## A.  ORGANIZATION

Because of the size of the department, it has become more practical to have certain problems considered by small committees and then present their recommendations to the faculty at faculty meetings. This year, faculty meetings were held on a rather irregular basis. This spring, the faculty expressed their desire to meet regularly once a month next year. A committee is currently considering the formation of an advisory committee, in part elected by the faculty and in part appointed by the department head, to assist in formulating departmental policy.

## B.  COLLOQUIA AND FACULTY SEMINARS

Seminars on the following topics were conducted during the year:

1.  Abelian Groups
2.  Class Field Theory
3.  Algebraic Topology
4.  Mathematics of Speculation
5.  Functional Analysis
6.  Lie Theory

In addition to these seminars, Mr. Murray S. Klamkin of the Research Division of Ford Motor Company conducted a problem seminar for our graduate and undergraduate students during the month of January.

The fifth annual Holiday Symposium in Mathematics was held during the period of December 27 to December 30. The featured lecturer was Professor Paul Cohen of Stanford University whose topic was *"Independence and Consistency Results in Set Theory."* Approximately 70 mathematicians attended from New Mexico, Arizona, Delaware, New York, Colorado, California, Canada, Nevada, Kansas, and Arkansas. Professor Cohen is an accomplished lecturer and mathematician of international standing. Attendance this year broke all previous records for our Holiday Symposium.

The department had 28 colloquium speakers during the year. They are listed below along with the titles of their presentation. While all, through their accomplishments, are distinguished, we have starred those who, for one reason or another, might be regarded as especially distinguished.

\* Morikuni Goto, University of Pennsylvania
  "Deformations of Lie Groups"

\* Charles E. Rickart, Yale University
  "Analyticity in Function Algebras"

  Maurice Sion, University of British Columbia
  "Vector-Valued Measures"

  Ronald K. Getoor, University of California, San Diego
  "Some Elementary Applications of Probability to Analysis"

\* Albert Grau, Northwestern University
  "Problems in the Description of Programming Languages"

\* Seymour Sherman, Indiana University
  "Correlation Inequalities for Ferromagnetic Ising Systems"

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Werner Hildenbrand, University of California at Berkeley
"On Competitive Economic Systems, an Application of Measure Theory to Mathematical Economics"

* Takashi Ono, University of Pennsylvania
"On Hypersurfaces Over Number Fields"

* W. A. J. Luxemburg, California Institute of Technology
"Concurrent Binary Relations in Mathematics and Their Implications"

Robert E. Stong, Princeton University
"Cobordism and the Hopf Invariant"

* Tom S. Pitcher, University of Southern California
"The Degree of Approximation of Certain Analytic Continued Fractions"

* R. H. Bing, University of Wisconsin
"The Illusive Fixed Point Property"

S. B. Conlon, Harvard University
"Decompositions Induced from the Burnside Algebra"

Manuel Berri, Louisiana State University in New Orleans
'A Topological Proof for the Infinity of Primes"

* William Donoghue, University of California at Irvine
"On a Theorem of Loewner"

Keith Phillips, California Institute of Technology
"Some Topics in Analysis on Locally Compact Fields"

Robert H. Rodine, State University of New York at Buffalo
"Perfect Probability Measures"

Loren Argabright, University of Minnesota
"Amenable Groups and the Weak Containment Property"

* Heinz Hopf, Courant Institute of Mathematical Sciences
"Bolzano's Theorem and the Homotopy Groups of Spheres"

Richard Beckwith, University of Southern California
"On the Optimal Allocation of Interceptors"

Fred J. Lorenzen, Syracuse University
"An Axiomatic Program for Equality and Inequality Relations in the 3rd Grade Level"

* R. D. Andersen, Louisiana State University
"Homeomorphisms in Infinite Dimensional Topology"

W. J. Dixon, University of California, Los Angeles
"Interactive Statistical Analysis"

\* Bernard Charles, University of Montpellier, France
"Linear Operators and Modules Over a Principal Ideal Ring"

Oliver Pretzel, University of Illinois
"Higher Projective and Inductive Limits"

John D. DePree, Virginia Polytechnic Institute
"Distribution of Zeros of a Class of Entire Functions"

\* John E. Walsh, Southern Methodist University and President of Operations Research Society of America
"General Simulation Model for Logistics Operation in a Randomly Damaged System"

Peter Plaumann, University of Michigan
"On a Theorem of Baer"

## D.   UNDERGRADUATE SCHOLARSHIPS

Department of Mathematical Sciences Scholarships . . . . . . . . . . . . . . 21
(Source: Departmental Funds)

Physical Science Laboratory Scholarships . . . . . . . . . . . . . . . . . . 3
(Source: Physical Science Laboratory)

## E.   GRANTS IN FORCE DURING THE YEAR

National Science Foundation Departmental Grant . . . . . . . . . . $700,000

R. J. Wisner, National Science Foundation, Holiday Mathematics Symposia . $ 8,800

J. D. Thomas and J. B. Giever,
National Science Foundation Summer Institute
for College Teachers . . . . . . . . . . . . . . . . . . . . . . $ 48,770

L. Solomon, National Science Foundation Research Grant . . . . . . . . $ 11,600

L. Solomon, National Science Foundation Research Grant . . . . . . . . $ 29,400

H. S. Bear, National Science Foundation Research Grant . . . . . . . . $ 11,800

E. Walker, C. Walker, F. Richman, R. Mines,
National Science Foundation Research Grant . . . . . . . . . . . $ 49,700

V. S. Taneja, National Science Foundation Research Grant . . . . . . . . $ 1,244

F. Williams, National Science Foundation Research Grant . . . . . . . . $ 8,200

## F.   IMPROVEMENTS

1.   **Instruction**
The use of large lecture sections taught by a senior faculty member is being continued. Because of the lack of large classrooms, it was not possible to extend this practice beyond the freshman level

courses. Next fall we plan to hold a seminar for our teaching assistants to aid them in improving their instruction. This should be especially useful to our new teaching assistants.

2. **Curriculum**

Undergraduate
A new dual-level sequence of courses for the behavioral sciences has been approved and will be taught for the first time next fall. The students will be separated by ability and the better student will have an opportunity to be challenged and to probe deeper in topics in mathematics related to his major field.

Our statistics offerings have been revised and broadened and an attempt has been made to coordinate all the statistics offerings on the campus.

Graduate
Very few curriculum changes have taken place at the graduate level.

3. **Library**

Undergraduate
The library holdings are adequate. A committee with an undergraduate assistant sees that all publications of significance are ordered.

Graduate
Our reading room is becoming well stocked and is a very useful facility for the faculty and graduate students.

4. **Advisor-Advisee Relations**

No major changes have taken place in the method of advising our undergraduate majors. Our committee on our graduate program has developed new examining and advising procedures which will help us weed out the weak students early and encourage the better students to proceed to their research as rapidly as possible.

G. **STUDENT MAJORS**

The departmental freshman scholarship program continues to attract student majors of very high quality. We are pleased to note that of the 21 students holding undergraduate scholarships from the department, 10 finished the spring semester with a grade point average of 3.7 or better, and 16 finished with a grade point average of 3.5 or better.

Our graduate enrollment has remained almost constant for the past 3 years and may even decrease next year due to the draft. We had a number of offers for graduate assistantships turned down because the student decided to discontinue or postpone graduate studies to seek industrial employment because of the draft situation.

Next year, financial support for continuing fellowships and assistants will become a serious problem. Our allotment for graduate assistants from state funds has actually decreased over the past 3 years, yet the need for teaching assistants increases each year. Currently, the National Science Foundation Departmental Development Grant is supporting the bulk of our undergraduate scholarships and some of our graduate assistantships and fellowships. That grant terminates July 1, 1969.

## H.    PROFESSIONAL SERVICES

**Dr. Wisner**
President of the Southwestern Region of the Mathematical Association of America.
Editorial consultant for McGraw-Hill and John Wiley and Sons Publishing Companies.
Consulting editor for Wadsworth Publishing Company and the Brooks/Cole Publishing Company.
Member, Undergraduate Panel of the Committee on Support of Research in the Mathematical Sciences, a
    committee of the National Academy of Sciences—National Research Council.
Board of Directors, Center on Research in Curriculum in Science and Mathematics.
Member of an Ad Hoc Committee of the U. S. Office of Education, Title III.

**Dr. Randolph**
Editor of *Operations Research*, a publication of the Operations Research Society of America.

**Mr. Meaders**
Chairman of the State Economics Services Commission of NMEA.
Member of the National Council of Teachers of Mathematics Meeting Planning Committee.
Chairman of the New Mexico Coordinating Committee on Mathematics since 1962.

Several members of the department write reviews of research papers for the *Mathematical Review* and *Zentralblatt*, some referee papers for professional journals, and some have referred proposals submitted to the National Science Foundation. One served on a National Science Foundation panel which picked the recipients of National Science Foundation Graduate Fellowships.

## I.    PROFESSIONAL MEETINGS ATTENDED BY FACULTY

**J. Mack Adams**
Southwestern Section Meeting of the Mathematical Association of America (regional).
Holiday Mathematics Symposium (national).

**Olin B. Ader**
Southwestern Section Meeting of the Mathematical Association of America (regional).

**Reinhold Baer**
74th Annual Meeting of the American Mathematical Society (national).
Holiday Mathematics Symposium (national).

**H. S. Bear**
Holiday Mathematics Symposium (national).
651st Meeting of American Mathematical Society (regional).
72nd Annual Summer Meeting of American Mathematical Society (national).
654th Meeting of American Mathematical Society (national).
74th Annual Meeting of American Mathematical Society (national).

**Frank Castagna**
74th Annual Meeting of American Mathematical Society (national).
651st Meeting of American Mathematical Society (regional).

**Edward D. Gaughan**
3rd Annual Conference on Pure and Applied Mathematics (state).

74th Annual Meeting of American Mathematical Society (national).
Southwestern Section Meeting of the Mathematical Association of America (regional).

**John B. Giever**
Holiday Mathematics Symposium (national).
Southwestern Section Meeting of the Mathematical Association of America (regional).
651st Meeting of American Mathematical Society (regional).
72nd Annual Summer Meeting of American Mathematical Society (national).

**Jutta Hausen**
74th Annual Meeting of American Mathematical Society (national).
651st Meeting of American Mathematical Society (regional).
Holiday Mathematics Symposium (national).

**Phillip Hosford**
New Mexico Council of Teachers of Mathematics (state).
Southwestern Section Meeting of the Mathematical Association of America (regional).

**Khateeb M. Hussain**
Southwestern Section Meeting of the Mathematical Association of America (regional).

**Donald G. Johnson**
Holiday Mathematics Symposium (national).
Southwestern Section Meeting of the Mathematical Association of America (regional).
72nd Annual Summer Meeting of American Mathematical Society (national).
74th Annual Meeting of American Mathematical Society (national).
Set Theoretic Topology Conference (national).

**Otto H. Kegel**
654th Meeting of American Mathematical Society (national).
Holiday Mathematics Symposium (national).
74th Annual Meeting of American Mathematical Society (national).

**Joseph E. Kist**
655th Meeting of American Mathematical Society (national).
656th Meeting of American Mathematical Society (national).
72nd Annual Summer Meeting of American Mathematical Society (national).
74th Annual Meeting of American Mathematical Society (national).

**Arthur R. Knoebel**
74th Annual Meeting of American Mathematical Society (national).

**Edward T. Kobayashi**
74th Annual Meeting of American Mathematical Society (national).
Southwestern Section Meeting of the Mathematical Association of America (regional).
Holiday Mathematics Symposium (national).

**Warren M. Krueger**
74th Annual Meeting of American Mathematical Society (national).
Southwestern Section Meeting of the Mathematical Association of America (regional).
Holiday Mathematics Symposium (national).

**Arthur Kruse**
Holiday Mathematics Symposium (national).
Southwestern Section Meeting of the Mathematical Association of America (regional).

**Wolfgang Liebert**
74th Annual Meeting of American Mathematical Society (national).

**Joaquin Loustaunau**
74th Annual Meeting of American Mathematical Society (national).
651st Meeting of American Mathematical Society (regional).
Southwestern Section Meeting of the Mathematical Association of America (regional).
Holiday Mathematics Symposium (national).

**Harlley E. McKean**
Annual Meeting of Institute of Mathematical Statistics (national).
651st Meeting of American Mathematical Society (regional).
Southwestern Section Meeting of the Mathematical Association of America (regional).

**James Meaders**
National Council of Teachers of Mathematics (national).
New Mexico Council of Teachers of Mathematics (state).
New Mexico Education Association Meeting (state).

**Ray Mines**
651st Meeting of American Mathematical Society (regional).
Holiday Mathematics Symposium (national).
74th Annual Meeting of American Mathematical Society (national).

**Robert V. Moody**
651st Meeting of American Mathematical Society (regional).
Holiday Mathematics Symposium (national).

**Richard S. Pierce**
Holiday Mathematics Symposium (national).
74th Annual Meeting of American Mathematical Society (national).

**Paul H. Randolph**
651st Meeting of American Mathematical Society (regional).
Meeting of "Operations Research Around the World" (international).
Southwestern Section Meeting of the Mathematical Association of America (regional).

**Fred Richman**
Southwestern Section Meeting of the Mathematical Association of America (regional).
Holiday Mathematics Symposium (national).
74th Annual Meeting of American Mathematical Society (national).

**Gerald S. Rogers**
3rd Annual Conference on Pure and Applied Mathematics (state).
651st Meeting of American Mathematical Society (regional).
Holiday Mathematics Symposium (national).
74th Annual Meeting of American Mathematical Society (national).

**Ulrich Schoenwaelder**
652nd Meeting of American Mathematical Society (national).
651st Meeting of American Mathematical Society (regional).
Holiday Mathematics Symposium (national).

**Louis Solomon**
654th Meeting of American Mathematical Society (national).
652nd Meeting of American Mathematical Society (national).
Southwestern Section Meeting of the Mathematical Association of America (regional).
Holiday Mathematics Symposium (national).
74th Annual Meeting of American Mathematical Society (national).

**Charles Swartz**
74th Annual Meeting of American Mathematical Society (national).

**Vidya S. Taneja**
Annual Meeting of Institute of Mathematical Statistics (national).
651st Meeting of American Mathematical Society (regional).
Meeting of "Operations Research Around the World" (international).
Southwestern Section Meeting of the Mathematical Association of America (regional).

**John Thomas**
Southwestern Section Meeting of the Mathematical Association of America (regional).

**Carol Walker**
Southwestern Section Meeting of the Mathematical Association of America (regional).
Holiday Mathematics Symposium (national).
74th Annual Meeting of American Mathematical Society (national).

**Elbert Walker**
Southwestern Section Meeting of the Mathematical Association of America (regional).
Holiday Mathematics Symposium (national).
74th Annual Meeting of American Mathematical Society (national).

**Robert B. Warfield**
74th Annual meeting of American Mathematical Society (national).
651st Meeting of American Mathematical Society (regional).

**Francis D. Williams**
Southwestern Section Meeting of the Mathematical Association of America (regional).
Holiday Mathematics Symposium (national).
74th Annual Meeting of American Mathematical Society (national).

**Robert J. Wisner**
Math Conference for Teachers and Administrators—New Mexico Council of Teachers of Mathematics (state).
74th Annual Meeting of American Mathematical Society (national).
Southwestern Section Meeting of the Mathematical Association of America (regional).

## J. RESEARCH PAPERS PUBLISHED BY FACULTY

### Reinhold Baer

"Auflosbare, Artinsche, Noethershe Gruppen", *Mathematishe Annalen,* 168, pp. 325-363, 1967 (international).

"Normalisatorreiche Gruppen," *Rendiconti Seminario Matematico Padova,* 38, pp. 358-450, 1967 (international).

"Noetherian Soluble Groups," *Proceedings of the International Conference on Theory of Groups,* Canberra, Australia (international).

"Nilpotency," *Ibid,* pp. II-I5, 1967 (international).

"Noetherian Groups," *Ibid,* pp. 33-36, 1967 (international).

"Polyminimaxgruppen," *Mathematishe Annalen,* 175, pp. 1-43, 1968 (international).

### H. S. Bear

"A Global Integral Representation for Abstract Harmonic Functions," *Journal of Mathematics and Mechanics,* Vol. 16, pp. 639-654, 1967 (with A. M. Gleason) (national).

"On Intrinsic Metric Parts," *Proceedings of the American Mathematical Society,* Vol. 18, pp. 812-817, 1967 (with Max L. Weiss) (national).

"An Integral Kernal for One Part Function Spaces," *Pacific Journal of Mathematics and Mechanics,* Vol. 23, pp. 209-215, 1967 (with Bertram Walsh) (national).

*Elementary Algebra,* Addison-Wesley Publishing Co., Palo Alto, California, 1968 (national).

### Edward D. Gaughan

"Topological Group Structures of Infinite Symmetric Groups," *Proceedings of the National Academy of Sciences,* Vol. 58, No. 3, pp. 907-910, 1967 (national).

*Analysis,* Brooks/Cole Publishing Company, vii + pp. 203, 1967 (national).

### Phillip L. Hosford

*Algebra for Elementary Teachers,* Harcourt, Brace and World, 1968 (national).

### Joseph Kist

"On the Dimension of Wallam Compactifications," *Proceedings of the London Mathematical Society,* 17, pp. 761-767, 1967 (international).

### Arthur H. Kruse

"An Abstract Property P for Groupoids Such That Locally Locally P is Weaker Than Locally P, *Journal of the London Mathematical Society,* Vol. 42, pp. 81-85, 1967 (international).

"Estimates of $\sum_{k=1}^{N} k^{-s} \langle kx \rangle^{-t}$, *Acta Arithmetica,* Vol 12, pp. 229-261, 1967 (international).

"A Simple Proof of a Theorem of Isbell," *Proceedings of the American Mathematical Society,* Vol. 18, pp. 546-547, 1967 (international).

"Some Notions of Random Sequences and Their Set-Theoretic Foundations," *Zeitschrift fur Mathematishe Logik und Grundlagen der Mathematik,* Vol. 13, pp. 299-322, 1967 (international).

### Wolfgang Liebert

"Charakterisierung der Endomorphismenringe Beschrankter Abelscher Gruppen," *Mathematische Annalen,* 174, pp. 217-232, 1967 (international).

**Joaquin Loustaunau**

"On the State Diagram of a Linear Operator and It's Adjoint in Locally Convex Spaces, II," *Mathematische Annalen*, Vol. 176, pp. 121-128, 1968 (international).

**Harlley E. McKean**

"Genetic Combining Ability of Light and Heavy Inbred Line in Single Crosses of Poultry," *Genetics*, 55, pp. 5-20, 1967 (with B. B. Bohren, E. J. Eisen and S. C. King) (international).

"Prediction of Topcross Performance from Inbred Performance in Poultry," *Poultry Science*, 46, pp. 195-203, 1967 (with B. B. Bohren, E. J. Eisen, and S. C. King) (international).

"Combining Ability Among Single Crosses and Predicting Double Cross Performances in Poultry," *British Poultry Sciences*, 8, pp. 231-242, 1967 (with B. B. Bohren, E. J. Eisen, and S. C. King) (international).

**Robert V. Moody**

"Lie Algebras Associated with Generalized Cartan Matrices," *Bulletin of the American Mathematical Society*, Vol 73, pp. 217-221, 1967 (international).

**Richard S. Pierce**

"Modules Over Commutative Regular Rings," *Memoir of the American Mathematical Society*, No. 70, 112 pages, 1967 (international).

**P. H. Randolph**

"An Optimal Stopping Rule," *Operations Research*, 15, pp. 562-564, 1967 (national).

"Optimal Stopping Rules," WP-67-7, Office of Research Analysis, Holloman A. F. B., 1967 (national).

"Optimal Stopping Rules Applied to Nonlinear Programming," Braddock, Dunn & McDonald, 1967 (national).

"A Nonlinear Programming Warehouse Allocation Problem," *Proceedings of the NATO Conference on Applications of Mathematical Programming Techniques*, 1968 (national).

"Multinomial Stopping Rules," Statistical Laboratory, NMSU, Technical Report Series No. 2, 1968 (regional).

"The Lonesome Saboteur", Statistical Laboratory, NMSU, Technical Report Series No. 4, 1968 (regional).

**Fred Richman**

"Maximal Subgroups of Infinite Symmetric Groups," *Canadian Mathematical Bulletin*, Vol. 10, No. 3, pp. 357-381, 1967 (international).

**Gerald S. Rogers**

Review of *Introduction to Mathematical Statistics*, by F. S. Ferguson, Technometrics, 1968 (national).

"Summability and Probability," Statistical Laboratory, NMSU, Technical Report Series No. 1, 1968 (regional).

**Louis Solomon**

"The Burnside Algebra of a Finite Group," *Journal of Combinatorial Theory*, 2, pp. 603-6l5, 1967 (national).

"Sur le Corps des Quotients de l'Algebre de Lie," *Competes Rendus Hebdomadaires des Seances de l'Academie des Sciences*, Paris, 264, pp. 985-986, 1967 (with D. N. Verma) (international).

**Charles Swartz**

"Analytic Functions having Distributional Boundary Values," *Archive for National Mechanics and Analysis*, 23, pp. 366-368, 1967 (national).

**Elbert A. Walker**

"A Note on Direct Products of Free Modules," *Mathematical Monthly*, 1967 (national).

"Cotorsion Free, an Example of Relative Injectivity," *Mathematische Zeitschrift*, 102, 1967 (with Fred Richman) (international).

**Robert B. Warfield**

"On Filipov's Implicit Functions Lemma," *Proceedings of the American Mathematical Society*, 1967 (with E. J. McShane) (international).

**F. D. Williams**

"On Higher Samelson Products," *Notices American Mathematical Society*, 15, No. 653, 137, pp. 117, 1968.

## K.   RESEARCH PAPERS PRESENTED BY FACULTY

**F. Castagna**

"Sums of Automorphisms of a Primary Abelian Group," Annual Meeting, American Mathematical Society, San Francisco, California, January 1968 (national).

**E. Gaughan**

"Topologies for Infinite Symmetric Groups," Conference on Pure and Applied Mathematics, NMIMT, Socorro, New Mexico, February 1968 (regional).

**P. Hosford**

"A Philosophy of Modern Mathematics," Mathematical Association of America, Las Cruces, New Mexico, April 1968 (regional).

**O. H. Kegel**

"A Characterization of Borel and Cartan Subalgebras of Finite-Dimensional Lie Algebras," Annual Meeting, American Mathematical Society, San Francisco, California, January 1968 (national).

**J. Kist and P. Maserick**

"Functions of Bounded Variation on a Commutative Idempotent Semigroup," Annual Meeting, American Mathematical Society, San Francisco, California, January 1968 (national).

**W. Krueger**

"Fun and Games with Freshman Honor Students," Mathematical Association of America, Las Cruces, New Mexico, April 1968 (regional).

**P. Randolph**

"A Problem in Allocation of Resources," Operations Research Society of America, San Francisco, California, May 1968 (national).

"A Non-Linear Programming Warehouse Allocation Problem," NATO Conference on Applications of Mathematical Programming, London, England, June 1968 (international).

**G. Rogers**

"Summability and Probability," Conference on Pure and Applied Mathematics, NMIMT, Socorro, New Mexico, February 1968 (regional).

**L. Solomon**

A Theorem on Finite Groups," Mathematical Association of America, Las Cruces, New Mexico, April 1968 (regional).

**J. Thomas**

"A Careful Calculation," Mathematical Association of America, Las Cruces, New Mexico, April 1968 (regional).

**R. Warfield**

"Algebraic Compactness for Modules," Annual Meeting, American Mathematical Society, San Francisco, California, January 1968 (national).

**F. Williams**

"On Higher Samelson Products," Annual Meeting, American Mathematical Society, San Francisco, California, January 1968 (national).

**L.   ACHIEVEMENT OF ALUMNI**

Our information on alumni is very scant. We will attempt to improve our system of maintaining contact with these people for the coming year.

**M.   IMPROVEMENT OF DEPARTMENTAL INSTRUCTIONAL EQUIPMENT**

There are few changes in our instructional equipment. We did discover last fall that the classrooms in the building had been scheduled so tightly that it was difficult to find rooms available for the number of seminars that are organized at the beginning of the semester. Next fall we shall purposely keep a few rooms available for this purpose.

**N.   PROPOSALS PENDING**

H. S. Bear, National Science Foundation Research Grant . . . . . . . . . $21,850

J. Thomas, National Science Foundation
Summer Institute for College Teachers . . . . . . . . . . . . . . . $49,020

F. Williams, National Science Foundation Research Grant . . . . . . . . $10,700

**O.   CRITICAL ANALYSIS OF THE PROGRESS OF THE DEPARTMENT**

This year was our last year to recruit under the National Science Foundation Departmental Development Grant as that grant terminates July 1, 1969. Due to many circumstances we have not been as successful as desired in meeting our commitments under this grant.

This year we lost Professors Reinhold Baer, Robert Moody, Richard Pierce, James Meaders, and Otto Kegel. Pierce, Kegel and Meaders were visiting professors, so these losses were not unexpected. On the credit side we have attracted:

Heinz Bauer, Mathematishes Institut der Universitat Erlanger-Nurmberg, Research Professor (for fall semester).

John De Pree, Virginia Polytechnic Institute, Associate Professor.

Keith Phillips, California Institute of Technology, Associate Professor.

Mary Lou Butler, Albuquerque Public Schools, Visiting Associate Professor.

Thomas McCullough, Ph.D., U.C.L.A., Assistant Professor.

Eldon Boes, Ph.D., Purdue University, Assistant Professor.

Richard Bagby, Ph. D., Rice University, Assistant Professor.

John Werth, Ph.D., University of Washington, Research Instructor.

David Arnold, Ph.D., University of Illinois, Postdoctoral Fellow.

In addition, Professor K. Hirsch of Queen Mary College, London, England, will be a visiting professor during the 2nd 6 weeks of the summer of 1968. Professor Hirsch is an internationally-known mathematician who has made many important contributions to group theory.

The biggest disappointments of the year were the prospective faculty members that we were unable to hire. In the initial period of growth of this department it was necessary to recruit young faculty members and create an environment in which they could develop. The philosophy of the Departmental Development Grant was to enable the university to attract senior faculty members with established reputations and to expand our strengths, especially in applied mathematics, statistics and mathematics education. When one regonizes the fact that only 47 percent of the full-time faculty teaching mathematics in 4-year colleges in the United States hold the Ph.D., it is clear that competition for the personnel we seek is quite fierce. Professor Seymour Sherman of Indiana University came here for a colloquium this past fall and would have been an ideal person to provide the leadership for a program in applied mathematics. Unfortunately we could not make an offer to Professor Sherman due to the high salary that we would have had to offer to even match his present salary.

The financial situation this year has caused the salaries of faculty currently on the staff to lag far behind the salaries we must offer to attract new people. A continuation of this trend will serve to cause a high rate of turnover in personnel, and this will destroy the stability necessary to continue the struggle toward excellence. This problem needs serious attention this coming year.

This past year, the Statistics Advisory Committee recommended that a Division of Mathematical Sciences be created containing departments of mathematics, statistics, and computer science.

It is becoming clear, with the greater load of courses and diversity of services presently handled by the department of mathematical sciences, that the Division concept is becoming a necessity. This is so because mathematical sciences is so broad that no one man can make detailed decisions about all areas of the mathematical sciences, hence a separation into the department of mathematics, statistics, and computer science makes very good sense. On the other hand, it is equally true that the three areas are so intimately related that they must have tight organizational ties to be most effective. Unified service sequences cutting across all three areas are now being developed; their vitality depends upon strengthening the several areas of applied mathematics (computer science, statistics, probability, etc.) in an integrated manner: firstly, to best serve the growing needs of the university, and secondly, to develop curricula, graduate programs, and research in their own right.