REGIONAL COMMITTEE ON STATISTICS

Annual Meeting

Duke University
Durham, North Carolina
November 7-8, 1968

The Southern Regional Committee on Statistics held its annual meeting November 7-8, 1968, at Duke University, Durham, North Carolina, with the following present:

Representatives of Member Institutions:

R. L. Anderson, University of Kentucky
Ralph A. Bradley, Florida State University
Donald Burdick, Duke University
Roger L. Burford, Louisiana State University
A. Lee Cobb, University of Alabama
A. C. Cohen, Jr., University of Georgia
David B. Duncan, Johns Hopkins University
Charles E. Federspiel, Vanderbilt University
R. J. Freund, Texas A. and M. University
Donald A. Gardner, Oak Ridge National Lab
Boyd Harshbarger, Virginia Polytechnic Institute
Edgar P. Hickman, University of South Carolina
Peter William John, University of Texas
S. J. Kilpatrick, Medical College of Virginia
Carl E. Marshall, Oklahoma State University
David D. Mason, North Carolina State University
William Mendenhall, University of Florida
Clinton Miller, Tulane University of Louisiana
Paul D. Minton, Southern Methodist University
Charles N. Moore, Mississippi State University
Gordon Simons, University of North Carolina
Harry Smith, University of North Carolina
Mary Howard Smith, Southern Regional Education Board
John R. Stockton, University of Texas
Charles C. Thigpen, University of Tennessee
James W. Walker, Georgia Institute of Technology
K. T. Wallenius, Clemson University

Observers:

Sanborn W. Chesley, University of South Florida
David C. Hurst, University of Alabama
James H. Meade, Jr., University of Arkansas Medical School
David E. Nixon, University of North Carolina at Charlotte
Bernard Otle, Florida Technological University
J. C. Terrell, Georgia State College
Dr. Donald Burdick was in charge of local arrangements. Sessions were held in the Army Research Office building on the Duke campus, with Dr. Paul Minton, Chairman, presiding. Dean Richard L. Predmore, of the Graduate School of Arts and Sciences, welcomed the group on behalf of the University.

Several member institutions distributed written reports on their programs in statistics. In addition, Dr. Minton called for brief reports on new developments in statistics programs from all the institutions represented. Most of these reports reflected expansion, with added faculty, increased numbers of graduate students, and new course offerings. Five institutions described organizational changes affecting statistics programs. Several new programs in the Region were reported.

**Relationship with SREB**

Dr. Minton introduced Dr. Mary Howard Smith, SREB representative on the Committee replacing Dr. Jack Rollow, now at Georgia State College. Dr. Smith referred to the longevity of the Regional Committee on Statistics as an activity of SREB, and attributed to the Committee's efforts much of the credit for the development and strengthening of statistics that has taken place in the higher institutions of the South. She stated that SREB would review its program and staffing pattern during the coming year, with possible changes to be recommended at the Board meeting in the summer of 1969. She further reported that the question had been raised as to whether the Regional Committee on Statistics had by now accomplished its mission as part of SREB's program, or whether there was still a need for this particular regional effort, perhaps along new lines to respond to newly emerging needs. She added that during its over-all program review SREB would welcome programming proposals from the Regional Committee on Statistics.

In the ensuing discussion, members of the group expressed the feeling that much more cooperative work needed to be done in statistics in the South, and that the machinery of a regional agency was necessary to facilitate it. It was agreed that further discussion should be devoted to this whole area on the second day.

**Appointments to Ad Hoc Committees**

Dr. Minton appointed the following ad hoc committees whose reports would be considered by the committee of the whole on the second day:

- Resolutions: Drs. Stockton, Moore, and Marshall
- Future Meetings and Invitations: Drs. Walker, Hickman, and Duncan.

**Summer Research Conference**

Dr. Burdick distributed a financial summary of the 1968 Summer Research Conference. The report revealed a balance on hand of $2310.62,
with one charge still to come in. It was explained that these funds had been obtained by charging a registration fee at each summer conference, with the idea that at some time it might be necessary to provide honoraria for guest speakers. The report on the 1968 summer conference was accepted and is attached to these minutes as Appendix A.

Dr. Gardiner reported on preliminary explorations for a site for the 1969 Summer Research Conference. He distributed a written summary, which is attached to these minutes as Appendix B. The desirability of obtaining better accommodations than last year was discussed, with attention to the inclusion of a social area. Dr. Harshbarger moved that the next conference be held at Sullins College. The motion was seconded. In discussion it was observed that the dates available at Sullins College were not satisfactory, and that formally recommending Sullins might preclude the possibility of the subcommittee finding the best possible arrangements. The motion was withdrawn. Members of the group suggested additional sites which the subcommittee might investigate. It was moved and seconded that the selection of the site be left to the discretion of the subcommittee chairman. The motion passed with two opposed.

It was reported that the balance in the summer conference fund was deposited in an Atlanta bank in an account opened in 1967 by Dr. James W. Walker. Members of the group suggested that the Committee should have a treasurer in future to handle these and other possible funds. Chairman Minton was authorized to appoint a subcommittee to draft a recommendation regarding a secretary-treasurer for the Regional Committee.

Regional Summer Sessions*

1. 1968 Summer Session. Dr. Freund distributed a report on the Summer Session in Statistics held in 1968 at Texas A. and M. University. (See Appendix C.) This session had been planned as an activity of the Regional Committee. Financing for it had been included in the proposal submitted in 1967 to NSF for support of three summer sessions (1968-69-70). In the absence of an early enough decision by NSF, Texas A. and M. had gone ahead with the summer session on its own. Students came from industry and government rather than from member institutions. Discussion of the 1968 Summer Session, and of NSF's final adverse decision on the proposal, raised the question of whether there was still a need in the region for the summer sessions as originally conceived.

2. 1969 Summer Session and Advanced Seminar. Dr. Harshbarger described an Advanced Seminar planned at VPI for the summer of 1969, for which he expected to get NSF support. (See Appendix D.) He noted that it was not planned as a regional activity, but would be offered in addition to and concurrent with the regional summer session. He suggested that, for the latter, VPI could offer any specific courses that might be requested, if the cooperating institutions would select students in

*Discussion of Regional Summer Sessions was suspended at 5:00 p.m. on the first day and continued when the meeting resumed at 9:00 a.m. the second day.
advance and let VPI know so that plans could be made. Committee members did not believe it would be possible to do this. Further, the whole question was raised again of whether basic courses are still a regional need in the summer. Dr. Harshbarger then suggested that VPI proceed with the Advanced Seminar, accept an additional 25 students over and above those provided for in the NSF proposal, offer the usual out-of-state tuition waiver for regional students, and arrange credit for those wanting it. The desirability of these arrangements would be reviewed at the end of the summer. Dr. Marshall moved approval of this suggestion. The motion was seconded and passed.

3. 1970 Summer Session. Dr. Minton reported that SMU would submit a proposal to NSF for stipends and also a proposal for an Advanced Seminar, which would run concurrently. He stated that local support might be available for some remission of tuition, though probably not for stipends.

4. Future Summer Sessions. The Committee agreed that since the first Regional Summer Sessions were designed and offered in the mid-fifties, needs of the region had changed. Many institutions are now compelled to offer their own basic courses in the summer. There is now less need for courses to be interchangeable among institutions. Transfer of residence credit has minimal importance at the doctoral level, though it is important at the master's level and was once very useful in that connection. The consensus was that in the future emphasis should be placed on advanced work in the summer, with lecturers and courses not usually available, plus such other courses as can conveniently be offered by the host institution. Consideration should also be given to providing courses in specialized applications of statistics. When it was noted that the present Memorandum of Agreement will expire on December 31, 1970, it was recommended that the new memorandum of agreement should be worded differently on the subject of cooperative summer sessions. Dr. Minton appointed himself chairman of a subcommittee to draft a revised memorandum of agreement, to be submitted for review at the 1969 meeting of the Regional Committee.

Statistics Brochure

Dr. Mason presented a recommendation from the subcommittee on a new brochure to the effect that SRED underwrite and manage printing and distribution, then invoice the member institutions $50 each. It was moved (Dr. Harshbarger) and seconded that this procedure be approved. In the discussion preceding the vote, the question was raised of the brochure's value since summer course offerings normally appear in institutional catalogues. The consensus was that the major purpose of the brochure is not to list summer offerings, but rather to serve as an advertising and information piece. It is no longer to be issued annually. Feedback from previous issues has been received from a variety of sources. Observers present stated that they had found the brochure useful in planning, in justifying plans to administration, and in advising students. There was general agreement that the 1969 edition go forward, but that the brochure be seriously discussed again next year. The motion was passed.
The subcommittee made the following recommendations as to format of the next issue:

--Include special area(s) of interest of each faculty member.
--Omit listing of summer courses.
--Include description of department, not to exceed one-half page.

Each institution was asked to revise its copy along these lines, make any needed corrections, and return the copy to Dr. Mason as soon as possible. Dr. Mason was authorized to make any final changes needed for consistency of format.

A proposal was put forward that one committee member compile and circulate summer course offerings in member institutions each year. After discussion it was left to the subcommittee to work out.

Cooperative Projects and Future of Regional Committee

Dr. Harry Smith suggested that the Regional Committee sponsor specialized symposia, centered around one topic, and make these available to businesses and industries. Any profits realized from registration fees could be used to finance other regional activities. It might require some initial exploration to determine how such funds could be channeled back to the Regional Committee rather than retained by the host institution.

Dr. Minton was authorized to appoint a Committee on Cooperative Projects and Finances, and to make interim arrangements for bookkeeping and auditing. The committee was appointed as follows: Dr. Minton (Chairman), Dr. Bradley, Dr. Harry Smith, Dr. Anderson, Dr. Walker.

The question was raised on the on-going relationship between the SREB and the Regional Committee on Statistics. Dr. Minton summarized an exchange of correspondence he had had with Dr. Godwin, Director of SREB, and stated that he intended to write Dr. Godwin again after this meeting. Members of the committee expressed the opinion that a connection with SREB was important to the Committee, especially in that it provided official university sanction for Committee activities and that the members represented their institutions rather than their departments. Dr. Minton agreed to circulate copies of his correspondence with Dr. Godwin. Committee members were reminded to keep their institutions' presidents advised of regional statistics activities and plans and of needs in terms of cooperative relationships through SREB.

Dr. Harshbarger asked whether SREB could assist in implementing faculty and student exchange among the institutions. Dr. Mary Smith stated that the possibilities for such exchange had always been of concern to SREB and that the Statistics summer sessions, with their built-in agreement about exchange of credit, constituted a significant step in that direction. Committee members expressed the belief that an inter-institutional compact providing for interchange of residence credit and faculty would be useful. It was agreed that examination should be made of such arrangements among CIC universities in the Midwest. Dr. Mary
Smith will undertake to assemble information about relevant CIC exchange programs. Dr. Harshbarger will draft a prospectus for an interchange plan for the Regional Committee.

Shortage of Graduate Students and Related Topics

The group next discussed the shortage of qualified graduate students and the increasing competition for them from such related specialties as computer science and operations research. The following were identified as promising approaches to solutions, meriting further exploration:

1. Strengthening of, and recruitment to, undergraduate programs in statistics. The Regional Committee could have a role here.

2. Organization within universities of divisions of mathematical sciences, offering baccalaureate degrees in mathematical sciences, with the graduates then equipped for further study in mathematics, statistics, or computer sciences.

3. Encouraging the creation of more cross-disciplinary courses.

4. Rendering assistance to developing programs. Here again the Regional Committee could play an important role.

5. Involving and working with special areas of application of statistics (e.g., psychology, business).

6. Working on recruitment through summer offerings in mathematical sciences across the board, or through summer offerings for special groups such as biological sciences.

Committee members were urged to send the Projects Committee suggestions for recruitment activities.

It was proposed that the Regional Committee consider production of a brochure on ways to solve the organizational problems involved in providing statistics instruction in institutions. The idea was referred to the Committee on Cooperative Projects for further study.

Discussion then turned to the need to improve instruction in basic "service courses" in statistics, which are often relegated to graduate assistants. This discussion had special reference to relationships with schools of business. One committee member felt strongly that if there were any place where mathematics, statistics, operations research, and computer science should be combined into one course in mathematical sciences, it was in this area of quantitative methods for business students. Another stated that a desirable solution was in the development of a competent quantitative staff in the business school itself, with interchange between them and the statistics department achieved in such ways as joint research projects. It was proposed that content and methods for a recommended course in statistics for business students be developed as a regional project. This suggestion was also referred to the Committee on Cooperative Projects.
It was suggested that the Regional Committee make a survey and study of the problems of providing statistical instruction for schools of business. Dr. Minton was authorized to appoint a subcommittee to study the organization of mathematical sciences within universities.

Conference on Statistics in Business

Dr. Thigpen reported that the Subcommittee on a Conference on Statistics in Business had worked on plans for a four-weeks summer conference for teachers of statistics in schools of business. A survey made by the subcommittee indicated that about 40 participants would come if funds were available, and a few institutions would have been willing to send representatives on university expense if outside funds were not available. To date the subcommittee had been unable to get funding for the conference. It was suggested that the subcommittee consider financing the conference by reducing it to two weeks and opening it also to industrial personnel, whose registration fees might carry the academic personnel. However, it was noted that if this were done, the content of the conference might have to be different. Another suggestion was to operate the conference in conjunction with a regional summer session. The subcommittee was asked to continue working on conference possibilities for another year.

Subcommittee on Invitations

The Subcommittee on Invitations presented a recommendation that the Regional Committee accept the invitation of the University of Tennessee to meet in Knoxville in 1959. It was moved, seconded, and passed that this invitation be accepted. Dr. Harry Smith expressed the intention of asking the Committee to meet in Chapel Hill as soon as expanded hotel facilities are ready there—probably 1970.

Subcommittee on Resolutions

The Subcommittee on Resolutions presented resolutions as follows:

1. Thanking Duke University and Dr. Donald Burdick for local arrangements and hospitality.

2. Commending Dr. Freund for his successful efforts in conducting a regional summer session despite lack of outside support.

3. Expressing thanks to Dr. Card, former representative from the University of Kentucky, and welcoming Dr. Anderson, now officially representing the University of Kentucky on the Committee.

4. Thanking the Southern Regional Education Board for services rendered to the Regional Committee and for hospitality at reception and dinner during this meeting.

These resolutions were passed by the Committee and are appended to this report. As there was no further business, the annual meeting was adjourned.
SHEB Summer Conference in Statistics

FINANCIAL SUMMARY

7 November 1968

<table>
<thead>
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<th>RECEIPTS</th>
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<tr>
<td>Balance on hand 20 October 1967</td>
<td>$1852.94</td>
</tr>
<tr>
<td>Registration fees</td>
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<tr>
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<td>$2599.94</td>
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<table>
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<th>EXPENDITURES</th>
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</thead>
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<tr>
<td>Picnic supper Kortrak (1967 Conference)</td>
<td>50.00</td>
</tr>
<tr>
<td>--bill received 26 October 1967</td>
<td></td>
</tr>
<tr>
<td>Expenses, conference directory 1968</td>
<td>14.13</td>
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<tr>
<td>Expenses, keynote speaker</td>
<td>225.19</td>
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<tr>
<td>Total</td>
<td>289.32</td>
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BALANCE on hand 7 November 1968 | $2310.62 |
ACTIVITIES CONCERNING A 1969 SURVEY RESEARCH CONFERENCE

Donald A. Gardiner

November 7, 1968

Preliminary plans began to be formulated in late August after informal discussions with some of the participants at the 1968 conference. There appeared to be some dissatisfaction with the locale and accommodations at Montreat this year and remembering that I had promised to be available for handling the 1969 conference (if any) I began to make inquiries about alternative sites.

As one of these inquiries I wrote to all the members of the Committee on Statistics, SREB on August 23, 1968, requesting suggestions for a possible site and for possible speakers. The response was not overwhelming. From 26 addresses I received eight letters in reply. However, I am encouraged by the spirit and cooperation of these few.

Possible Sites

A letter of inquiry was written to several possible hosts with results as tabulated below.

<table>
<thead>
<tr>
<th>Place</th>
<th>Content of Reply</th>
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</thead>
<tbody>
<tr>
<td>Tennessee Department of Conservation</td>
<td>They suggested Paris Landing State Park on Kentucky Lake, 16 miles N.E. of Paris, Tennessee on U.S. 79. This is in N.W. Tennessee. The meeting room would not be available until after Labor Day. $7.00 single and variety of multiple occupancy rates, without meals.</td>
</tr>
<tr>
<td>North Carolina Department of Conservation</td>
<td>They would not suggest a site unless told if we would prefer mountains, Piedmont, or beach. They furnished general information on the whole state.</td>
</tr>
</tbody>
</table>
Maryville College
Maryville, Tennessee

Maryville is just south of the Knoxville Airport less than an hours drive to the Smokies. Suggested date is open; air-conditioned dormitories, gymnasium, swimming pool, city park within a half mile of the campus (for youngsters), two golf courses nearby. They enclosed an application form. $10.00 single, $8.00 double in air-conditioned rooms with meals but no towels.

Sullins College
Bristol, Virginia

Second week in June or week of July 8 are available. Dormitory suites of two double rooms with bath between. Rates are $6.00/person/day with meals and without linens (arrangements for linen at extra cost.) Auditorium, gym and swimming pool in same building. Tennis courts and athletic field.

Kentucky Dam Village
Gilbertsville, Kentucky

This is a state park near the "Land Between the Lakes" of S.W. Kentucky. September is open but not before. Air-conditioned rooms and cottages. Sailing, fishing, swimming, riding, golf. $9.00 single, $7.00 double without meals.

The Citadel
Charleston, S. C.

Can provide only 8 bedrooms with twin beds on campus. Suggested date available. Dining on campus. Beach Club 12 miles away on Isle of Palms.

Craig Springs
Lynchburg, Virginia

Not yet worked out summer schedule. I should write again if I have not heard from them by end of year.

Gulf Park College
Long Beach, Mississippi


Possible Speakers

The suggestions received as a result of my request are

Jimmy Savage
A good one from V.P.I.
Someone on "usual applications"
Richard Schmidt on computers and their use in instruction
A. Charles at U. of Texas
Younger researchers
Someone from Oklahoma State.
I do not consider it crucial to have a complete list of speakers at this time. However I wish to allow the members of the committee to make their preferences known.

General

In my conversations and correspondence with the members of the committee and participants at previous conferences, I detect a conflict in preferences for accommodations. On the one hand there are those who like to live in nice rooms with good meals at a moderate cost while on the other hand there are those who want everything to be cheap.

A decided lack at previous conferences has been a "commons room" where participants could relax and socialize during the free hours. The selection of church related sites or sites in "dry counties," which are all too prevalent in the south, is the major factor in this.

The committee, I think, should consider the possibility of holding the conference after Labor Day when some of the vacation areas, like the State parks, would be available. Also, a decision concerning the maximum cost for five nights of lodging and 15 meals would be helpful. I realize that we cannot please everyone but we can try to please a large number.

If the committee decides to hold a conference in 1969, action on these questions will be necessary.
HISTORY

The 1968 Graduate Summer Session in Statistics sponsored by The Committee on Statistics of the Southern Regional Education Board was held at Texas A&M University from June 3, to July 12, 1968, in accordance with the memorandum of agreement and associated procedures initiated by this Committee. Due to the fact that past summer sessions, particularly at the University of Georgia and at Emory University were severely hampered by the lateness of decisions on applications for financial assistance from the National Science Foundation, it was decided that the three Universities participating in the summer sessions of 1968, 69 and 70 would cooperate in an application for a three year grant for the sessions. The initial proposal was in the form of support for the session as a whole but informal conversations with the National Science Foundation indicated that support for such mandance things would not be forthcoming and it was suggested that we propose a three year series of advanced science seminars. This considerably delayed the preparation of the proposal but the final version was forwarded to the National Science Foundation during the winter of 1968. Since then, I have had absolutely no contact from the National Science Foundation regarding this; the closest thing to such a communication was a mysterious telephone call from Dr. Withrow to Dr. Hartley in April, requesting some additional information and hinting that something might forthcoming.

In the meantime, the Institute of Statistics of Texas A&M University, by virtue of the goodwill of its faculty, agreed to conduct a major fraction of the normal Regional Summer Session. We felt that we could do this by shifting two advanced courses to the summer session, hiring one visiting professor from additional funds provided by the University and, finally, by simply working a little harder. This offering was originally scheduled to be as follows:

- Stat. 601, Statistical Analysis (Methods I)
- Stat. 603, Least Squares and Regression Analysis (Methods III)
- Stat. 619, Analysis of Variance (Methods II)
- Stat. 611, Theory of Statistics (Theory I)
- Stat. 612, Theory of Linear Models (Theory III)
- Stat. 625, Statistical Methods in Reliability
- Stat. 617, Theory of Sampling
- Stat. 620, Theory of Mathematical Programming

In its 1967 meeting, the Committee on Statistics suggested that Stat. 616, "Multivariate Analysis" be substituted for Stat. 611, since the latter was
considered to be more widely available in the South during both regular and summer sessions.

PRIOR PREPARATION

During January and February, the Institute of Statistics, using its own funds, prepared a small leaflet describing the proposed course offerings for the 1968 Summer Sessions. This leaflet is included in the Appendix. It indicated the then hopeful possibility of support for student stipends and suggested that interested persons write for further information. In Table 1 there is a summary of the geographic distribution of inquiries resulting from this mailing.

TABLE 1
Distribution of Inquiries

<table>
<thead>
<tr>
<th></th>
<th>University</th>
<th>Industry</th>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>CoS University</td>
<td>4</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>South</td>
<td>16</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>10</td>
<td>11</td>
</tr>
</tbody>
</table>

A very interesting facet of this is the extremely small number of inquiries from Committee on Statistics Universities. In fact, of the four inquiries, three were from foreign students who would presumably not be eligible for stipends even if we had received a National Science Foundation Grant.

In an attempt to comply with and implement the details of admission as spelled out by the memorandum of agreement, we sent out a memorandum regarding admission procedures to all those who had inquired about the Summer Session. This memorandum is included in the appendix.

Since it appeared highly unlikely that we would obtain financial assistance from the National Science Foundation, we found a small pocket of money (with strings attached, naturally) that we thought we could use for supporting students. This fact, plus that mysterious telephone call from Dr. Withrow, prompted the sending out of a memorandum regarding financial assistance. This is included in the Appendix; it is self explanatory. It is of interest to note that we received not one single reply to this memorandum so it may be just as well that we did not receive a National Science Foundation Grant.

During May, I received a telephone call from Dr. Phelps Crump at Brooks
Air Force Base, School of Aerospace Medicine, stating that he planned to send several of his people to the session but requesting us to investigate the possibility of teaching a Theory I Course since this course had not been and does not appear will be available in San Antonio. We agreed to do so on my conducting this course as a "Problems" course.

SUMMER SESSION

The Regional Graduate Summer Session in Statistics was held, as scheduled, in conjunction with the regular summer session at Texas A & M University. In order to help with the load, we arranged to hire Dr. Jack Webster from Southern Methodist University to teach the Linear Models Course. In addition, a senior student who had returned to Lamar Tech in Beaumont prior to finishing his dissertation, was hired as an instructor for the summer for the dual purpose of teaching our under-graduate course and finishing his dissertation. This allowed us to use one of our most experienced local instructors for the Methods I Course. Also, during this year, we had two visiting professors, Dr. Gilbert I. Paul, half-time associate professor, on sabbatical leave from the University of Winnipeg and Dr. T. V. T. Hamurav, visiting assistant professor, recently from Michigan State University.

After enrollment, it appeared that the Multivariate Analysis Course was not needed. Only one student had signed up for this and he was able to shift to another course. Unfortunately, this did not help our situation since the proposed instructor for this (T. V. T. Hamurav) was completely useless for any other course.

In Table 2 we provide a summary of the courses, the instructors, and the breakdown of enrollment in these courses.
Table 2
1968 Summer Session
Record of Enrollment

<table>
<thead>
<tr>
<th>Course</th>
<th>Instructor</th>
<th>Texas A&amp;I Univ. Students</th>
<th>Visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Stat. Majors</td>
<td>Other Majors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Full</td>
<td>Part</td>
</tr>
<tr>
<td>601 (Math. I)</td>
<td>O. C. Jenkins</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>608 (Math. II)</td>
<td>R. J. Freund</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>617 Sampling</td>
<td>H. O. Hartley</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>619 (Math. III)</td>
<td>C. E. Gates</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>611 (Th. I)</td>
<td>G. I. Paul</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>612 (Th. II)</td>
<td>J. Webster</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>625 (Reliability)</td>
<td>L. J. Ringer</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>628 (Math. Prot.)</td>
<td>R. R. Hocking</td>
<td>7</td>
<td>0</td>
</tr>
</tbody>
</table>

This table indicates that the enrollments were modest to good in most courses but, of course, the major support came from local students. In the Appendix we present the list of visitors.

SUMMARY AND CONCLUSIONS

1. The fact that we have never received one single word from the National Science Foundation is inexcusable. As best, it can viewed as a lack of communication and confusion in Washington resulting from the various budgetary problems. At worst, it reflects a complete lack of respect and common courtesy.

2. We did not have a single student from a Committee on Statistics University. The fact that we hardly even had any inquiries when we thought we might have financial support would appear to indicate that the need for these summer sessions on the part of the cooperating university is, indeed, minimal to say the least.

3. The Committee on Statistics apparently completely mis-read some of the demands for courses. The committee request to substitute Multi-variate Analysis for Theory I, was apparently very badly advised since we had to offer Theory I but did not need the Multi-variate Analysis Course.

4. The Regional Summer Sessions are apparently quite useful for governmental agencies; over half of the visitors were from governmental agencies. Of
special appeal to governmental agencies might produce a larger number of students.

5. Industries might find these summer sessions quite attractive also. Frankly, I have had no experience dealing with industries but it would appear that these might be a useful avenue for further contacts. After all, industries are paying astronomical prices for short course elsewhere.
Report on
Regional Graduate Summer Session in Statistics
1968

Appendices

1. Preliminary Announcement Leaflets
2. Admission Procedures Memorandum
3. Financial Assistance Memorandum
4. List of Visitors
MEMORANDUM

TO: Individuals Planning to Attend the 1968 Regional Summer Session in Statistics at Texas A&M University

FROM: R. J. Freund

SUBJECT: Admissions Procedures

For this summer session we consider two classes of students:

(1) special students who wish to take courses at this summer session for use as transfer credits toward their degree program at another university, and

(2) students who wish to use these courses toward a degree at Texas A&M.

Special students will be required only to submit a completed application form and a statement from their graduate dean indicating that they are a graduate student at that university and also giving the date and place of their baccalaureate degree.

Students desiring to use summer courses toward future credit at Texas A&M University will be required to submit completed application forms together with transcripts and a Graduate Record Examination Score. Any exceptions to this must be handled on an individual basis.

An application form is enclosed; students desiring admission as special students should submit this form and the letter to

Dr. R. J. Freund
Institute of Statistics
Texas A&M University

Students desiring full admission should send the form, transcripts (official with seal) and GRE scores directly to the Admissions office, Texas A&M University, College Station, Texas 77843.
MEMORANDUM

TO: Persons interested in the Regional Summer Session in Statistics at Texas A&M University, June 3 to July 12, 1963

FROM: R. J. Freund

SUBJECT: Financial Assistance

I. Advanced Science Seminar

We have recently received a communication indicating a surprising chance for support from the National Science Foundation for an Advanced Science Seminar. The Advanced Science Seminar would cover seminars with topics as outlined for Statistics 617 and 628.

Stipends would be available for advanced-standing graduate students and possibly post-doctorals who are qualified to attend at least one of the seminars; stipend holders could take one other course as well.

As this information is reaching us rather late we feel it would be best to start receiving informal applications. In order to satisfy the National Science Foundation as well as to insure that stipend holders can successfully complete the seminars, I would like to ask all prospective attendees of the Advanced Science Seminar to send me a list of all graduate Statistics courses that they have had as well as a statement on their graduate student status or for post-doctorals, the time and university of their Ph.D.

Students attending this seminar will be considered "special graduate students" and are subject to the abbreviated admissions procedures as previously outlined.

II. Texas A&M Summer Assistantships

Since the above mentioned seminar is only for quite advanced work, Texas A&M University has arranged for a very limited number of university sponsored "stipends" for a rather special group of applicants. Basically these stipends are in the form of six weeks graduate teaching assistantships for students who ultimately desire to obtain an advanced degree in Statistics at Texas A&M University. These assistantships will essentially be for 1½ months at the rate of $250.00 per month for beginning graduate students, $275.00 a month for students with Master's degrees and $300.00 a month for students in their second year of a Ph.D. program. The assistantships will carry nominal duties such as grading papers in elementary courses and supervising laboratory sessions or otherwise assisting instructors.

Individuals desiring these assistantships must be admitted to the Graduate College of Texas A&M University as regular graduate students, and must be approved for financial assistance. Any individual desiring to follow this course should write me immediately and I will forward all the necessary information and application forms.

Please remember that the Institute of Statistics of Texas A&M is prepared to offer the full set of courses as outlined in the preliminary announcement, and we welcome any students who wish to attend as special students and desire to use the simplified admissions procedures as outlined in our memorandum on admissions procedures.
Appendix: List of Visitors

<table>
<thead>
<tr>
<th>Name &amp; Address</th>
<th>Courses</th>
<th>Sponsored</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown, Andre</td>
<td>Stat. 608</td>
<td>Self</td>
<td></td>
</tr>
<tr>
<td>2400 Chemin Ste-Foy</td>
<td>Math. 609</td>
<td>Personnel Research Laboratory</td>
<td>Hopes to continue MS at A&amp;M</td>
</tr>
<tr>
<td>Quebec 10, P.Q., Canada</td>
<td></td>
<td>Lackland AFB, Texas</td>
<td></td>
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<tr>
<td>Buchhorn, Janice</td>
<td>Stat. 601</td>
<td>Brooks AFB</td>
<td>Grad. Student</td>
</tr>
<tr>
<td>3019 Galahad Drive</td>
<td>Stat. 611</td>
<td>St. Mary's Univ., St. Antonio</td>
<td></td>
</tr>
<tr>
<td>San Antonio, Texas 78218</td>
<td>Stat. 619</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dubay, George H.</td>
<td></td>
<td></td>
<td>Part-time TAMU Student</td>
</tr>
<tr>
<td>6107 Thrush Rd</td>
<td></td>
<td></td>
<td>has attended VPI</td>
</tr>
<tr>
<td>Houston, Texas 77017</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Fisher, Joseph R., Jr.</td>
<td>Stat. 608</td>
<td>Brooks AFB</td>
<td>Grad. Student</td>
</tr>
<tr>
<td>707 Dodic</td>
<td>Stat. 611</td>
<td>St. Mary's Univ., St. Antonio</td>
<td></td>
</tr>
<tr>
<td>San Antonio, Texas 78221</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friemann, Karole H.</td>
<td>Stat. 601</td>
<td>Air Force Personnel</td>
<td>Grad. Student</td>
</tr>
<tr>
<td>214 Threadneedle</td>
<td></td>
<td>Research Laboratory</td>
<td>St. Mary's Univ., St. Antonio</td>
</tr>
<tr>
<td>San Antonio, Texas 78227</td>
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<tr>
<td>Fuchs, Robert</td>
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<tr>
<td>135 Concy</td>
<td>Stat. 611</td>
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<tr>
<td>San Antonio, Texas 78227</td>
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<td></td>
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<tr>
<td>Hovie, T. F.</td>
<td>Stat. 625</td>
<td>U.S. Army Medical Command</td>
<td>Student in cooperative program</td>
</tr>
<tr>
<td>2204 Walnut Hill Dr.</td>
<td></td>
<td>(Civilian)</td>
<td>in I.F. at A&amp;M</td>
</tr>
<tr>
<td>Texarkana, Texas 75501</td>
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<tr>
<td>Ligon, Helen</td>
<td>Stat. 601</td>
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<tr>
<td>Box 1404</td>
<td></td>
<td></td>
<td>TAMU full-time employed</td>
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<tr>
<td>Lott, Texas</td>
<td></td>
<td></td>
<td>Baylor Univ</td>
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<tr>
<td>Little, Herschel W.</td>
<td>Stat. 619</td>
<td>U.S. Dept of Agriculture</td>
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</tr>
<tr>
<td>1436 Burbank Dr.</td>
<td>Stat. 608 (Audit)</td>
<td>AHS, Southern Regional Research Lab., New Orleans Louisiana</td>
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<tr>
<td>New Orleans, Louisiana 70122</td>
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<tr>
<td>McCarty, Charles C.</td>
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<td>Brooks AFB</td>
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<tr>
<td>4979 Ocean Grove Apt. 250</td>
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<tr>
<td>San Antonio, Texas 78227</td>
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<tr>
<td>Kohr, Robert D.</td>
<td>Stat. 608</td>
<td>General Electric Co.</td>
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<tr>
<td>General Electric Co.</td>
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<tr>
<td>Appliance Park 1-118</td>
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<tr>
<td>Louisville, Kentucky 40205</td>
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</table>
Petersen, H. Del Var  
10118 Greeley Ave.  
Silver Springs, Maryland 20902  
Stat. 608  
Stat. 612  
Agr. Research Service,  
U.S.D.A., Beltsville, Md.

Phillips, W. Robert, Jr.  
404-D 1st  
College Station, Texas  
Stat. 601  
Celanese Chemical Company  
Part-time  
Student,  
TAMU

Stewart, James A.  
601 North Cross  
Apt. 35  
College Station, Texas  
Stat. 601  
IE 401  
PPY Industries  
Part-time  
Student  
C.S.E.,  
TAMU

Torres, Rodolfo Iupe  
Gonzalez Prada 355-520  
Mirafl ores, Lima, Peru  
South America  
Stat. 619  
IE 614  
Temp. programmer  
for Inst. of Stat.  
Finished  
M.B.A at  
Baylor,  
hopes to  
continue  
for M.D.  
in Stat.  
TAMU, 1969

Walker, John  
Stat. 619  
IE 614  
Self  
Working  
towards  
M.B.A., Baylor  
University
ADVANCED SEMINAR IN STATISTICS

It is proposed that an Advanced Seminar in Statistics be held at the Virginia Polytechnic Institute June 12 to July 19, 1969.

Objectives:

The Advanced Seminar is intended to increase knowledge by stimulating the amount of research activity and instruction in statistical topics at a more advanced level than is currently offered during either regular or summer sessions by institutions in the United States. To achieve these broad aims, the seminar will be organized so as to do the following:

1. Provide a formal presentation of unique or virtually unique topics in statistics.

2. Make available the services of distinguished scholars who will be able to offer this subject matter and stimulate the productivity, innovation, and creativity of advanced graduate students and recent Ph.D. graduates. A significant aspect is the stress on the development of relatively young men and women in the field.

3. Provide a forum for the development of advanced topics and new areas of research in statistics.

4. Extend invitations for participation on a national basis.
The University possesses a staff who will be able to provide a large part of the innovative work described below. However, in each seminar other distinguished statisticians will be invited to provide instruction for longer or shorter periods.

In the University excellent facilities, including third generation computers of high capacity, are available for faculty and students alike.

The stipends being sought will provide for the basic costs of graduate students and postdoctoral participants who would not otherwise be able to take part in the seminar. Those participants already receiving Federal support would receive no stipends, but would be reimbursed for cost of travel.

The University will supply, as a share of the cost of the seminar, the time of some of the faculty, the services of technical and clerical personnel, and the facilities, including classrooms, libraries, and special equipment. The budget is summarized on page 7 of the proposal.

Concurrently with the Advanced Seminar the Southern Regional Graduate Summer Session in Statistics will be held at Virginia Polytechnic Institute. Courses in this session will be available to those attending the Advanced Seminar.
ADVANCED SEMINAR IN STATISTICS

Virginia Polytechnic Institute

Summer, 1969

Part I

Seminar in Congestion Theory

Aim

This advanced seminar is designed to give a thorough coverage of the basic results in modern congestion theory, and of their practical applications to a variety of problems. Every attempt will be made to ensure that the material presented is up to date. The results of original research will be included.

Prerequisites

Advanced graduate standing is required in statistics or mathematics.

Candidates for this work should have had a thorough grounding in probability theory. Some previous acquaintance with stochastic processes is desirable, though not essential. It is assumed that candidates will possess an adequate mathematical background including advanced calculus, some knowledge of the theory of Bessel functions, Laplace Transforms and difference equations. Some acquaintance with computer programming would be desirable.
Material

The seminar will attempt to cover the distributions of state probabilities, waiting and idle times, busy period, and output, for the single-server, first-come, first-served systems $M/M/1$, $G1/M/1$ and $M/G/1$. Finite time results will be given whenever possible. Multi-server systems will be covered by $M/M/2$ in detail. Erlang's problem for the systems $M/G/\infty$, $G1/M/\infty$ and $G1/G/\infty$ will be discussed. $E_k$ distributions and results for queues with this arrival and service pattern will be discussed and derived. The effects of different queue disciplines will be considered.

Examples of queueing theoretic models in the design of hospitals, traffic problems and military operations research will be given and discussed. Group arrival and service models, models with correlation between service and arrival patterns will emerge from these discussions. The practical effect of correlation revealed by recent research is the possibility of substantially reducing working time without inflicting increased idleness on the service facility. This will be discussed.

Asymptotic results will be given in connection with the "heavy traffic" situation when the congestion index approaches unity.

If time permits, a description will be given of how a queueing model may be programmed for a digital computer.
Professor Brian Conolly, formerly on the staff of Virginia Polytechnic Institute and now Research Scientist with the North Atlantic Treaty Organization in La Spezia, Italy, has agreed to return to Virginia Polytechnic Institute to give the course in congestion theory. It is felt that there is no better qualified individual, both in training and experience, for such a course. See attached vita.
Advanced Seminar in Statistics
Virginia Polytechnic Institute
Summer, 1969

Part II
Modern Topics in Statistics

Aim

Running in parallel with the advanced seminar in Congestion Theory, of thirty lectures, to be delivered by Brian W. Conolly, five seminars of six lectures each or four seminars of eight lectures each, running sequentially, will be selected from the following topics:

1. Classification, Pattern Recognition, and Machine Intelligence
2. Information, Evidence, and Causality
3. Bispectral analysis, especially in relation to causality
4. Probability Estimation
5. The Generalized Lagrange Expansion with several applications
6. Empirical Bayes Methods
7. Pollution

Advanced graduate students, recent Ph.D. graduates, and senior researchers will be invited. Some of the senior men will presumably be able to attend only part of the time. Apart from the organized seminars, there will be plenty of time for
informal seminars and discussions in both large and small
groups. In particular, it is envisaged that many of the dis-
cussions will be between one senior and one less senior person,
owing to the way it is hoped to allocate office space. In
this way many ideas for research should be sparked off or
communicated.

Among the senior and less senior people we contemplate
inviting, subject to final choice of topics and location,*
will be:

Y. Bar-Hillel  M. J. R. Healy  Murray Rosenblatt
M. S. Bartlett  D. G. Kendall  D. Rutowitz
Richard Bellman  S. Kullback  Oliver Selfridge
J. Bendat  R. S. Lecley  C. E. Shannon
W. I. Card  C. Longuet-Higgins  H. A. Simon
E. L. Chu  M. S. Longuet-Higgins  P. Sneath
M. Clowes  J. B. Lusted  Patrick Suppes
H. E. Daniels  J. S. Maritz  G. H. Toulmin
F. N. David  D. Michie  J. W. Tukey
K. G. Dedrick  M. Minsky  S. Ulam
W. Friedberger  R. M. Needham  S. Watanabe
J. Gani  E. Parzen  Warren Weaver
H. L. Gelernter  C. R. Rao  Peter Whittle
C. W. J. Granger  H. E. Robbins  H. Wold
Manfred Gordon  Enders Robinson  J. Wolfowitz
M. Hatanaka  W. L. Root

In addition to the above, we will invite the statistics staff
of V. P. I. It is hoped that a sizable number in addition to
those who serve as staff will attend the seminar.

The coordinator and leader of the discussions will be
Professor I. J. Good. See attached vita.

*Those to be financed from NSF funds will have appointments
in the United States.
**BUDGET**

<table>
<thead>
<tr>
<th>SUPPORT OF PARTICIPANTS</th>
<th>REQUESTED FROM NSF</th>
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<tr>
<td>Advanced Graduate Students</td>
<td>$12,750</td>
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<td>25 at $85/week for 6 wks.</td>
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<tr>
<td>Post Doctorate</td>
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<td>8 at $120/week for 6 wks.</td>
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<tr>
<td>Travel $100 each for 33</td>
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<td>Subtotal</td>
<td>$21,810</td>
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</tbody>
</table>
RESOLUTIONS OF COMMITTEE ON STATISTICS, SRESB  
DUKE UNIVERSITY MEETING, NOVEMBER 8, 1966

I. WHEREAS, the statistics faculty of Duke University, and particularly  
   Don Burdick, have done a magnificent job of making all the arrange-  
   ments necessary for a meeting, thereby relieving the members of  
   the committee on statistics of the annoying details that are so  
   frequently a part of attending meetings.

BE IT HEREBY RESOLVED that the Committee on Statistics of the Southern  
Regional Education Board expresses its appreciation of the hospitality  
extended during the course of this meeting and thanks the Duke staff  
for all of their courtesies.

BE IT FURTHER RESOLVED that the committee extends its special thanks for  
the luncheon given on Friday.

II. WHEREAS, Texas A & M University operated a summer session in 1966 under  
difficult conditions and thereby maintained this tradition for another  
year.

BE IT HEREBY RESOLVED that the Committee on Statistics thanks Judi Round  
for his untiring efforts to insure the operation of the summer session.

III. WHEREAS, Dona Cook of the University of Kentucky, a faithful member of this  
committee for many years, has retired from the University.

BE IT HEREBY RESOLVED that the Committee on Statistics extends its best  
wishes to Dona Cook and also welcomes P. L. Anderson as the representa-  
tive of the University of Kentucky.
IV. WHEREAS, the Southern Regional Education Board has carried the burden
of a secretariat for the Committee on Statistics this past year,
as it has for many years.

BE IT HEREBY RESOLVED that the Committee on Statistics expresses its
sincere thanks to the Board and especially to Dr. Mary Howard Smith
for all the services rendered, and to Dr. Jack Bollow for his long
service to the committee.

BE IT FURTHER RESOLVED that the committee expresses its thanks for the
delightful hospitality hour and dinner on Thursday.

MR. CHAIRMAN, I move the adoption of these resolutions.

John R. Stockton, Chairman, (University of
Texas)

Charles E. Moore, (Mississippi State University)

Carl E. Marshall, (Oklahoma State University)