That's a reality which Dr. Karl Stromberg has faced all his life. Stromberg—a KSU mathematics professor—is legally blind.

Legal blindness is determined by a visual acuity eye test. A person tested to have an eyesight measurement of 20/200 or less, in the best eye with the best eye correction, is considered legally blind. Stromberg has 20/400 vision.

In layman's terms this means that, on an eye chart, he reads at 20 feet what the average person can read at 400 feet. He emphasized that this test is a "crude type of measurement" because it only determines "how well you can read the eye chart."

Stromberg's condition, which was discovered when he was eight, is not particularly rare, but is still a matter of confusion among ophthalmologists.

"They have not agreed on the cause, origin, or even the name of it," he said.

Producing a sheet of paper with a mathematical formula written on the back, Stromberg, 50, offered to write down the biological explanation of his condition as it was given him by his "eye doctor." He wrote: central chorioretinitis confined to the macula.

Most doctors believe the condition is not hereditary, however there is some evidence leading to this possibility. The malady frequently occurs in siblings. Stromberg said his brother also has the condition, "but to a lesser degree."

Many people who know and see Stromberg on campus, are curious about what he actually can see.

"Of the students on the front row (in a classroom)," he said, "I can tell whether they're male or female." He said he can even watch television if he places his chair directly in front of the set and gets close to the picture. But his visual sharpness at any distance is not good.

(continued on page 2)
Centennial

The centennial of the establishment of the KSU Department of Mathematics will be celebrated in 1983. Mathematics was taught from the time the University was founded in 1863, but a department was not officially recognized until Professor David E. Lantz was appointed in 1883. He was the first professor whose duties were limited solely to teaching mathematics.

As a child he was "surprised" when he first learned that "other people could see individual leaves on trees."

"Many people ask how far I can see," he said. "That's the wrong question. On a clear day I can see the sun—and that's a long way off. Distance is not important, it's a question of sharpness."

Stromberg's limited eyesight, which causes him to read quite slowly, affected his early decision to become a mathematician.

"In math we are forced to read slowly and we are not forced to read a great amount," he said.

Demonstrating how he reads, Stromberg held an open book up to the right lens of his magnifying glasses and moved it slowly from right to left, explaining that his "field of vision in reading is about two words at a time."

He said he sometimes passes the printed material along on the tip of his nose as he follows each sentence.

"If my nose was an eighth of an inch longer," he said with a laugh, "I couldn't read at all."

Stromberg has never let his legal blindness restrain him from enjoying a normal life and has always managed to adjust his interests to areas that wouldn't be affected by his sight.

"A person should use his head," he explained, "his eyesight doesn't have to be a great handicap."

As a high school youth in Oregon he realized he wouldn't have much of a chance in any sport that involved "catching a ball," so he redirected his sports interest to the wrestling mats and became a three-year letterman.

Prior to graduation from high school he was tested and counseled by the Oregon Commission for the Blind who advised him to consider a career in law.

Heeding their advice, he enrolled in a few courses in pre-law during his first semester at the University of Oregon before settling back into the field he describes as "the easiest thing for me—mathematics."

Stromberg knows of two totally blind mathematicians, his friend, Dr. Lawrence Baggett of the University of Colorado, and a very famous and successful Russian mathematician, L.S. Pontryagin.

Stromberg's affair with mathematics has also been a successful one. During his 15 years at K-State he has gained the respect of students and colleagues alike, and his contributions to the math field have been immense.

The text book Real and Abstract Analysis, co-authored by Stromberg and published in 1965, is considered to be one of the leading books on the topic and is widely used in universities and colleges throughout the world.

A second book on mathematical analysis, An Introduction to Classical Real Analysis, which he wrote alone, was published in 1981. He has recently co-authored a calculus book designed for instruction of junior college and high school students.

"You can't give up just because you can't see very well," he explained.

Sometimes those who lack one of the six senses develop a keener usage of another. Stromberg has compensated for his eyesight by developing a good memory.

He uses the blackboard greatly in his teaching, filling it several times in one class. Since he can't see from one end of the board to the other, he remembers every number, symbol or formula he's written and what positions they hold in the problems. And his students are impressed with his teaching skills, describing him as "an excellent teacher" and a "good lecturer."

Away from the classroom, Stromberg said he feels people can sense his blindness and are usually eager to offer assistance.

"Occasionally," he said, "somebody will try to lead me across the street," and he admitted that sometimes as he tries to cross busy intersections between the university and his apartment, this assistance is greatly appreciated.

Friends also try to help him with his condition, offering remedies and advice, but "no amount of carrots or fancy glasses will improve my eyesight," he said.

It's this calm acceptance of his blindness which allows Stromberg to be comfortable with himself and his students to be comfortable in his classroom.

Stewart Herd was a KSU student majoring in journalism. This article is reprinted from the K-Stater, November 1979.

Friends of Mathematics

Under the leadership of a committee chaired by Louis Pigno over 200 alumni of the department were contacted in May, 1982 to tell them of the current activities in the department and to give them the opportunity to participate in the development of the department through financial contributions to the Friends of Mathematics. Alumni responded with enthusiasm and this year have contributed over $1,000.

Faculty members of the department were also given the opportunity to participate in the support of this program and have contributed another $1,000.

In addition, the College of Arts and Sciences has allocated $1,000 to the Friends of Mathematics.

This fund of $3,000 will be used to provide scholarships for outstanding students in mathematics and to support a program of visiting lecturers. These lectures will be in addition to those provided through the continuing Colloquium series in the department. Paul Halmos will be the first lecturer in the Friends of Mathematics series.

In Memoriam

William C. "Bill" Janes, associate professor emeritus, died June 26, 1982. Bill joined the faculty in 1922 and retired in 1968 after 46 years of active service.

From the Editor

This newsletter is the first in an annual series which is being distributed to the 746 graduates in mathematics of Kansas State University. The newsletter will provide information on the activities of the department and news about alumni. Please send us information about your present position and any other information which would be of interest to your fellow alumni.

We look forward to hearing from you.

Paul M. Young
Editor
How Good Is Your Intuition?

Consider the normal to the parabola $y = x^2$ at $x = a$. Let $b$ be the y-intercept of the normal. What does $b$ approach as $a$ approaches zero? Is the limit what you thought at first glance that it would be? Can this be generalized to all parabolas? If so, how can the result be stated analytically and geometrically?

Do you know of other simply stated problems where intuition can easily lead one astray? If so, send them to the editor, Paul M. Young, for use in future newsletters.

First Woman Ph.D. At K-State Was 19th Century Mathematician

Doctor Mary F. Winston who was appointed professor of mathematics at K-State in 1897 was a pioneer whose accomplishments would match or surpass those of many women today. She was the first woman with a doctorate on the K-State faculty and only the second person with a doctorate to be appointed to that faculty. She was the first woman to be admitted to the University of Göttingen, the world center of mathematics in the nineteenth century located in Göttingen, Germany, and she was also the first woman to earn a doctorate there.

Mary F. Winston graduated from the University of Wisconsin in 1889 with special honors in mathematics. After teaching for two years at Downer College, Fox Lake, Wisconsin, she was appointed fellow in mathematics at Bryn Mawr College. In the following year she held an honorary fellowship at the University of Chicago.

It was in the summer of 1893 while she was a student at the University of Chicago that she attended the world mathematical congress held in Chicago and met Felix Klein, professor of mathematics at Göttingen, who was impressed with the promise of her mathematical ability. She was invited by Professor Klein to participate in the colloquium which he held in Chicago following the close of the congress.

She resolved to go to Göttingen to continue her mathematical education. She wrote to the minister of education in Berlin for permission to enter the university and was the first woman to be granted permission to enter that world-renowned university. She remained at Göttingen three years studying pure mathematics, physics and astronomy. In June, 1896 she was granted the degree Doctor of Philosophy magna cum laude.

While studying at Göttingen, Miss Winston was given a fellowship by the American Association of College Alumnae. The results of her dissertation were published in a paper entitled "Eine Bemerkung zur Theorie der hypergeometrische Funktion" in Mathematische Annalen, vol. 46, p. 159.

Miss Winston came to K-State in 1897 following a political upheaval in Kansas in which the Populists gained control and the entire faculty of the College was replaced. She was described as a painstaking, systematic and effective teacher who was well liked by her students and faculty colleagues. After remaining at K-State for three years, she left to marry Professor Newson, professor of mathematics at the University of Kansas. Unlike today, Victorian culture did not encourage women to combine a career of college professor and homemaker.

Miss Winston's departure from the active life of a college professor was a distinct loss to the academic community which was regretted by all who had known her as a student and a colleague.

Alumni News

There are 746 alumni of Kansas State who have degrees in mathematics. Here is what some of them are doing:

Barbara Heiman, M.S. '78, Ph.D. '81, is assistant professor at the College of Wooster, Wooster, Ohio.

Austin C. Melton, Jr., M.S. '74, Ph.D. '80, is assistant professor at Marshall University, Huntington, West Virginia.

Robert D. Girse, Ph.D. '79, is assistant professor at Idaho State University, Pocatello, Idaho.

John S. Blakeslee, Ph.D. '75, is assistant professor at the University of Puget Sound, Tacoma, Washington.

James J. Corbet, B.S. '63, M.S. '64, Ph.D. '75, is associate professor at Radford University, Radford, Virginia.

Hugh A. MacLean, Ph.D. '74, is associate professor at Wichita State University, Wichita, Kansas.

L.A. Cannyack, M.S. '65, Ph.D. '71, is associate professor at Central Missouri State University, Warrensburg, Missouri.

Ervin B. Deal, M.S. '53, is associate professor at Colorado State University, Fort Collins, Colorado.

John D. Neff, M.S. '51, is professor at the Georgia Institute of Technology, Atlanta, Georgia.

Wayne R. Cowell, B.S. '48, M.S. '51, is in the Computer Science Department of the Argonne National Laboratory, Argonne, Illinois.

Doris A. Grosh, M.S. '49, Ph.D. (Statistics) '69, is associate professor of industrial engineering at KSU.

John W. Carlson, B.S. '63, M.S. '64, is professor at Emporia State University, Emporia, Kansas.

Kerrith B. Chapman, M.S. '75, Ph.D. '80, is on the faculty of Lemoine College, Syracuse, N.Y.

Patrick R. Gardner, M.S. '72, Ph.D. '76, is on the staff of Westinghouse Hanford, Kennewick, Washington.

James P. Hatzenbuhler, M.S. '69, Ph.D. '73, is associate professor at Moorhead State University, Moorhead, Minnesota.

Chester Charles John, Jr., B.S. '68, M.S. '71, Ph.D. '73 is on the staff of IBM at Poughkeepsie, N.Y.

Donald E. Meyers, B.S. '53, M.S. '55, is professor at the University of Arizona, Tucson, Arizona.

Gerald C. Shrag, M.S. '64, Ph.D. '71, is associate professor at Central Missouri State University, Warrensburg, Missouri.
1982-83 Friends of Mathematics Scholarship Awards

The Friends of Mathematics Scholarships for 1982-83 have been awarded to Ben Lange, a senior in mathematics from Mankato, Kansas and Paul Pfannenstiel, a freshman in business administration from Hays, Kansas.

Legacy

The College of Arts and Sciences is the recipient of a legacy under the terms of the will of the late Aileen Hostinsky. The gift is to be used exclusively to support scholarships for outstanding junior or senior undergraduate students majoring in mathematics and graduate students in mathematics. The recipients will be nominated by a scholarship committee of the Department of Mathematics. Information is not available at this time on the amount of the bequest or on the manner in which it will be administered. It is anticipated that it will provide substantial support for scholarships in the department.

Lois Aileen Hostinsky was born at Riley, Kansas, on June 18, 1921. She received her B.S. from KSU in 1943, her A.M. in 1945 and her Ph.D. in 1949, both from the University of Illinois.

She was assistant in mathematics at Illinois 1943-49; instructor and assistant professor at Temple University, Philadelphia 1949-52; assistant professor and associate professor at Pennsylvania State University 1952-61; visiting associate professor at Mt. Holyoke College 1961-62 and acting chairman 1962-63; professor at Connecticut College, New London 1962-81 and chairman 1969-81.

She served as mathematician at Frankford Arsenal 1952; MAA visiting lecturer 1962-66; NSF Science Fellow at University of Oklahoma and Tulane University 1968-69.

She was a member of AAAS, AMS & MAA.

Her research interests were in abstract algebra and lattice theory.

She died in October, 1981.

New Faculty

Jacqueline Barab joined the faculty in August as assistant professor. Jackie graduated with a B.S. in mathematics education from Indiana University in 1971. She received her master’s degree in secondary education from Georgia State University, Atlanta, in 1974. She received her Ph.D. from Indiana University at the end of the 1982 summer term.

Jackie’s dissertation was entitled “Global Behavior of Solutions of the Cauchy Problem for Some Non-linear Wave Equations and Hyperbolic Systems.” Her major advisor was Robert T. Glassey.

Her research interest is in the area of partial differential equations and the behavior of the solutions for large time. An example from physics is the Schroedinger wave equation studied from the global point of view in time. These studies lead into scattering theory and the applications of functional analysis.

Andrew L. Cherina joined the faculty in August as assistant professor. Andy attended Benesltem: The Experimental College of Fordham University, and Rutgers University where he received his A.B. degree in 1971. During the period 1971-75 he studied at Rutgers with Daniel Gorenstein as his major advisor and received his Ph.D. in 1975. His dissertation topic was “A Characterisation of the Groups G2(6p).”

During 1975-77, he was Miller Instructor at the University of California at Berkeley. In the fall 1977 term he was instructor at Rutgers and in summer 1978 at Cal Tech. During 1978-82 he was assistant professor at the University of Minnesota.

Andy’s area of research interest is group theory. He has published in the Journal of Algebra and the Journal of the London Mathematical Society.

Sadahiro Saeki has been appointed professor of mathematics. During 1981-82 he was visiting professor in the department. He received his B.S. from Waseda University and M.Sc. and Dr.Sc. from Tokyo Metropolitan University.

His academic positions have included lecturer, assistant and associate professor at Tokyo Metropolitan University, lecturer at Wayne State University, and associate professor at the University of Washington. Sadahiro was assistant professor at K-State in 1972-74 as well as visiting professor in 1981-82.

Sadahiro’s research interests are in functional analysis. He has published more than 38 papers in journals here and abroad. He has presented papers at colloquia and society meetings both in Japan and America.

Friends of Mathematics Lecture and Awards Banquet

Thursday, April 28, 1983 will be a red-letter day for the Friends of Mathematics and the K-State Department of Mathematics. Paul Halmos, Distinguished Professor of Mathematics at Indiana University will present the first annual Friends of Mathematics Lecture. Professor Halmos is internationally known for his contributions to measure theory and Hilbert space theory. He is a very stimulating lecturer.

Professor Halmos will also be the speaker at the first annual Friends of Mathematics Scholarship and Awards banquet on the evening of April 28. At this banquet, outstanding scholarly achievement in mathematics by K-State students and faculty will be recognized and awards given.

Alumni and Friends of Mathematics are invited to hear the lecture by Professor Halmos and to attend the awards banquet. Reservations for the banquet should be sent to Professor Rick Summerhill, Department of Mathematics, Cardwell Hall, Kansas State University, Manhattan, Kansas 66506 prior to April 14, 1983. The cost of the banquet will be approximately $10 which can be paid at the door. We hope that many of the Friends of Mathematics and alumni can be present for this occasion.
Dear Alumni:

It is indeed a pleasure and an honor for me to serve as Head of the Department of Mathematics at Kansas State University and to report to you, in this our first issue of the Friends of Mathematics Newsletter, some of the recent activities of the department.

Ours is a highly versatile department consisting of twenty-seven faculty with the Ph.D., and it has, as many of you have shown during the past year, strong and supportive alumni. The department remains active in its scholarly activity of its faculty. Our service courses have grown tremendously over the years as many disciplines have realized a strong need for their students to be mathematically competent. The calculus program, for example, has almost doubled in size over the last six years. Student enrollment in the mathematics programs has increased dramatically of late, after dipping to a low three years ago primarily because of economic conditions. Our graduate student population has increased to about 30 and we currently have about 40 undergraduate majors. Our production of scholarly works at the research level has also continued to rise. In particular, the calendar year 1981 saw 35 publications from our regular faculty. These are clear evidence of a strong and thriving faculty.

This year we have had the good fortune to add three new members to our regular faculty. Jacqueline Barb comes to us from Indiana University where she completed the Ph.D. degree last summer. Jack's specialty is partial differential equations. Andrew Chermak is a graduate of Rutgers and comes to us most recently from the University of Minnesota. Andy works in group theory and has published his work in the Journal of Algebra and the Journal of the London Mathematical Society. Sadahiro Sasaki received his Dr. Sc. degree from Tokyo Metropolitan University in 1970 and has served on the faculty of that university since then. He joins our staff at the full professor level and complements an already outstanding group in analysis.

Four of our faculty have recently been supported by NSF grants. Louis Pigno, following his important and widely publicized solution of the Littlewood conjecture in 1981 (with B. Smith and O.C. McGhee), currently holds an NSF grant in harmonic analysis. Louis also serves as chairman of our faculty-alumni-scholarship committee. Ernie Shulien currently holds an NSF grant on group-related geometries and serves our department as a Distinguished Regents Professor. Just completing an NSF grant on modeling for agricultural economics are George Strecker and Bill Parker. They have developed a course which is offered in alternate semesters by the Economics Department.

Many of our faculty have given lectures and traveled throughout the world during the past year. Dave Sworski, whose specialty is representations of finite groups, was invited to give a talk in Michigan at a recent AMS meeting and Alexander Ramin spent a considerable period of time in Europe last summer presenting invited talks. Alex also lectured at the Naval Research Laboratory in Washington, D.C. early in the summer as part of a formal course in applied mathematics. Both Yu-Lee Lee and C.J. Hsu traveled to Taiwan this past year. Lee spent the entire year in Taiwan on leave and Hsu spent the summer writing several papers in Chinese to inform students about contemporary developments in geometry. Spending the summer doing research at the MIT library was Dick Greechie, one of our faculty whose specialty is lattice theory.

Two of our faculty also do a considerable amount of work consulting with outside agencies. Both Dan Curtis and Kung Yee have spent the past three years at Lawrence Livermore Laboratories doing research in applied mathematics. Several new books have been published recently by members of the department and several are in preparation. Bob Dressler and Karl Stromberg have completed an elementary book on the techniques of calculus and Bob Buckel has recently finished a translation of Heinz Bauer's famous book on probability and measure theory. Karl and Bob have also published books in analysis during the last three years. Forrest Miller and Dan Curtis have a new book on geometry in the physical sciences which is almost complete. Forrest is presenting a seminar this year using the book as a basis for the subject matter.

In any university department having a staff of 60, the administrative and service level obligations are considerable and all of our faculty take part to some extent in these functions. Bill Parker, as he has done in past years, serves as associate head of the department and is the chair of our permanent departmental curriculum committee. Two very important jobs are the directors of graduate and undergraduate studies, respectively. These involve the organizing, recruiting, and advising of our mathematics majors. Tom Muenzenberger currently pilots the undergraduate program and directs the Putnam examination team, and George Strecker coordinates the graduate program. Continuing as he has for several years, Leonard Fuller serves as secretary to the faculty; Paul Young has inaugurated our Friends of Mathematics Newsletter and is its current editor; and our open house last year was run by John Mars.

The department, of course, has many future plans. These include two mathematics meetings and two institutes, all to be held during the next two years and dependent upon available funding. Next summer we hope to see a meeting held on our campus under the auspices of the NSF-CBMS program; the topic will be harmonic analysis. We also hope to run an institute on modeling in the physical sciences for high school juniors with the Physics Department. Lyle Dixon of our department plans to organize a summer institute for secondary school teachers seeking certification in mathematics. In the more distant future, the summer of 1984 may see a conference in applied mathematics to be held on campus. Other individuals have projects in the works. For example, Bob Williams is considering involvement with some computer science studies and Lou Herman is undertaking some lattice theory projects.

Our department is fortunate to have an active faculty, one which is devoted to quality teaching and significant research. In addition, we consider it vital to have a strong and supportive alumni. Please do not hesitate to visit or call on the department at any time. We would be more than happy to hear from you and learn of your current projects and plans. Our department is committed to developing and maintaining the highest quality program possible at Kansas State University. We invite you to help support us in these activities.

Rick Summerhill