" IN FEDERATION PROCEEDINGS AND OF PAPERS IN PROC SOC. IN MOST CASES, EXPLORING THE ECONOMIC ASPECTS OF SPECIFIC PROPOSALS WILL PROBABLY BE BEYOND OUR CAPACITY. HOWEVER, WE CAN AND SHOULD RECOMMEND A DEFINITIVE ECONOMIC "FEASIBILITY" STUDY OF PUBLICATION OF SEPARATES, FOR EXAMPLE. MUCH AS SUCH PUBLICATION HAS BEEN DISCUSSED NO ONE HAS ACTUALLY STUDIED THE ECONOMICS.

AT THE GORDON CONFERENCE, THERE WAS CONSIDERABLE DISCUSSION ABOUT SCIENCE-INFORMATION SPECIALISTS, LITERATURE SCIENTISTS, AND INFORMATION SCIENTISTS. THE CONSENSUS SEEMED TO BE THAT, WHEN SEMANTIC CONFUSION IS RESOLVED, THREE DISTINCT TYPES OF INDIVIDUALS APPEAR TO BE NEEDED: 1) SCIENCE-INFORMATION SPECIALISTS, WHO ARE PRIMARILY EXPERTS IN THE TECHNIQUES OF DOCUMENT ANALYSIS AND RETRIEVAL, YET HAVE SOME TRAINING IN SCIENCE; 2) LITERATURE SCIENTISTS, WHO ARE PRIMARILY SCIENTISTS DEVOTING THEMSELVES TO EVALUATION AND SYNTHESSES; AND 3) INFORMATION SCIENTISTS, WHO ARE PRIMARILY CONCERNED WITH RESEARCH AND DEVELOPMENT OF THE TYPE THAT CONCERNS IAMC. THE TRAINING OF THESE THREE DIFFERENT TYPES, NOT TO MENTION THAT OF PROFESSIONAL WRITERS AND EDITORS, WILL DIFFER MARKEDLY.

JULY 16, 1963

I WILL NOT COMMENT ON EACH OF YOUR PROPOSALS NOW, BUT I WANT TO REPORT THAT A CONVERSATION WITH MURTOUGH, ONE OF SHANNON'S RIGHT-HAND MEN, SEEMS TO INDICATE THAT NIH IS NOW READY TO GO ALONG WITH SOME FORM OF A PUBLICATION CONTAINING ABSTRACTS OF ALL NIH-SUPPORTED RESEARCH. SUPPLYING THE FULL REPORT ON REQUEST IS A MORE RADICAL STEP, WHICH THEY WOULD BE RELUCTANT TO TAKE NOW WITHOUT SOME INDICATION OF THE PROFESSIONAL SOCIETIES' REACTIONS WHO MIGHT SEE THEIR JOURNALS THREATENED SINCE OVER HALF OF THE PAPERS PUBLISHED HAVE NIH SUPPORT. HOWEVER, A PILOT PROJECT IN ONE FIELD MIGHT BE INITIATED TO LEARN SOMETHING ABOUT THE ECONOMICS AND THE IMPACT ON JOURNALS.

ALL MY BEST,

SINCERELY,

RICHARD H. ORR, M.D.
DIRECTORRHO:LWC
ENCL.

P.S. ENCLOSED IS A PAPER BY THE DIRECTOR OF THE INSTITUTE OF MICROBIOLOGY IN BRAZIL THAT WILL INTEREST YOU.

UNIVERSITY OF CALIFORNIA
SAN FRANCISCO MEDICAL CENTER

SCHOOL OF MEDICINE
DEPARTMENT OF PHARMACOLOGY
SAN FRANCISCO 22, CALIFORNIA

July 2, 1963

Dr. Richard H. Orr
IAMC
9650 Wisconsin Avenue
Bethesda 14, Maryland

*Acknowledged by
postal card
7/8/63
Ann J.*

Dear Dick:

That really was a fine meeting of the Advisory Committee on Scientist-to-Scientist Communication in the Biomedical Field, and you and your staff may take great satisfaction from what you have accomplished.

We really should be in a good position to render a report that may have some significant meaning, not only for NIH but also for Senator Humphries' effort on behalf of over-all improved information systems.

I realize that I probably talked too much, but I am interested in getting specific proposals before NIH which may seem very radical but which may be compromised into something reasonably agreeable and practical.

I believe it is worthwhile for your Committee to determine the extent to which "announcement abstracts" such as in Federation Proceedings, or in "Letters to the Editors" of Nature are actually followed up with "conventional papers." Further, I think that your staff might well look into some of the economic aspects involved in the specific suggestions that I am making.

First, I think the Committee might well consider recommending the encouragement of primary publication by announcement abstracts on the basis of editorial acceptance of the conventional report on which the abstract is based, with the understanding that the conventional report, with its data, may be available on request by payment of cost of reproduction.

Second, I think we should consider the recommendation that specific training programs be developed for science-information specialists, who can be the literary scientists for the growing bench-science teams, with responsibility for keeping the bench scientists alert to pebbles of information in their field, together with the analyses and reporting of data, and probably with the preparation of comprehensive reviews on the areas involved.

Third, I think we should consider the recommendation of ^{originating} ~~originating~~ university libraries to develop reprint collections of classic publications as indicated by citation indices.

Fourth, I might be worthwhile for your Committee to gather some information on the use of micro-methods of handling and retrieving information in the biomedical field.

Dr. Richard H. Orr

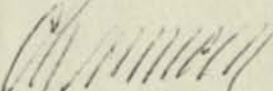
-2-

July 2, 1963

Fifth, I think we should carefully consider the recommendation that NIH issue a Journal of the National Institutes of Health in which would appear the primary reports of all biomedical information originating in the NIH, either intramurally or intermurally, as a result of grants. I think such a journal should be an abstract journal quite similar to Federation Proceedings and with some sort of comprehensive indices and organization. These abstracts could be backed up by the conventional report which might be available on request. This would make it possible for all the contributions of NIH to be scanned in one place, and might become ^{an} extremely ^{useful} reference tool, not only for scientists but even for public officials who might want to know what NIH is doing. Furthermore, this kind of scheme might take some of the load off some of the biomedical journals that are now becoming so expensive that few individuals can afford them. I would propose that the Journal of the National Institutes of Health be distributed without charge to the libraries of medical institutions all over the world. This would really be offering health information for the benefit of humanity.

Here's hoping that you all have a fine summer. We are plenty busy out here, but it is cool. With all best wishes as ever to you all, I am

Cordially yours,



Chauncey D. Leake

CDL:md

July 9, 1963

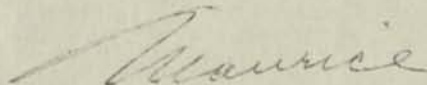
Dr. Richard Orr
IAMC
9650 Wisconsin Avenue
Bethesda 14, Maryland

Dear Dick:

I have seen a copy of the letter that Chauncey Leake has sent you concerning items which he feels should appear in the report. I am sure all of his points are well worth consideration, but I am writing specifically to bolster his point that a Journal of the National Institutes of Health which would publish in very brief and perhaps in abstract form, the progress reports on all intramural and grant-supported extramural research might be a very good thing. It would certainly provide the Congress what it wants and this is no small consideration.

With best regards,

Sincerely,



Maurice B. Visscher

MBV:re
cc to:
Chauncey Leake

May 20 Meeting

4288
1634
5922

To what extent is biased communication hampered by page costs?

18 years of AIP experience has shown no real resistance to publication because of page charges.
up to 90% of papers are paid.

There is no backlog of biased papers - they are being published currently.
There are plenty of outlets.

Bio-ags. - publications & Humanities joll. are in pre-financial shape.

PRA - no. of authors/paper? for Phys. obs.?

Worker productivity? Check author index for some periods.

no. authors no. of occur. no. pages

0	10
1	<
2	<

CB has used "after-the-fact" hypotheses and circumstantial evidence

NIH library copies 1/2 the pages that NLM does. - for their 3000 pages.

What constitutes a comprehensive library?
Begin to define standards.

(e.g. ability to do current browsing)
no. devices being indexed
photocopy service should be avail.
ref. tools, document availability.
handle telephone requests.

Selective retention: costs as much to remove an item as to put it in.

Is there justification for running NLM ILL operation on 2nd & 3rd shift + weekends?

How large is local ILL loan traffic for bio-med. lit. e.g. how many items borrowed from places other than NLM, & how many from NLM direct.

Find figure from NLM, & then subtract this from their local totals.
CB to find traffic from UC & Stanford med school ILL offices.
Hospital libraries? (Get Nancy Wesley to do this?)

Held off - on 50 special centers.

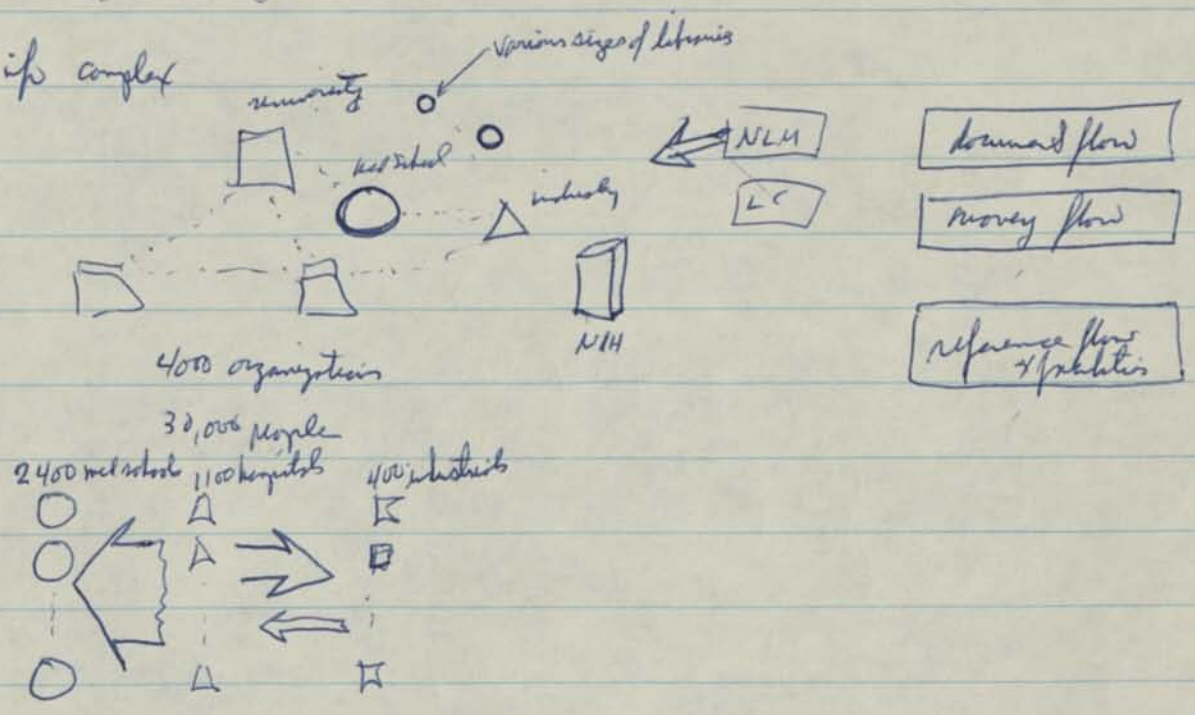
Progress Report - Progress: Formulated Ques to be answered & Way to go about doing it.

Based hypotheses for testing. Bibliis of over 400 items, generally unpublished critically reviewed to identify major gaps. - 1) Carried out small scale studies to fill in few gaps that are serious 2) made a start of working papers 3) staff has become an effective team. 4) 5 working papers (total not to exceed 100pp ~~50~~) whose drafts will be ready in 3 weeks.

Report might suggest need for better statistical info (eg journal census) - suggest plan for research

What are Administrative influences on info flow? (why, where) supported writing & publishing, standardization, form of writing

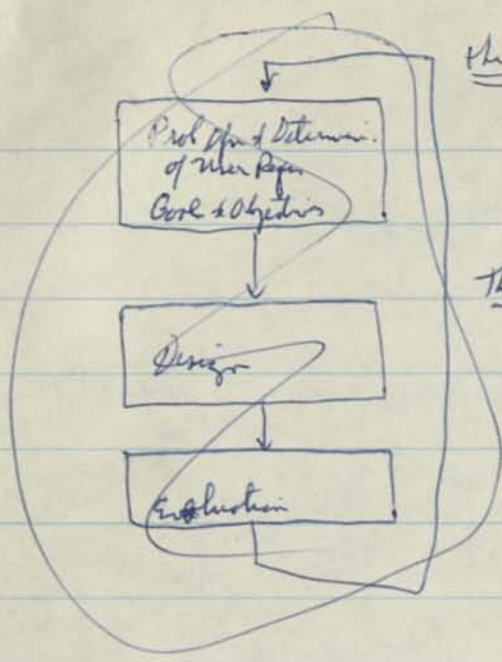
Used in the info complex



Requirements changed by changing nature of field? eg Prologers now more concerned w/ info from math, physics, chem, etc. - How does this jibe w/ existing practices? Each year calls for retrospective research tasks.

Aug 16 - 23 ?

Week of Aug 19 for 2nd Lewis Comm. meeting
Sept 16 - 3rd



The Setting ^{resources} no. & distribution of manpower & ^{resources} ~~document~~ ^{document} Comm. Vol. & nature of ~~text~~

info centers? open libraries?

Vol. & nature of oral Comm. Secondary Distribution System

The Needs or Requirement

The Performance of the Present System
How well does present system perform:
doc. distribution system
ref. retrieval
current awareness

Suggested Changes & Recommendations

How to show that this is
a complex related situation?
i.e. change communication
& you change basic pattern of research

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Marion B. Sulzberger, M.D.

Maurice B. Visscher, Ph.D., M.D.

Paul A. Weiss, Ph.D., M.D. (h.c.)

Irving S. Wright, M.D.

June 4, 1963

Members of the Advisory Committee to the
NAS Study of Scientist-to-Scientist
Communication in the Biomedical Field

Dr. Visscher has asked me to send to you a copy of the enclosed "Tentative Outline of the Final Report," which the Staff developed to aid in organizing their efforts.

Several working papers are being prepared by the Staff to serve as background material for the June 25-26 meeting of the Advisory Committee. We plan to have copies of these papers in your hands the week before the meeting.

Richard H. Orr, M. D.
Staff Director, NAS Study

Encl.

March 21, 1963

Mr. Richard H. Orr
Director
Institute for Advancement of Medical Communication
9650 Wisconsin Avenue
Bethesda 14, Maryland

Dear Dick:

Thanks for your prompt reply to last week's letter. The dates for the April meeting are still OK with me, and I plan to be there.

I have just wrapped up the NCR project so that I expect to have a little more time available to work on the FASEB project. I hadn't tried to arrange for additional time, because I was waiting until I had a chance to clear up some of the NCR and other project work. Now I can start looking into the matter more seriously.

Because of the urgency of some of the project work that was just finished, I was not able to spend an extensive amount of time on the FASEB work. I did start the reading of some of the material regarding user requirements, but do not have any generalizations to make yet from that data. As a separate side effort I did jot down the information that was immediately available to describe the composition of the biomedical journal literature. This small amount of data (some of it unsupported) is summarized in the illustration and notes enclosed with this letter. You might use this illustration as a starting point for a group discussion next week to critique and augment the data shown. The following information is needed: (1) critical review of the data shown, with suggestions as to where more reliable data might be obtained; (2) suggestions as to what disciplines and problem viewpoints might be studied; (3) data to fill in all the missing blanks; (4) suggestions as to what additional information might also be included (e.g. scattering coefficients for the various areas--such as, "...90% of the diabetes papers are included in 25 journals").

Your tentative outline for the final report looks good to me at this time. It already conveys a considerable amount of information--in addition to providing the structure or framework for the report. Some minor revisions may come to mind after some of the data is assembled. Sorry I can't give more results at this time.

Best regards to all.

Sincerely,

Charles P. Bourne
Research Engineer

CPB/rt/
Enclosures

p.s. We do have the ACS Directory of Graduate Research for 1955, 1957, 1959, and 1961. Presumably another issue will come out in June 1963. I'll have a look at them to see what useful data we can extract.

INSTITUTE FOR ADVANCEMENT OF MEDICAL COMMUNICATION

9650 WISCONSIN AVENUE • BETHESDA 14, MARYLAND

Telephone: 656-2900

MARCH 18, 1963

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Paul A. Weiss, Ph.D., M.D. (h.c.)

Irving S. Wright, M.D.

CHARLES P. BOURNE
RESEARCH ENGINEER
STANFORD RESEARCH INSTITUTE
MENLO PARK, CALIFORNIA

AIRMAIL

DEAR CHARLIE:

I AM SORRY YOU WON'T BE WITH US NEXT WEEK, BUT IT IS TOO LATE TO CHANGE THE MEETING DATE.

PROBABLY THE BEST THING TO DO IS TO SAVE THE TRAVEL MONEY FOR POSSIBLE USE LATER AND LET YOU WORK AT HOME UNTIL THE APRIL MEETING.

BY THE WAY, HAVE YOU HAD ANY SUCCESS IN TRYING TO WORK OUT A NEW ARRANGEMENT OF YOUR TIME SO THAT WE CAN HAVE MORE OF YOUR HELP?

ARE THE DATES SET FOR THE APRIL MEETING STILL O.K. FOR YOU (APRIL 22, 23, AND 24)?

IF YOU HAVE ANY SUGGESTIONS ABOUT ADDITIONS TO OR CHANGES IN THE QUESTIONS LISTED IN THE LAST DRAFT OF THE TENTATIVE OUTLINE FOR THE FINAL REPORT, PLEASE SEND THEM IN TIME FOR DISCUSSION MARCH 25. ALSO, I WOULD APPRECIATE A SHORT PROGRESS REPORT AS A POOR SUBSTITUTE FOR YOUR PRESENCE.

SINCERELY,

Rich

RICHARD H. ORR, M.D.
DIRECTOR

RHO:LWC

Cc: DR. A. LEEDS

*yes - his planning
to attend*

FEDERATION OF
AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY

9650 WISCONSIN AVENUE • WASHINGTON 14, D. C. • CODE 301 - 656-2900

Member Societies

AMERICAN PHYSIOLOGICAL SOCIETY
AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS
AMERICAN SOCIETY FOR PHARMACOLOGY AND
EXPERIMENTAL THERAPEUTICS
AMERICAN SOCIETY FOR EXPERIMENTAL PATHOLOGY
AMERICAN INSTITUTE OF NUTRITION
AMERICAN ASSOCIATION OF IMMUNOLOGISTS

July 3, 1963

Mr. Charles P. Bourne
Research Engineer
Systems Engineering Dept.
Engineering Sciences Division
Stanford Research Institute
Menlo Park, California

Dear Charlie:

We just heard from Dr. Cannan that he is anxious to have the graphs with their respective keys available for distribution to the Advisory Group. We would appreciate it if you would send them to us airmail as soon as possible.

This is an urgent request, she said orally.

Alice

Dr. Alice A. Leeds

AAL:efm

*I already sent them.
Do you still need written description?*

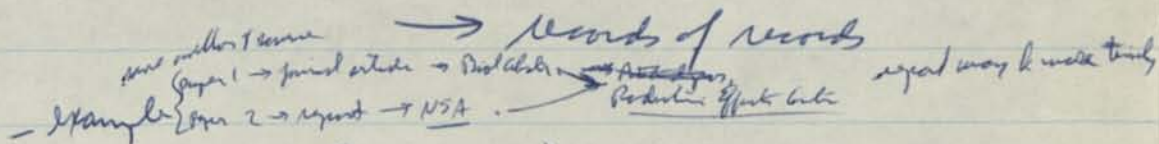
FASEB - Role of Agribiography

● Goal - to inform about duplicate research" - - not to prevent or manage research.

make-up of journals:

	papers	abstract	summary note	reviews
Journal 1	x	x	x		
2	x			x	

1/4 library purchase budget is spent for "control" publications - High overhead!!



Info Form I 4 - open source (various degrees of practical accessibility)

Info Form I B - limited accessibility (by edit or discrete management details)

Info Form II - ~~secondary~~ provisional record

Info Form III - secondary pubs (control publications)

Info Form IV - sci. "intelligence"

found that some articles are covered by 25 secondary pubs!

● need - Better descriptive cataloging of reports (see SLA)

user needs - a user needs feedback on his own work. - little formal feedback by citation index statistics on how many papers are cited. - Basic need for stimulation

Cerebrovascular diseases.

"Folklore" of sci. soc. practices.

separate nets of sponsors from nets of individuals

Data list

years now 3-5 yrs

No. of papers produced per project yrs.?

getting of the way no. of authors / paper. This is increasing.

imp crisis — crisis for majors & sponsors? or crisis for individuals?

some papers covered by 34 reviews.

no. papers / author. 7-9 papers/author (say 600)

" 1.7

physiology (Gerasch) - *Minutes of Physiology*

156,000 journal volumes throughout the world (25% in U.S.)

● need a rough at least outline, not exhaustive, generally ^{needs no} faster than 1 day response time, prefer to receive orig. doc., show aspect & emphasis of research (E, T, Paris, hyp, etc)

speed is most important performance measure.
 current answers - probably OK

asked
 now applied

devel. man goes to library for specific info, researcher goes there to know - look refer to do their own searching.

create workers to more ^{more varied} tasks, reading than less creative workers
 personal files play major role

most info needs arise at start of major projects or project phases, & have cycles corresponding

● to work cycles (length of problem unit) ~~state of the art only~~
 and activities that generate most ^{what kind?} research, are not those in which word time is spent

also are
 single-minded hypotheses

Daily class letter based study.

"Scarcely" - "Evolution of Unit. Study"

Unit. of Mich. study - org. dropped by his med. people.

shut by academic position, function, disciplines

psychology it different needs than physiology?

protection - psychologist (APA individual) → researcher
 productivity figures in literature

Citation studies useful source.

clinical psych. don't read as much as biopsych.

● Colquhoun (1966) water's dilution & cited examples to show research ^{work is most as exper. psychologist} situation. - Exposure freq. of foreign citations & see what use is made of them - some indicator of level of access.

18-27 June set for field meeting
 of Acad. Adv. Comm. ^{2 NIH}
 (Dr. Verita Chuv) ^{Kennedy, Mantel}

NIH people = 11% of total
 money = 40% of total

2-3 papers
 → growth of lit. (total, + from several aspects)
 find paper diff. due to next meeting
 → May 20-22 - report alt. + draft papers

Journals are main source of R&D intell.

June 16-28 Kennedy, Kelly, Mantel
 October 17 report
 no Lib

Sci. Adv. Comm. are chaotic

no. ^{serial} titles for not changed. - [no. papers & pages in.] most font journals cut out advertising.

1957

no. papers in j.

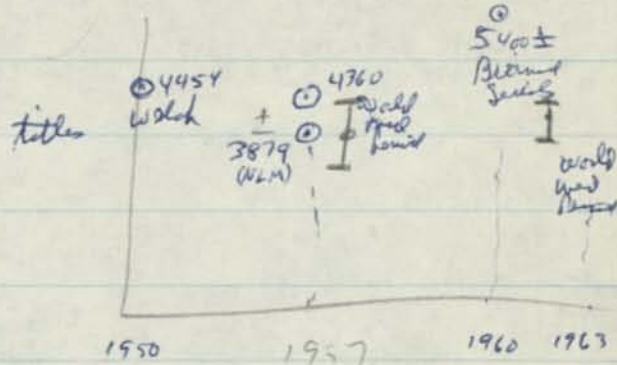
152,000 final numbers
 from publ. records
 figures.

(incl. by Alderson by ^{no. merged} US = 25% of lit. articles)
 [39,700 US researchers] = 000
 ← primary data

1960
 1800 j. NLM
 125,000 j.

[6000] primary data

2000 j. 180,000 pages	1300 j. —	—
--------------------------	--------------	---



yield:

World = 4454 substantive titles
 True = verified world lit, used others
 3879

How do we know NLM covers larger % of lit than 1957? old Winn Swell
 1) assume that no. substantive serials have not changed.
 2) ... articles (??)

med NLM production statistics 1950-1963 (perhaps proposal request?)

multiple author papers - ≤ 20 pp. double spaced. addressed to committee
written as fresh paper. ^{conclusions} It should relate paper to this study
emphasize new results.

1st draft May 8 circulated for proof of our editing. (2 weeks from today)
2nd " May 15
3rd " May 20 (May meeting date)
May 25 - June 1 (final due date at project office)

Pharis "Doc. Retrieval"
CB "Something on Users"
Gregg "Support, etc."

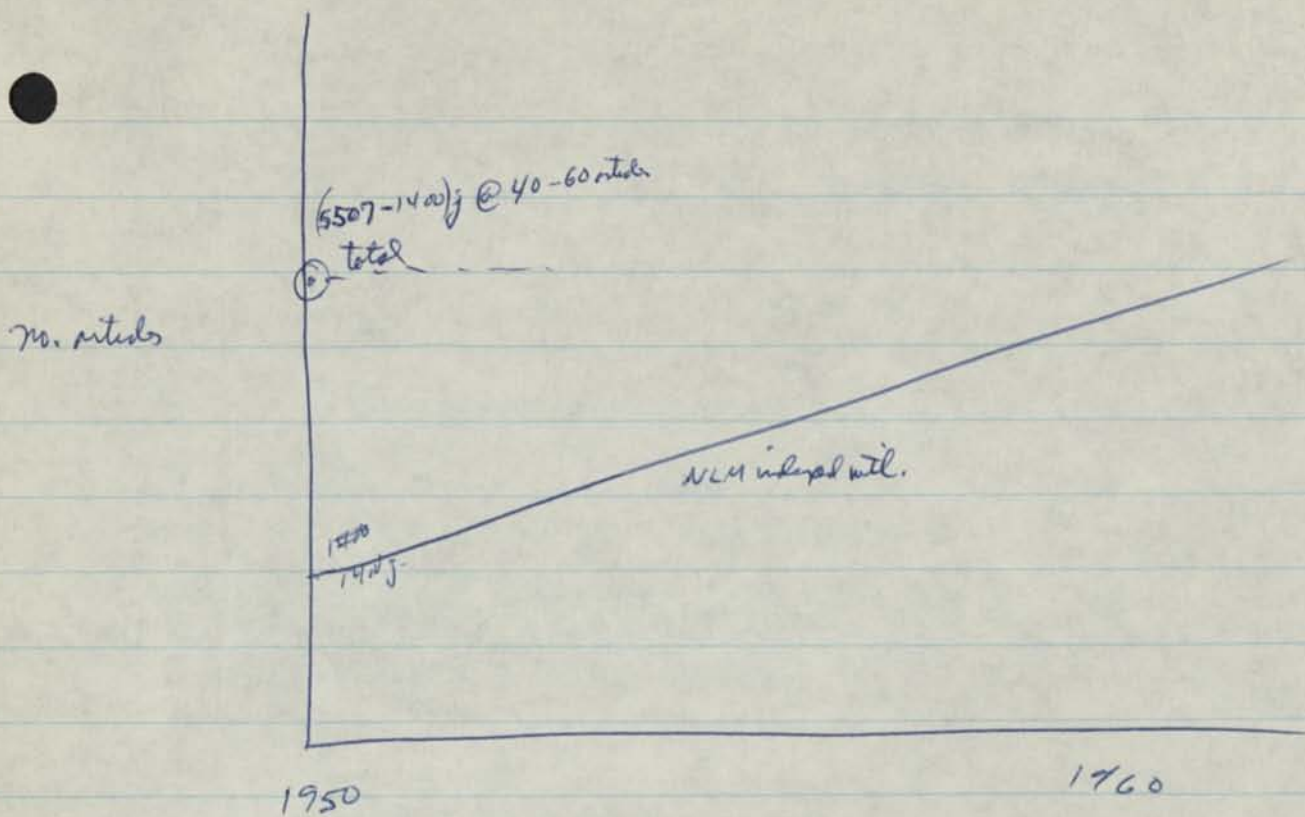
CB critique of methodology of user studies. (habits needs mixed in most studies)
show weakness & utility considerable info avail, but you can't relate it.
rev. of how req. & habits have been studied methodology int avail.

→ what we would like to know (generally)
This info of habits, needs, etc. should be related to content of search
hypothesize significant parameters of needs for users - why does something to design?
→ but this is what we have at this time - unafford info.
Generalizations are not tied down to specific conditions.

→ Point out areas that need user studies. → suggest course to be taken for this study.
Use composite of whole critique by committee. Develop & use assumptions?

Base hypothesis for composite based. members. —

Most people aren't clear about what constitutes user studies.



● centralized vs. de-centralized ^{or demand} "copy services. (ask them buy 6000 j., or send requests to NLM?)

Hillier, J. "A Theory of Communication in a Research Lab." Research Management
pp 255-270 after May 1960

Gotteschalk, C.M. and W. F. Diamond, "Worldwide Census of Scientific & Technical Services," presented at ADI Conf., Hollywood, CA
14 Dec 62

effect [↓] Welt.
 effector
 effected
 property-object-method

● Raising, L.M. "Meth. Evol. of Scientific Serv.", Science Vol. 131 pp. 1417
13 May 1960

Range of request services:
 come & get it ← not working at most primitive levels
 mail your request ←
 phone your request

 perform search

Herner - study of stock traffic.

"there are increasing no. of meetings"

More & more of ~~the~~ ~~meeting~~ sci. trans are read in meetings"

"More & more science is being directed or subverted in closed meetings"

"more ad hoc meetings of public mental groups, than of discipline groups."

"L. F. Dicksonell, "The Institute & Its Operators," Electrical Engineering
June, July, Aug. 1959.

By
[scribble]

783-9041

Paul Jaroske

{ papers typed?
meeting of 7/84?
Jefferson }

AI 1728 NSA NH



delete mfs names
include equip. mobil nos.

check 7C 64 in books Auto Vossen vs SDI
what is correct title?

April 29, 1963

NATIONAL ACADEMY OF SCIENCES -- STUDY OF SCIENTIST-TO-SCIENTIST
COMMUNICATION IN THE BIOMEDICAL FIELD

Report of Task-Force and Staff Meetings--April 22-24, 1963

April 22 -- Staff Meeting

Present: Abdian, Bourne, Coyl, Leeds, Orr and Pings
(Guests--Drs. Sherrington and Studer, IAMC Research Fellows)

Morning Session. The entire session was spent on working definitions, using the Staff memo of April 19 and the draft entitled, "Possible Working Definitions" (also April 19) to focus discussion. The consensus was that, at this stage, unanimity on all definitions should not be sought. Many of the concepts which the definition must accommodate are only now taking shape. Except where overlapping assignments make prior agreement mandatory, each staff member should develop definitions for his own segments of the study; however, these definitions should be set forth explicitly and the defined terms used thereafter with great precision and consistency. Uniformity can be achieved later by "translation" into a common terminology during editing. In the meantime, each staff member should record his working definitions as they are developed and circulate them among the staff.

Afternoon Session. Copies of staff working papers were distributed, and each author provided explanatory introductions to aid the others in reviewing his paper for criticism on the following day.

April 23 -- Task-Force Meeting

Present: Abdian, Bourne, Coyl, Leeds, Orr and Pings
(Guests--Drs. Kassab, Sherrington and Studer)

Morning Session. Abdian, Bourne, and Coyl presented their papers for group discussion.

Afternoon Session. Leeds, Orr, and Pings presented papers for discussion. Plans for the June meetings were discussed briefly.

April 24 -- Staff Meeting

Present: Abdian, Bourne, Coyl, Lee, Leeds, Orr and Pings

Morning Session. Dr. Cannan's letter of April 17 to Dr. Visscher was read. It was agreed that the June meetings would require four days. On the first day the Advisory Committee would meet with the Task Force, and representatives of NIH would be invited. Participants on second day would be limited to the Advisory Committee and the Task Force. The third and fourth days would be devoted to Staff meetings. The week of June 24 appeared to be best, with the meetings starting on either June 24 or June 25.

With these dates as a target, and the May meetings set for May 20-22, a schedule for preparation of staff papers was developed as follows: first draft of papers by May 8 -- Staff members (except Bourne) will meet individually with Orr on May 9-10 to discuss these drafts, which will also be circulated for Staff comments; second draft by May 15 -- same procedure of review and editing; penultimate draft by May 20, discussed at May meetings; final draft edited and typed between May 25 and June 1 for distribution to Advisory Committee.

It was agreed that the subjects of these papers should be chosen to allow a definitive treatment in the time available and to present findings or viewpoints novel to the Advisory Committee. The total of all Staff papers should not exceed 100 double-spaced pages exclusive of tables, diagrams, etc. The style and form will be that of an experimental paper with the following sections: introduction (including hypotheses), methods, results, discussion, and conclusions. Abdian, Bourne, Coyl, Leeds and Pings will work on five separate papers; however, the final drafts in each case will represent a composite Staff effort rather than individual authorship.

In view of the limited time and the desire for definitive contributions, the choice of possible subjects was limited to areas in which the Staff have concentrated their study to date. This decision precludes a balanced coverage, but Orr will prepare a progress report to relate the individual papers to the study as a whole. Oral presentations on the first day of the June meetings will also help to cover the gaps between papers.

Afternoon Session. The topics to be covered were delineated. Pings will concentrate on the impact of improved retrieval and current awareness services on the demand for delivery of documents. In developing this theme he will describe the present national "system" for secondary (on demand) distribution of documents, its weaknesses and capabilities, and the changes required to meet future needs. If possible, he will also touch on primary distribution and its relation to secondary distribution.

Bourne will review the methodology by which the information "input" requirements of research workers has been, and can be assessed. He will outline the knowledge of users' needs and habits we need for designing information systems, and point out important deficiencies in present knowledge. Answers essential for further progress on the present study will be postulated as hypotheses compatible with the best available evidence.

Abdian will define the relation of research support, manpower, and "output" of literature, and explore the factors influencing the literary productivity of research workers.

Coyl will cover formal oral communication. He will describe the quantitative and qualitative changes in meetings and meeting attendance over the past two decades.

Leeds will determine the qualitative and quantitative changes in the primary literature (journals, books, technical reports) of the biomedical field and illustrative sub-fields.

Richard H. Orr
Staff Director

Distribution:

1. Task Force (Staff plus Drs. Lee and Cannan)
2. Dr. Visscher
3. Dr. Heumann
4. Dr. Harte

III activity

48 bil total R+D

270,000 MD's in US

3 bil bilised \Rightarrow ~~48 bil total~~ 6.25%

guess
2 bil total
by computing growth of
total for total funding (i.e. 6.7%)

pattern of distribution of bilised R+D funds completely different than
DoD physical sciences support.

Why use 5-7% inflation?

suggest 1) more complete table 2) references to source of each table entry.
3) add NIH when moved to sponsored research cat. 4) add cont/proj.

5) papers/projects

1600 per internal \rightarrow 4500 papers 6500

found in cont.
all fed.

62%
19.7 (21% of NIH)
18.1 industry

No. people \rightarrow x papers \Rightarrow total papers

$\frac{1}{2}$ No. grant papers = 11,000 \rightarrow x 2.1 total work \Rightarrow total papers.

Fed funds for Science - especially those and for ip activities. (teach, meet; seminars, publ. report)

Found. "Greggheim - Tech. meeting in Aerospace Industry"



"Analyzing new types of persons after - more personal + indiv. life. = found more of
an archive to record products: loss of a reporter, function. No. papers/person
goes down? - effects due to better travel to communication facilities.
implications for ip centers, etc? How to control info if it is all in individuals."

proportion of research time spent in oral communication - also study of in-house only. - meeting attendance.

College of Business SEASBB (Associates)

meetings turned into post-graduate review courses, rather than research reports - by design.

^{was} frequently meetings before main meetings.

→ art of conf. mgmt ← controversial paper a good way to start flow of ideas.

APA study of why people go to meetings.

do we know the mechanism for info transfer at meetings? workshops?

Who plans content & dissemination methods at meetings? What are effective ways of conveying info at meetings (discussion groups, panels, etc.)

in sci. world, "their communication responsibility was satisfied when they finished an oral presentation. - after oral presentation it was the responsibility of the system."

publish or perish - not important now - for university, use we can send as how much research money can be got? - What position of contributors are academic?

Do users feel pressure to publish?

February 25, 1963

Appendix 2

MAJOR STUDY TASKS

- Task #1 - Coordination of Staff Work
- Task #2 - Determination of Characteristics of Biomedical Community
(habits and needs of information generators and users) This task was referred to as "Requirements" in the report of the January 22-26 meetings.
- Task #3 - Determination of Characteristics of the Biomedical Information Complex
(formerly called "Inventory")
- Task #4 - Conceptual Framework and Historical Background
(formerly known as "Perspective")

ANALYSIS OF TASK #3

- I. Biomedical Research and Development Effort
- II. Oral Communication
 - A. Informal (personal contacts)
 - B. Organized (meetings)
- III. Recorded Results
 - A. Primary Records (original reports of results - author-generated)
 - 1. Documents
 - a. Traditional archival forms (well-established bibliographic and preservation controls)
 - (1) Periodical publications
 - (2) Research monographs
 - b. Other Types
 - (1) Technical reports
 - (2) Progress reports
 - (3) Proceedings of conferences
 - (4) Preprints, manuscripts, and correspondence
 - (5) Data records
 - 2. Other media than documents (research films, etc.)
 - B. Processed Records (synthesized from primary records)
 - 1. Review articles
 - 2. Review monographs and textbooks
 - 3. Handbooks (compilations of data and information)
 - 4. Other media (films, etc.)
- IV. Information Services (other than those implied in II and III)
 - A. Bibliographic Services (for III)
 - 1. Abstracting
 - 2. Indexing
 - 3. Cataloging
 - 4. Alerting (or announcement)
 - B. Research "Intelligence" Services (pre-publication)
 - 1. Research plans (e.g., SIE and NIH "Research Grants Index")
 - 2. Digests of papers given at meetings
 - 3. Information obtained from interviews with researchers
 - 4. Manpower registries
 - 5. Clearinghouses for meetings
 - C. Traditional Library Services
 - D. Other Information Services

1. Automatic routing of current information, selected on basis of individual interests
2. Searching the literature and preparing bibliographies
3. Translating
4. Supplying evaluated digests of available information
5. Answering questions with specific data or information as contrasted to documents

February 25, 1963

Appendix 4

STAFF ASSIGNMENTS FOR COMING MONTH
(see Appendix 3 for breakdown of Task #3)

Abdian -- Task #3 [I and III (Technical Reports only)]

Bourne -- Task #2

Leeds -- Tasks #1 and #3 [II; all categories of III except
Technical Reports; and IV, B and D]

Orr -- Tasks #1 and #4

Pings -- Tasks #4 and #3 [all categories of III except
Technical Reports; and IV, A and C]

Sisson -- His future availability was uncertain when assignments
were made.

FEBRUARY 15, 1963

7

PLAN FOR TASK FORCE AND STAFF MEETINGS

FEBRUARY 19 - 21

FEBRUARY 19

9:30 - 11:30 TASK FORCE -- FIRST SESSION PURPOSE: VENTILATION
(CONFERENCE ROOM)

1. INTRODUCTORY REMARKS (10 MIN.)
ORR
2. COMMENTS: ACCOMPLISHMENTS, FRUSTRATIONS, HOPES, FEARS,
SUGGESTIONS (60 MIN.)
ABDIAN
BOURNE
ED. COYLE
LEEDS
PINGS
SISSON
LEE
CANNAN
3. DISCUSSION: WHAT CHANGES SHOULD BE MADE IN THE METHOD
OF ATTACK? (50 MIN.)

11:30 - 12:00 FREE PERIOD

12:00 - 1:30 STAFF -- LUNCH AND DISCUSSION OF STAFF NEEDS
(PROJECT OFFICE)

1:30 - 3:30 TASK FORCE -- SECOND SESSION PURPOSE: REASSESSMENT
(CONFERENCE ROOM)

1. DISCUSS EXPANDED REPORT OUTLINE (60 MIN.)
2. REFINE DEFINITIONS OF "TASKS" (60 MIN.)

3:30 - 5:00 STAFF -- REEXAMINE "TIME ASPECTS" AND DISCUSS REALIGNMENT
(PROJECT OFFICE) OF STAFF

5:30 - ? INFORMAL SESSION -- COCKTAILS AND DINNER
(PLACE TO BE ARRANGED)

FEBRUARY 20

9:00 - 9:30 FREE PERIOD

9:30 - 11:30 STAFF -- DISCUSS INDIVIDUAL ASSIGNMENTS AND PLANS FOR COMING
(PROJECT OFFICE) MONTH, SCHEDULE VISITS AND MEETINGS OF
SUB-GROUPS

11:30 - 12:00 FREE PERIOD

12:00 - 1:30 STAFF -- LUNCH AND EXAMINE INFORMATION NEEDS OF INDIVIDUAL
(PROJECT OFFICE) STAFF MEMBERS

1:30 - 4:00 TASK FORCE AND GUESTS -- THIRD SESSION PURPOSE: INSPIRATION
(CONFERENCE ROOM)

1. REPORT ON STAFF WORK (20 MIN.)
ORR
2. DISCUSSION (40 MIN.)
3. PRESENTATIONS OF HYPOTHESES AND IDEAS (60 MIN.)
VOLUNTEERS
4. SCHEDULE AND PLAN FUTURE MEETINGS OF TASK FORCE (30 MIN.)

4:00 - 5:00 "MOP-UP"

FEBRUARY 21

IT IS EXPECTED THAT AS MANY OF THE STAFF AS POSSIBLE WILL STAY OVER ON
THE 21ST TO WORK IN SMALL GROUPS.

JANUARY 31, 1963

NATIONAL ACADEMY OF SCIENCES -- STUDY OF SCIENTIST-TO-SCIENTIST
COMMUNICATION IN THE BIOMEDICAL FIELD

REPORT OF MEETINGS JANUARY 22-26, 1963

JANUARY 22

PRESENT: GREGORY ABDIAN (EXECUTIVE VICE-PRESIDENT, HERNER AND COMPANY); R. KEITH CANNAN (CHAIRMAN, DIVISION OF MEDICAL SCIENCES, NATIONAL ACADEMY OF SCIENCES--NATIONAL RESEARCH COUNCIL); E. B. COYL (STAFF OFFICER, MEDICAL ADVISORY COMMITTEE, NAS-NRC); ROBERT A. HARTE (EXECUTIVE OFFICER, AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS); KARL F. HEUMANN (DIRECTOR OF THE OFFICE OF DOCUMENTATION, NAS-NRC); MILTON O. LEE (EXECUTIVE DIRECTOR, FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY); ALICE A. LEEDS (RESEARCH ASSOCIATE, INSTITUTE FOR ADVANCEMENT OF MEDICAL COMMUNICATION); RICHARD H. ORR (DIRECTOR, INSTITUTE FOR ADVANCEMENT OF MEDICAL COMMUNICATION); VERN W. PINGS (MEDICAL LIBRARIAN AND ASSOCIATE PROFESSOR OF MEDICINE, WAYNE STATE UNIVERSITY); ROGER L. SISSON (DIRECTOR OF ADVANCED PROGRAMS, AUERBACH CORPORATION).

THE PRIMARY PURPOSES OF THIS INITIAL MEETING WERE TO AFFORD AN OPPORTUNITY FOR KEY PARTICIPANTS IN THIS STUDY TO BECOME ACQUAINTED AND TO OBTAIN A BETTER UNDERSTANDING OF THE NATURE, SCOPE, AND OBJECTIVES OF THE NAS STUDY AS OUTLINED IN THE PROPOSAL SUBMITTED TO THE NATIONAL INSTITUTES OF HEALTH ON DECEMBER 14, 1962. THE PROJECT STAFF* WAS GIVEN TWO ASSIGNMENTS: (1) TO PREPARE AN OUTLINE OF THE FINAL REPORT AS A GUIDE FOR DEVELOPING DETAILED PLANS TO IMPLEMENT THE PROPOSAL, (2) TO ORGANIZE THE WORK INTO TASKS THAT COULD BE ASSIGNED TO SPECIFIC STAFF MEMBERS.

JANUARY 23

THE STAFF WORKED ON THE TWO ASSIGNMENTS AND DISCUSSED HOW "BIOMEDICAL" SCIENTISTS AND INFORMATION MIGHT BE DEFINED OPERATIONALLY. ONE SUGGESTED DEFINITION WAS: "BIOMEDICAL INFORMATION IS THE KNOWLEDGE GENERATED FROM HEALTH-ORIENTED RESEARCH AND DEVELOPMENT, PERFORMED PRIMARILY WITHIN THE SCOPE OF THE BIOLOGICAL SCIENCES AND RELATED TECHNOLOGIES, AND OCCASIONALLY WITHIN THE SCOPE OF SELECTED ASPECTS OF OTHER DISCIPLINES AND TECHNOLOGIES."

JANUARY 24

IN THE MORNING, DRs. CANNAN AND LEE REVIEWED THE STAFF'S WORK AND APPROVED APPENDICES 2, 3, AND 4 AS WORKING GUIDES. IT WAS AGREED THAT, IN VIEW OF THE TIME AND RESOURCES AVAILABLE FOR THIS STUDY, THE DEFINITION OF "BIOMEDICAL" INFORMATION WOULD HAVE TO BE DETERMINED PRIMARILY BY PRACTICAL CONSIDERATIONS, WHICH WOULD NECESSARILY BE SOMEWHAT ARTIFICIAL. THE STAFF ALSO DISCUSSED WAYS TO COORDINATE THEIR INDIVIDUAL EFFORTS. THEY FELT THAT MEETING AS A GROUP EACH MONTH AROUND THE 15TH WOULD BE HIGHLY DESIRABLE. AT THESE MEETINGS, WORKING PAPERS PREPARED BY INDIVIDUAL MEMBERS COULD BE DISCUSSED BY STAFF AND SCIENTIFIC ADVISORS. THE FIRST SUCH MEETING WAS SET FOR FEBRUARY 19 AND 20.

IN THE AFTERNOON, THE STAFF ASSIGNED TO "INVENTORY" (SEE APPENDIX 4) OUTLINED THE METHODOLOGY TO BE USED AND DESIGNED A WORKSHEET FOR TABULATING DATA. THOSE ASSIGNED TO "REQUIREMENTS" SURVEYED THE RELEVANT MATERIAL IN THE IAMC LIBRARY AND FILES.

REPORT OF MEETINGS JANUARY 22-26, 1963 (CONTINUED)

JANUARY 25 AND 26

DRS. COYL, LEE, LEEDS, AND ORR MET WITH DR. MAURICE B. VISSCHER, PROFESSOR OF PHYSIOLOGY AT THE UNIVERSITY OF MINNESOTA, WHO HAS LONG BEEN INTERESTED IN AND CONCERNED WITH THE PROBLEMS OF BIOMEDICAL COMMUNICATION. THE OBJECT WAS TO ACQUAINT HIM WITH THE PLANS FOR THE STUDY AND TO OBTAIN HIS SUGGESTIONS.

DR. VISSCHER PROVIDED SOME EXCELLENT LEADS TO UNPUBLISHED SOURCES OF DATA USEFUL FOR ASSESSING USER REQUIREMENTS. AMONG THE SUGGESTIONS HE OFFERED WERE: (1) THAT THE COST IN SCIENTIST TIME OF OUR PRESENT EDITORIAL REVIEWING PRACTICES BE EXAMINED CAREFULLY; (2) THAT CONSIDERATION BE GIVEN TO THE DESIRABILITY OF MAKING AVAILABLE TO ACADEMIC SCIENTISTS WITHOUT CHARGE ALL TECHNICAL REPORTS OF GOVERNMENT-FINANCED RESEARCH RESEARCH, MUCH AS ASTIA DOES FOR DEPARTMENT OF DEFENSE CONTRACTORS; (3) THAT SUPPORT FOR GRANTEE'S LOCAL INFORMATION SERVICES BE INCORPORATED IN EVERY RESEARCH GRANT, PERHAPS BY EARMARKING A PERCENTAGE OF THE ALLOWANCE FOR OVERHEAD OR INDIRECT COSTS; AND (4) THAT THE EFFECT OF THE SCIENTIST'S CHANGING WORK PATTERNS AND ENVIRONMENT ON HIS INFORMATION NEEDS BE EMPHASIZED.

RICHARD H. ORR, M.D.
STAFF DIRECTOR

APPENDICES:

1. BACKGROUND SKETCHES ON STAFF
2. OUTLINE - FINAL REPORT
3. TIME ASPECTS
4. ASSIGNMENT OF TASKS

STAFF

STRUCTURE OF BIOMEDICAL COMMUNICATION SYSTEM

GREGORY ABDIAN, A.B.

EXECUTIVE VICE-PRESIDENT OF HERNER AND COMPANY, WASHINGTON, D.C.
LIBRARY PLANNING, SURVEYS, INFORMATION SYSTEMS, AND SPECIAL
STUDIES:

MEMBER OF TASK FORCE, ESTABLISHED BY DR. J.B. WIESNER, SPECIAL
ASSISTANT TO THE PRESIDENT FOR SCIENCE AND TECHNOLOGY, WHICH
STUDIES AND REPORTED ON THE SCIENTIFIC AND TECHNOLOGICAL INFORMA-
TION ACTIVITIES OPERATING WITHIN THE FEDERAL GOVERNMENT, SPRING
1962.

RECENTLY ON THE STAFF OF INSTITUTE FOR ADVANCEMENT OF MEDICAL COMMUNI-
CATION AND FORMERLY, PROGRAM DIRECTOR OF RESEARCH DATA AND INFORM-
ATION SERVICES, OFFICE OF SCIENTIFIC INFORMATION SERVICE, NATIONAL
SCIENCE FOUNDATION.

PRIOR TO NSF, AS ASSISTANT CHIEF, TECHNICAL INFORMATION SERVICE, U.S.
ATOMIC ENERGY COMMISSION, HE PLANNED, DIRECTED, AND ADMINISTERED
AEC'S CENTRALIZED ACTIVITIES FOR PUBLISHING, PRINTING, AND BIBLI-
OGRAPHIC SERVICE RELATED TO SCIENTIFIC AND TECHNICAL INFORMATION
IN THE NUCLEAR SCIENCES.

CHARLES BOURNE

RESEARCH ENGINEER, GENERAL SYSTEMS DEPARTMENT, ENGINEERING DIVISION,
STANFORD RESEARCH INSTITUTE, MENLO PARK, CALIFORNIA.

PUBLICATIONS:

THE WORLD'S TECHNICAL JOURNAL LITERATURE: AN ESTIMATE OF VOLUME,
ORIGIN, LANGUAGE, FIELD, INDEXING, AND ABSTRACTING. AMERICAN
DOCUMENTATION 13, 2, APRIL 1962, 159-168.

-- AND OTHERS. FINAL REPORT: REQUIREMENTS, CRITERIA, AND MEASURES
OF PERFORMANCE OF INFORMATION STORAGE AND RETRIEVAL SYSTEMS.
PREPARED FOR OFFICE OF SCIENCE INFORMATION SERVICE, NATIONAL
SCIENCE FOUNDATION, MENLO PARK, STANFORD RESEARCH INSTITUTE,
1961, 132 p.

BIBLIOGRAPHY ON THE MECHANIZATION OF INFORMATION RETRIEVAL.
MENLO PARK, CALIFORNIA, STANFORD RESEARCH INSTITUTE, 1958.
ANNUAL SUPPLEMENTS.

THE HISTORICAL DEVELOPMENT AND PRESENT STATE-OF-THE-ART OF
MECHANIZED INFORMATION RETRIEVAL SYSTEMS. AMERICAN DOCUMENTATION
12, 2, APRIL 1961, 108-110.

-- AND ENGELBART, D.C. FACETS OF THE TECHNICAL INFORMATION PROBLEM.
STANFORD RESEARCH INSTITUTE JOURNAL 2, 1, SEPTEMBER/OCTOBER 1958,
2-8.

ALICE A. LEEDS, M.D.

RESEARCH ASSOCIATE, INSTITUTE FOR ADVANCEMENT OF MEDICAL COMMUNICATION.

FORMERLY, CHIEF, TECHNICAL INFORMATION SERVICES, ELECTRO-MAGNETIC COMPATIBILITY ANALYSIS CENTER, U.S.N.E.E.S., ANNAPOLIS, MARYLAND.

PRIOR TO U.S.N.E.E.S., RESEARCH ENGINEER, CHICAGO AERIAL INDUSTRIES, BARRINGTON, ILLINOIS, AND CONSULTANT, JOHN R. MILES COMPANY, MECHANICAL AND OPTICAL CONSULTANTS, SKOKIE, ILLINOIS, BOTH ACTIVITIES INVOLVING LITERATURE AND PATENT SEARCHES AND WRITING OF TECHNICAL HANDBOOKS.

ALSO, METRO TEC COMPANY, CHICAGO, ILLINOIS, MANAGER OF MEDICAL INSTRUMENT DIVISION, DESIGN AND DEVELOPMENT OF MEDICAL-OPTICAL INSTRUMENTS (GASTROSCOPES, ESOPHAGOSCPES, ETC.); AND CARL ZEISS COMPANY, MEDICAL INSTRUMENT DIVISION, BERLIN, GERMANY.

LINGUIST (6 LANGUAGES)

VERN W. PINGS, PH.D.

MEDICAL LIBRARIAN AND ASSOCIATE PROFESSOR OF MEDICINE, WAYNE STATE UNIVERSITY, DETROIT, MICHIGAN.

FORMERLY, ON THE STAFF OF KRESGE SCIENCE LIBRARY, DETROIT, MICHIGAN, AND THE PHARMACY SCHOOL OF OHIO NORTHERN UNIVERSITY, ADA, OHIO.

ROGER L. SISSON, M.S.

DIRECTOR OF ADVANCED PROGRAMS OF AUERBACH CORPORATION, PHILADELPHIA, PENNSYLVANIA.

FORMERLY, MANAGER, SYSTEMS DEPARTMENT AND ACTING MANAGER OF PROGRAMMING AND APPLICATION DEPARTMENT AT AERONUTRONIC.

PRIOR TO AERONUTRONIC, PARTNER IN THE CONSULTING FIRM OF CANNING, SISSON AND ASSOCIATES AND DESIGN ENGINEER WITH NATIONAL CASH REGISTER CORPORATION.

ALSO LECTURED ON ELECTRONIC DATA PROCESSING IN THE BUSINESS SCHOOL OF THE UNIVERSITY OF SOUTHERN CALIFORNIA.

OUTLINE - FINAL REPORT

- A. SUMMARY OF FINDINGS AND CONCLUSIONS
- B. OBJECTIVES AND METHODOLOGY
- C. BACKGROUND AND PHILOSOPHY (INFORMATION AS A RESOURCE)
- D. DEFINITIONS - TAXONOMY
- E. STUDY FINDINGS
 - 1. USERS' INFORMATION REQUIREMENTS
 - 2. PERSPECTIVE - HOW REQUIREMENTS HAVE CHANGED
 - 3. DESCRIPTION OF PRESENT BIOMEDICAL COMMUNICATION COMPLEX
 - 4. EVALUATION OF PRESENT SYSTEM
 - 5. IDENTIFICATION OF PROBLEMS
 - 6. DESCRIPTION OF "IDEAL" SYSTEMS AS A FUNCTION OF COST
 - 7. SUGGESTIONS (POLICY CHANGES; SERVICE CHANGES)

APPENDICES

SUPPORTING DATA AND DISCUSSION INCLUDING INVENTORIES OF INFORMATION GENERATORS AND COMMUNICATION RESOURCES, USER REQUIREMENT DATA, GOVERNMENT - PUBLIC INTERACTIONS, ETC.

ASSIGNMENT OF TASKS

<u>ADMINISTRATIVE COORDINATION (INC. PREPARATORY)</u>	<u>REQUIREMENTS</u>	<u>INVENTORIES</u>	<u>PERSPECTIVE</u>
ORR	SISSON	LEEDS	PINGS
LEEDS	BOURNE	ABDIAN	
	COYL	PINGS	
	(ORR)		

INSTITUTE FOR ADVANCEMENT OF MEDICAL COMMUNICATION

9650 WISCONSIN AVENUE • BETHESDA 14, MARYLAND

Telephone: 656-2900

FEBRUARY 25, 1963

Director

Richard H. Orr, M.D.

Associate Directors

William P. Shepard, M.D.

Isaac D. Welt, Ph.D.

Scientific Council

Michael E. DeBakey, M.D.

Wallace O. Fenn, Ph.D.

Harold D. Green, D.Sc., M.D.

Robert E. Gross, M.D.

George P. Hager, Ph.D.

Hans H. Hecht, M.D.

Hugh H. Hussey, M.D.

Victor Johnson, Ph.D., M.D.

Chauncey D. Leake, Ph.D.

Clayton G. Loosli, M.D.

Horace W. Magoun, Ph.D.

Walsh McDermott, M.D.

Aims C. McGuinness, M.D.

Clifford T. Morgan, Ph.D.

Jack D. Myers, M.D.

Irvine H. Page, M.D.

Otto H. Schmitt, Ph.D.

Marion B. Sulzberger, M.D.

Maurice B. Visscher, Ph.D., M.D.

Paul A. Weiss, Ph.D., M.D. (h.c.)

Irving S. Wright, M.D.

MEMO TO TASK FORCE

AT YOUR EARLIEST CONVENIENCE, WOULD YOU REVIEW THE NEW DRAFT OF THE "TENTATIVE OUTLINE OF THE FINAL REPORT" (APPENDIX I TO THE ENCLOSED REPORT). THIS DRAFT INCORPORATES A NUMBER OF CHANGES SUGGESTED BY THE DISCUSSION LAST WEEK.

IN PARTICULAR, I WOULD LIKE EACH OF YOU TO SEND ME ADDITIONAL QUESTIONS THAT WE MIGHT ATTEMPT TO ANSWER IN THIS STUDY. ONE OF THE MOST IMPORTANT ITEMS ON THE AGENDA FOR THE MARCH MEETING WILL BE TO RANK AN EXHAUSTIVE LIST OF POSSIBLE QUESTIONS BY RELATIVE IMPORTANCE AND BY PROBABILITY OF ARRIVING AT USEFUL ANSWERS WITH THE MANPOWER AND TIME AVAILABLE IN THIS STUDY.

PLEASE MARK THE FOLLOWING DATES ON YOUR CALENDAR:

STAFF MEETINGS -- MARCH 25 AND 27, APRIL 22 AND 24

TASK FORCE MEETINGS -- MARCH 26 AND APRIL 23

R.H.O.

February 25, 1963

NATIONAL ACADEMY OF SCIENCES -- STUDY OF SCIENTIST-TO-SCIENTIST
COMMUNICATION IN THE BIOMEDICAL FIELD

Report of Task Force Meetings February 19-20, 1963

February 19

Present: Abdian, Bourne, Cannan, Coyl, Leeds, Orr, Pings

At the morning session, each member of the Staff reported briefly on his work to date. As expected, although the Staff had collected some data, their main efforts had been devoted to structuring the study problems for themselves, to obtaining an idea of the magnitude of the various study tasks, and to reviewing the sources of data that might be useful. Following the individual comments, discussion focused on clarifying the basic plan of the study and the nature of the recommendations that might result. The consensus was that, although we could not be expected to marshal conclusive evidence on all questions, the arguments and supporting data for any conclusion or recommendation must convince both the staff and the NAS review body (see section on "Plan of Study" in Appendix 1 to this report). The standards of proof will be those appropriate to the social sciences, and unsupported opinions or appeals to "expert judgment" will be insufficient. It was emphasized that changes in scientists' information services may have far-reaching effects on scientists' habits. We must, therefore, carefully consider the consequences of any change we recommend. This does not mean that we cannot or should not recommend changes that will affect scientists' habits directly or indirectly, if these changes are considered necessary for the advancement of science.

The afternoon was devoted to discussing the expanded outline of the final report (draft dated 2/18/63) and to refining and clarifying the study tasks specified at the January meeting of the Task Force. The sections of the outline on "Objectives," "Conceptual Framework," and "Plan of Study" were given particular attention. Working definitions of terms used in stating the objectives were offered. Suggestions arising from the discussion have been incorporated into a new draft of the outline (Appendix 1 to this report). It was agreed that the initial task designations were not sufficiently descriptive and new descriptions of the study tasks were established (see Appendix 2).

February 20

In the morning the Staff analyzed the study tasks and arrived at assignments for the forthcoming month (see Appendices 3 and 4).

In the afternoon Dr. Cannan met with the Staff again. Dr. Isaac Welt (Associate Director, IAMC) was present as a guest. The morning's decisions were briefly reviewed. March 25, 26, and 27, and April 22, 23, and 24, were set as dates for the next meetings. All background material for these meetings will be mailed to the Task Force on or before March 18 and April 15, respectively; therefore, any reports by staff members should reach the Project Office by March 15 and April 12, respectively, if they are to be reviewed and duplicated in time for distribution.

It was agreed that future monthly meetings should have the following format: first day -- Staff meetings; second day -- meetings of full Task Force, including invited scientific advisors and guests; third day -- Staff meetings. The remainder of the session was spent discussing what kind of a picture of the biomedical information complex could be presented in the final report and how today's information problems differ from those of the past. It was agreed that a rough, over-all picture of the complex would be supplemented by coverage of several sub-fields of biomedical information for which excellent data are available, e.g., mental health, cardiovascular drugs, and psychopharmacology. The consensus was that today's information problems are both qualitatively and quantitatively different and that some of the qualitative changes are secondary to quantitative increases in manpower and volume of information.

Richard H. Orr, M.D.
Staff Director

Appendices:

1. Tentative Outline of Final Report (third draft)
2. Major Study Tasks
3. Analysis of Task #3
4. Staff Assignments for Coming Month

Distribution:

1. Task Force (Staff plus Drs. Lee and Cannan)
2. Dr. Visscher
3. Dr. Heumann
4. Dr. Harte

March 18, 1963

PLAN FOR TASK FORCE AND STAFF MEETINGS

March 25 - 27

Monday, March 25 - Staff* Meetings (Project Office)

9:00 - 10:00 Individual conferences

10:00 - 12:00 Progress reports

Abdian
Bourne
Leeds
Orr
Pings

12:00 - 1:30 Lunch (Project Office) -- discuss definitions of terms

1:30 - 4:30 What remains to be done on:

Task #2?
Task #3? (See Appendix 2 and 3 of report dated
Task #4? February 25, 1963)

4:30 - 5:00 Individual conferences

Tuesday, March 26 - Task Force Meetings

9:30 - 12:00 First Session (Conference Room)

1. Summary of progress to date (30 min.)
Orr
2. Comments (30 min.)
Lee
Cannan
3. Suggestions for change in or additions to
tentative outline (90 min.)

12:00 - 1:30 Lunch (Project Office) -- Discuss present or anticipated "bottlenecks"

1:30 - 4:30 Second Session (Conference Room)

1. Determination of priorities for the major
study questions (90 min.)
2. Presentation of hypotheses and ideas (60 min.)
3. Discussion of plans for coming month and date for
May meetings (30 min.)

* Note to Staff:

Where possible, please prepare tabulations or graphs to present your findings. These will be duplicated and distributed at the meeting.

PLAN FOR TASK FORCE AND STAFF MEETINGS - Page 2

4:30 - 5:30 Individual conferences

Wednesday, March 27 - Staff Meetings (Project Office)

9:00 - 10:00 Individual conferences

10:00 - 12:00 What remains to be done? (cont.)

12:00 - 1:30 Lunch (Project Office) -- Discuss Staff needs for
information

1:30 - 4:30 Develop Staff assignments for coming month

4:30 - 5:00 Individual conferences

R. H. Orr
Staff Director

STUDY ON SCIENTIST-TO-SCIENTIST
COMMUNICATION IN THE BIOMEDICAL FIELD
NEWSLETTER

February 7, 1963

No. 2

February 19-20, 1963

Group Meeting

FASEB, Bethesda, Md.

1. An initial Sources List on background material for this study has been prepared. A copy is attached. Task Force Members are reminded to keep adding to this list. Please send information on additional helpful material to the Attention of Alice Leeds for distribution to the other staff members.
2. R. H. Orr, Vern Pings, Greg Abdian and Alice Leeds discussed further details on "Perspective" and "Inventory of Resources." The latter study was clearly divided into:
 - (a) Government (Abdian)
 - (b) Professional Societies (Leeds)
 - (c) Academic Institutions (Pings)

The initial areas to be covered are Manpower - Dollars - Publications and Information Services. In collecting available data, equal stress will be placed on "Publication Explosion" as well as "Interdisciplinary Revolution."

For a start two of the relationships in "Perspective" to be investigated are:

- (a) Teacher-Researcher
- (b) Academic Institution-Government

3. Sisson's memo on "Notes for Requirements Study" is attached.
4. Vern Pings and Alice Leeds consulted with Scott Adams of NIM. Adams brought out the fact that NIH grants are given according to government-laws and are therefore limited to only those areas determined and approved by law.
5. Mrs. Evajean McKnight has been added to the staff as Secretary for the Biomedical Project.

Alice A. Leeds

Staff Coordinator

- Attachments:
1. Sources List
 2. Memo on "Notes for Requirements Study"
 3. Reprint from Science by James A. Shannon and Charles V. Kidd, December, 1956

STUDY ON SCIENTIST-TO-SCIENTIST
COMMUNICATION IN THE BIOMEDICAL FIELD
NEWSLETTER

JANUARY 31, 1963

No. 1

SCHEDULE THESE DATES
FEBRUARY 19-20, 1963
GROUP MEETING
FASEB, BETHESDA, MD.

1. MINUTES OF THE MEETINGS AT FASEB ON JANUARY 22, 23 AND 24 ARE IN THE PROCESS OF BEING PREPARED.
2. DR. MAURICE VISSCHER, U. OF MINN., (SPECIAL ADVISOR TO THE STUDY-GROUP) MET AT FASEB WITH DRs. LEE, ORR, COYL AND LEEDS ON JANUARY 25 AND 26. HIS SUGGESTIONS WILL BE INCLUDED IN THE MINUTES OF THE FIRST MEETINGS.
3. G. ABDIAN AND A. LEEDS DISCUSSED THE WORK-SHEETS TO BE USED IN THE INVENTORY STUDY. FURTHER SUGGESTIONS WERE SUBMITTED BY V. PINGS. THIS STUDY-GROUP WILL CONVENE AT FASEB EARLY IN THE WEEK OF FEBRUARY 4. DR. V. PINGS WILL BE IN BETHESDA THE ENTIRE WEEK OF FEBRUARY 4.
4. A LEEDS IS COMPILING A SOURCE LIST FOR INFORMATION ON ORGANIZATIONS, INFORMATION SERVICES, PUBLICATIONS, ALSO STUDIES ON USER'S HABITS. THIS LIST WILL BE DISTRIBUTED TO ALL STAFF MEMBERS WITH THE REQUEST TO ADD ADDITIONAL SOURCES OF INFORMATION.
5. R. SISSON WAS AT FASEB ON JANUARY 30 FOR THE STUDY OF BACKGROUND MATERIAL. HE WILL RETURN ON FEBRUARY 5.
6. A BETTER VERSION OF THE WORKING DEFINITION OF "BIOMEDICAL INFORMATION" HAS BEEN GIVEN BY DR. R.H. ORR. A COPY IS ATTACHED.
7. THE PHONE NUMBER FOR STAFF COMMUNICATION IS:
AREA CODE 301 656-2900 EXT. 218 AND 219

Alice A. Leeds
STAFF COORDINATOR

- ATTACHMENTS: 1. INITIAL OPERATION DEFINITION OF BIOMEDICAL INFORMATION
2. SCHEDULE FOR FEBRUARY 19 AND 20 MEETING

INITIAL OPERATIONAL DEFINITION OF BIOMEDICAL INFORMATION

BIOMEDICAL INFORMATION IS THE KNOWLEDGE GENERATED FROM HEALTH-RELATED RESEARCH AND DEVELOPMENT, PERFORMED PRIMARILY WITHIN THE SCOPE OF THE BIOLOGICAL SCIENCES AND RELATED TECHNOLOGIES, AND OCCASIONALLY WITHIN THE SCOPE OF SELECTED ASPECTS OF OTHER DISCIPLINES AND TECHNOLOGIES.

OPERATIONAL DEFINITION OF BIOMEDICAL INFORMATION
AS PER DR. RICHARD H. ORR

BIOMEDICAL INFORMATION IS THAT INFORMATION WHICH IS DERIVED FROM BIOMEDICAL RESEARCH OF THE TYPE CONDUCTED BY NIH, I.E., SIMILAR TO THAT INDEXED IN NIH RESEARCH GRANTS INDEX 1962.

SCHEDULE FOR FEBRUARY 19TH AND 20TH MEETING

- | | | |
|--|----------|--------------------------------|
| 1. PREPARE AND ISSUE MINUTES OF JAN. 22-25 MEETINGS. ATTACH DEFINITIONS. | AL | TO GO TO GROUP BEFORE FEB. 12. |
| 2. BIBLIO OF USER SURVEYS | RS CB | |
| 3. PRELIMINARY ANALYSIS OF USERS SURVEYS AND DECISIONS HOW TO PROCEED | RS
CB | |
| 4. BIBLIO AND PRELIMINARY ANALYSIS OF INVENTORY SOURCES | AL | |
| 5. WRITE UP APPROACH ON REQUIREMENT STUDY | RS CB | DISTRIBUTION BY FEB. 5 |
| 6. WRITE UP APPROACH ON INVENTORY STUDY | AL | DISTRIBUTION BY FEB. 5 |
| 7. OUTLINE PERSPECTIVE STUDY AND KEY SOURCES | VP | |
| 8. DRAFT OF OBJECTIVE BACKGROUND AND DEFINITIONS | RO | |
| 9. DETAILED OUTLINE OF FINAL REPORT | RO | |

OUTLINE - FINAL REPORT

- A. SUMMARY OF FINDINGS AND CONCLUSIONS
- B. OBJECTIVES AND METHODOLOGY
- C. BACKGROUND AND PHILOSOPHY (INFORMATION AS A RESOURCE)
- D. DEFINITIONS - TAXONOMY
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ASSIGNMENT OF TASKS

ADMINISTRATIVE
COORDINATION
(INC. PREPARATORY)

REQUIREMENTS

INVENTORIES

PERSPECTIVE

ORR

SISSON

LEEDS

PINGS

LEEDS

BOURNE

ABDIAN

COYL

PINGS

(ORR)

PROPOSAL

Dr. Bourne
rec'd 18/Jan 63

Proposal for a Study
of
Scientist-to-Scientist Communication in the Biomedical Field

Division of Medical Sciences
National Academy of Sciences-National Research Council

14 December 1962

not professional
from
Medical
Division

The objective of this project is to obtain an integrated picture of the needs, habits and problems of the biomedical community of research workers and teachers with respect to biomedical information and relate this picture to the complex of systems and services involved in the handling of such information from its generation through its ultimate use for the purpose of:

1. Evaluating the nature of the problems presented to the scientific community and the character of present and anticipated needs.
2. Identifying actions that can be taken to improve present circumstances and areas where further, more detailed studies are indicated.
3. Developing principles useful in guiding private and governmental efforts toward more effective management of scientific and technical information for the advancement of the biomedical sciences.

Primary emphasis will be placed on unrestricted channels of information, written or oral, by which the scientist communicates at his own volition. Consideration will, however, also be given to the problems of privileged information whose dissemination is restricted either for the protection of the investigator (applications for grants, progress reports, and other administrative materials) or for the protection of national security.

To achieve the objective of this project a number of coordinated studies will be conducted aimed at three broad areas of assessment:

1. An examination and evaluation of the problems and needs of the working scientist in respect to the generation, dissemination and access to scientific and technical information and the systems, services, and resources therefor, as viewed by and within the scientific community. This would include such studies as:
 - a. An assembly, critique, and synthesis of available data on scientists' habits and attitudes.
 - b. A delineation of the several roles and responsibilities of the scientist in regard to scientific information as an investigator-generator, a user, and a purveyor-evaluator (referee editor, teacher, reviewer, etc.).
2. A review and assessment of the nature, status, problems and potentialities of present and prospective mechanisms, systems, services, and approaches to the management of scientific and technical information in relation to the problems of the working community and other needs. This would include:
 - a. An assessment of the total resources (private and governmental) in biomedical communication.
 - b. An analysis of the strengths and weaknesses of each of the major types of publication: primary (journals publishing the original reports of research), secondary (abstracting and indexing services, bibliographies, etc.), and tertiary (reviews, compendia, handbooks, etc.).
 - c. An assessment of critical operational and technical problems of information services and of potentialities for the use of mechanical and electronic devices.

- d. A critical review of current experiments in scientific communication.
 - e. An analysis of the optimal roles of general information centers (libraries) and specialized information centers.
3. Development of a broad plan of action indicating immediate feasible steps, useful direction of further effort, principles to be observed, respective responsibilities of public and private agencies and areas of further study. This would include:
- a. Delineation of the responsibilities that would seem, on grounds of tradition and professional practice, to be appropriate to our private resources, and those which would seem to call for government initiative.
 - b. An exploration of mechanisms for achieving voluntary coordination and integration of private efforts in biomedical communication and across the interface between private and governmental efforts.
 - c. Developing principles for determining in what fields specialized information centers or services are most needed, for evaluating their effectiveness, and for preventing duplication of effort by vertical and horizontal ties to the total biomedical information complex.
 - d. The relative characteristics of services intended for discipline-oriented research workers and those designed for "mission-oriented" investigators.

The project will culminate in a final report which will attempt to integrate the substance of the several studies into a coherent evaluation of needs, practices, and resources and will make specific recommendations for action and for further study.

Operational Plan

The project is conceived as primarily a staff task-force operation developed in cooperation with informal panels of scientists representative of various fields of biomedicine. As staff papers are developed, they will be submitted informally for criticism and elaboration to established committees of the Academy-Research Council and to ad hoc groups of biomedical scientists and of information specialists.

In view of the needs of NIH with respect to early planning and programming, the Division will submit working papers and progress reports from time to time as ideas and patterns mature, or as it becomes possible to identify additional studies that can be initiated forthwith.

The final, comprehensive report, which will emphasize principles and recommendations, will be evaluated and approved by a senior advisory committee, and hopefully should be ready for submission to the Director, NIH by October, 1963.

Administrative Plan

1. The Chairman, Division of Medical Sciences, NAS-NRC, will be responsible for the over-all direction and conduct of the study.
2. The Chairman and Staff of the Division will work in close cooperation with the Director, Office of Documentation, NAS, with the Executive Officer and Staff of the Federation of American Societies for Experimental Biology and, through the Federation, with the Director and Staff of the Institute for the Advancement of Medical Communication.

(Karl Henneman)

(Milt Lee)

(Duke Orr)
3. To effect the relationships with these two organizations, the Academy proposes to negotiate a sub-contract with the Federation.

NATIONAL ACADEMY OF SCIENCES
NATIONAL RESEARCH COUNCIL

2101 CONSTITUTION AVENUE, WASHINGTON 25, D. C.

2 cc: R Amare
1/30/63

DIVISION OF MEDICAL SCIENCES

25 January 1963

Dr. Jerry Noe, Director
Engineering Science Division
Stanford Research Institute
Menlo Park, California

Dear Dr. Noe:

Since Dr. Lee and I wrote to you on January 14, we have had the opportunity to discuss our project with Dr. Bourne in sufficient detail for him to visualize better the contribution that we are hopeful that he will make to the study.

We also discovered that we are facing a fiscal difficulty. When the National Academy of Sciences borrows the services of an expert from another institution, it is its customary practice to compensate the individual or his institution only for the salary costs covered by the period of his detachment from his regular duties. When we presented our budget to the National Institutes of Health, we accordingly itemized our estimate of Dr. Bourne's salary at a figure of \$4,000 and we are, therefore, limited to this amount in negotiating for Dr. Bourne's services. Dr. Bourne has pointed out that Stanford Research Institute must charge an overhead when it provides consultative services, and so our limitation to a figure of \$4,000 threatens seriously to reduce the period that Dr. Bourne might be available to us. We are most anxious to have the help of Dr. Bourne because we recognize that he is a systems engineer with an almost unique understanding of the complex of systems and services that are involved in scientific communication. We have been counting heavily on him for a constructive contribution to our study.

I am, therefore, constrained to request that you give sympathetic consideration to granting leave of absence to Dr. Bourne for as extended a period as you can possibly feel justified in doing for the funds that we have available, namely \$4,000. I realize that this may be for something less than the intermittent periods totaling two months that we had originally estimated and I realize further that in asking for this, we are, in effect, inviting the Institute to make a contribution toward our study. My defense is only that the project is important to the future well-being of medical science and that it has a relative urgency.

Dr. Jerry Noe

-2-

25 January 1963

The compensation of our consultants is carried on a sub-contract of the Academy with the Federation. If we can reach agreement with respect to the services of Dr. Bourne, a simple exchange of letters with Dr. Milton Lee will suffice for us.

Sincerely yours,

R. Keith Cannan

R. Keith Cannan
Chairman of Division

cc. Dr. Milton Lee

NATIONAL ACADEMY OF SCIENCES
NATIONAL RESEARCH COUNCIL
2101 CONSTITUTION AVENUE, WASHINGTON 25, D. C.

cc: Amara
✓ Bourne
1/21/63

DIVISION OF MEDICAL SCIENCES

14 January 1963

Dr. Jerry Noe, Director
Engineering Science Division
Stanford Research Institute
Menlo Park, California

Dear Dr. Noe:

Dr. Milton Lee has indicated to you our hope that you might be in a position to grant Dr. Charles Bourne part-time leave of absence from the Stanford Research Institute to permit him to work with us on an important study which we are undertaking at the request of the National Institutes of Health.

I am enclosing a copy of the outline of the project which indicates its scope and purpose. We believe that Dr. Bourne can be of real help to us and hope that you can see your way to making his services available.

Dr. Lee has outlined to you the amount of Dr. Bourne's time that we would like to have available to us. We will, of course, be prepared to compensate him appropriately. Arrangements can be worked out with you or with him as you may prefer.

I regret that the time is short but the needs of NIH are urgent and we must get underway as soon as possible.

With appreciation for your sympathetic consideration of this request.

Yours sincerely,

R. Keith Cannan
R. Keith Cannan
Chairman of Division

Enclosure

FEDERATION OF
AMERICAN SOCIETIES FOR
EXPERIMENTAL BIOLOGY

8650 WISCONSIN AVENUE • WASHINGTON 14, D. C.

OLG-2900
~~OLIVER 6-8100~~
-OLL
656 2902

Member Societies

AMERICAN PHYSIOLOGICAL SOCIETY
AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS
AMERICAN SOCIETY FOR PHARMACOLOGY AND
EXPERIMENTAL THERAPEUTICS
AMERICAN SOCIETY FOR EXPERIMENTAL PATHOLOGY
AMERICAN INSTITUTE OF NUTRITION
AMERICAN ASSOCIATION OF IMMUNOLOGISTS

January 14, 1963

**Dr. Jerry Noe, Director
Engineering Science Division
Stanford Research Institute
Menlo Park, California**

Dear Dr. Noe:

You will receive soon a letter from Dr. Keith Cannon, Division of Medical Sciences, National Academy of Sciences, requesting the services of Dr. Charles Bourne in connection with a short term project for a structuring study of information-communication uses and needs of bio-medical scientists. The NAS has accepted a contract from the National Institutes of Health for this purpose. This Federation, under a sub-contract, will be involved in the staffing, housing and some other aspects of the study. Dr. Richard Orr, Director of the Institute for Advancement of Medical Communication, will act as the Study Director, and some members of his staff will also be involved.

We need the expert services of Dr. Bourne for certain aspects of the study. We would like to have him for approximately two months between January 20 and October 1st. This time need not be continuous, but could be for several periods of one or two weeks. We need Dr. Bourne particularly for a meeting of the "task force" staff (of which we hope he will be a member) on January 23rd, 24th and 25th, here at the Federation's offices in Bethesda.

For this initial meeting, travel and subsistence expenses will be paid, and also a consultant's fee. This letter is limited in the contract of the NAS with the NIH to \$75 per day. However, we would like to make arrangements for the two months of his services either with you, or with him, as you prefer. Essentially, we are requesting a loan of his services from your Division of the Stanford Research Institute.

Both Dr. Orr and I have talked with Dr. Bourne about the study, and find that he is both knowledgeable and interested in the aspects for which we seek him.

Dr. Jerry Hoe
January 14, 1963

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I join with Dr. Keith Cannon in hoping that you can make Dr. Bourne's services available to this study of the NAS and this Federation.

Yours sincerely,

On Milton O. Lee
Executive Officer

MCL:dc

cc: Dr. Bourne
Dr. Cannon

Subject

Stearic acid, Onion Skin

FLUORESCENT

IAMC

Dr. Cannon - NAS/NEC will
coordinate to SRI

Dear Charlie:

Here is a preliminary
protocol for the NAS study
I talked to you about.

You will be hearing more
about it soon.

9 mos. $\approx 100^k$ 3 mos. years

Steve Leate - MD in Germany (full time)
Armed Forces

Doth Orr (1/2 time)

Greg Ableson

Harold Bloomquist, Harvard Med. School Librarian
(full time)

"Systems man" (full time)

CB (1/2 time)

11/29/62

The objective of this project is to obtain an integrated picture of the complex of systems and services handling biomedical information from its generation to its proximate and ultimate use, and to relate this picture to the needs and habits of the biomedical community of research workers and teachers. The purposes are:

1. To determine where the biomedical information complex is inadequate to meet present and anticipated needs,
2. to develop principles useful in guiding private and governmental efforts to improve the over-all functioning of the system, and
3. to identify areas where further, more detailed studies are indicated.

Primary emphasis will be placed on unrestricted channels of information, written or oral, by which the scientist communicates at his own volition. Consideration will, however, also be given to the problems of privileged information whose dissemination is restricted either for the protection of the investigator (applications for grants, progress reports, and other administrative materials) or for the protection of national security.

To achieve the objective, a number of simultaneous, coordinated studies will be conducted. Among these are:

1. An assessment of the total resources (private and governmental) in biomedical communication with delineation of the responsibilities that would seem to fall upon our private resources with their traditions, and those which would seem to fall upon government.
2. An exploration of mechanisms for achieving voluntary coordination and integration of private efforts in biomedical communication and across the interface between private and governmental efforts.
3. An assembly, critique, and synthesis of available data on scientists' habits and attitudes as these relate to future patterns of scientific communication.
4. An analysis of the strengths and weaknesses of each of the major types of publication: primary (journals publishing the original reports of research), secondary (abstracting and indexing services, bibliographies, etc.), and tertiary (reviews, compendia, handbooks, etc.).
5. A critical review of current experiments in scientific communication.
6. A delineation of the several roles and responsibilities of the scientist in regard to scientific information--as an investigator-generator, a user, and a purveyor-evaluator (referee editor, teacher, reviewer, etc.).

7. An assessment of critical operational and technical problems of information services and of potentialities for the use of mechanical and electronic devices.
8. An analysis of the optimal roles of general information centers (libraries) and specialized information centers. Special attention will be given to developing principles for determining in what fields specialized information centers or services are most needed, for evaluating their effectiveness, and for preventing duplication of effort by vertical and horizontal ties to the total biomedical information complex. Characterization of the differences in services intended for discipline-oriented research workers and those designed for "mission-oriented" researchers is also required.

The project will culminate in a final report which will attempt to integrate the substance of the several studies into a coherent evaluation of resources, practices, and needs and will make specific recommendations for action and for further study.

Operational Plan

The project is conceived as primarily a staff task-force operation developed in cooperation with informal panels of scientists expert in various fields of biomedicine. As staff papers are developed, they will be submitted informally for criticism and elaboration to appropriate groups of scientists and consultant information specialists.

In view of the needs of NIH with respect to early planning and programming, NAS-NRC will submit working papers and progress reports from time to time as ideas and patterns mature, or as it becomes possible to identify additional studies that can be initiated forthwith.

The final, comprehensive report, which will emphasize principles and recommendations, will be evaluated and approved by a senior advisory committee, and hopefully should be ready for submission to the Director, NIH, by October, 1963.

Administrative Plan

1. The Chairman, Division of Medical Sciences, NAS-NRC, will be responsible for the over-all direction and conduct of the study.
2. The Chairman and staff of the Division will work in close cooperation with the Executive Officer and staff of the Federation of American Societies for Experimental Biology and with Director and staff of the Institute for Advancement of Medical Communication.
3. To effect the relationships with these two organizations, the Academy proposes to negotiate sub-contracts with the Federation and with the Institute.