

encouraged to work at mathematics.

I am deeply grateful to him. I wish him good health and a continuation of excellent mathematics.

**S.S. Chern:
Always changing, always the same.**

Phillip A. Griffiths

Director

Institute for Advanced Study

S.S. Chern came into my life more than thirty years ago. While a first year graduate student at Princeton, I had become interested in what is now called global differential geometry. As a student of Don Spencer, I was also naturally interested in complex manifolds. Don had a copy of lecture notes on complex manifolds that Chern had given in Brazil, notes that took the subject from its first principles through the recently proved Hirzebruch-Riemann-Roch theorem. These notes had a cult following, similar to that enjoyed by Chern's "140" and "240" lecture notes from Berkeley.

Don suggested that I go to Berkeley for the summer. As anyone who has ever spent a summer in Princeton can appreciate, this was an opportunity which was difficult to refuse. So I rode the train out, found a room in a boarding house, and went over to the math building to see if I might make an appointment to talk to Chern. He was expecting me at some point, as Don had written a letter of introduction. That day he was in his office, and after a very warm greeting Chern invited me down

the street for a lunch at a Chinese restaurant. Over the summer he was both my teacher and colleague, as he was to so many aspiring young mathematicians. Our discussions were relaxed but substantive, with the complementarity between the big picture and interesting special cases communicated by example. Mathematics was set in historical perspective, yet Chern was always looking ahead to what the future interesting problems would be. It is difficult to adequately express in words the effect that this experience had on me, both mathematically and otherwise.

Over the more than thirty intervening years, Chern and I have remained close friends and colleagues. A visit to Berkeley always brings with it a mathematical discussion, a meal – usually Chinese and always excellent, and reflections on the general state of the world. During this period I have observed my own experience being replicated time and again. Many mathematicians at all levels, but especially young ones, have enjoyed the same fruitful relationship, mathematical reflections, encouragement, friendship and Chinese food that have made such a difference to me personally.

Chern is genuinely interested in the work and ideas of students just finding their way. He is encouraging yet is willing to say some idea may not be interesting. He demonstrates a combination of wisdom, mathematical discrimination and tact. He always treats one with respect, as a colleague and equal. In addition to the mathematical relationship, he shows a real interest in the person in a broader sense, asking about his family, career plans, and travel, discussing world politics, history and events with as much wisdom as he shows in mathematical discussions.

Chinese food is always part of a relationship with Chern and Mrs. Chern; I cannot count the number of outstanding Chinese meals my wife and I have enjoyed thanks to the Chern's generosity.

Finally, Chern has provided me and many other mathematicians with important contacts all over the globe. He has enabled us to travel

to China and introduced us to many fine people who have become close friends.

Long before the concept of "mentoring" came into vogue Chern was a model mentor. For those just embarking on a career in mathematics, as I was those thirty-odd years ago, the experience described above can be decisive. A beginning student needs to learn more than facts and techniques: he or she needs to absorb a sort of world view of mathematics, a set of criteria with which to judge whether or not a problem is interesting, a method of passing on mathematical knowledge and enthusiasm and taste to others. To most fully develop as a mathematician one needs a mentor who can provide what Chern has provided for so many: formal teaching, teaching by example, encouragement, realism, and contacts.

The chain assures good teaching and mentoring for the future as well. Because of Chern, Don Spencer and others, I was exposed to a concept of mentoring and hope to have passed this on. Of my former students there are many who I believe are fine teachers and mentors; nearly all have had the opportunity to meet and work with Chern.

Much has been written recently about a developing crisis in scientific and mathematical education. There are a number of reasons for this. From early in undergraduate college, science and math courses are traditionally used to "filter out" students; there is an assumption that the truly good students will rise to the top in spite of the dryness and competitiveness of introductory courses. While there are undoubtedly students who are sufficiently single-minded and self-motivated to survive this system, many good and even excellent students are now diverted by the system into other fields. As a community we need to develop the tradition of recruiting students, and to move away from our old way of just selecting them.

Math and science cannot be successfully taught simply as a set of facts to be memorized or a set of techniques to be mastered. One needs

to develop a relationship to the subject. There is a way of seeing, a set of criteria by which to judge a problem, an emotional and aesthetic as well as an intellectual aspect that one can best learn from someone like Chern. Those who have not experienced this side of the subject have difficulty projecting to their students the excitement that can come from understanding a really beautiful solution to a problem.

Chern is retired now for some years. However, through his former students, colleagues, friends and others his influence is enormous. We all hope it will remain so.

I want personally express to Chern my profound gratitude for his generosity and friendship during these past thirty-plus years.

**Shiing-Shen Chern's Influence
on Value Distribution
Dedicated to Shiing-Shen Chern**

Wilhelm Stoll*

University of Notre Dame
Department of Mathematics

Shiing-Shen Chern is one of the great mathematicians of our time. His work stretches all over differential geometry and into many related areas. He created new foundations and erected novel structures for the present and for the future. He renovated my own field, value distribution theory of several complex variables with differential geometric ideas. I am deeply honored by the request to reflect upon his achievements and upon our relationship. This task is not easy. I am not a differential geometer and I leave it to others to describe his impact upon this field and upon mathematics altogether. Perhaps, I can shed some light upon his influence on the growth of value distribution theory. Although we have known one another for a long time, we only met at various isolated occasions. Never were we colleagues at the same institution nor did we collaborate on a joint mathematical venture. Yet he deeply influenced my life and my work. Memories fade in the fog of

*Partially supported by National Science Foundation Grant DMS 91-00872