Letters to the Editor

Imperfect Mathematics

A thought on Melvyn B. Nathanson's August 2008 Opinion piece "Desperately seeking truth":

Just like our lines are not infinitely straight and our points are not infinitely thin, so too our journals and our refereeing process are only rough approximations of the idealized notions they are supposed to represent. This is, after all, mathematics done by humans.

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Citation Statistics Report Citation

I am sorry to report to you that the footnote on page 1221 in the November 2008 *Notices* is misleading, and quite unfair.

The Citation Statistics report is *not* an IMU [International Mathematical Union] report. It is a joint IMU-ICIAM-IMS report and should be quoted as such. [ICIAM = International Council for Industrial and Applied Mathematics, IMS = Institute of Mathematical Statistics].

This is all the more distressing as the AMS is an associate member of ICIAM, whereas it is not a member of the IMU. Also, the presence of the IMS as a co-sponsor lends even more weight and credence to such a report on statistics.

Thank you for making the proper corrections, including on the AMS website.

To spread the guilt a little, note that there are many websites which make the same mistake, including SIAM's, even when SIAM is a founding member of ICIAM!

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Editor's Note: The author is past secretary of ICIAM (1999–2007), and a foreign member of the AMS (since the late 1970s).

Salary Trends

The Annual Survey compares the starting salaries of new Ph.D.'s over the years by giving their (median, quartiles, etc.) annual salaries in past years both in then-current dollars and in 2007 dollars. This adjustment is made via the Cost-of-Living (COL) index and shows what has happened to the real purchasing power of starting salaries over time.

There is another way to adjust salaries to the changing environment that gives additional information. That is to adjust them by the Average Wage Index. For example the AWI for 2007 was US$40,405 while that for 1990 was US$21,028. Their ratio is 1.92. Thus a salary of US$32,000 in 1990 would rank roughly like one of US$61,500 in 2007. (By "rank" I mean its position in the scale of salaries. It would be better to give the actual percentile, but I don't have those figures.)

The rank of one's salary in the general salary population is significant. It largely determines in which neighborhoods one can afford to live, and the figures for the whole Ph.D. group may perhaps indicate the changes in the value society places on our profession. The following table shows the median starting salaries for new Ph.D.'s taking 9–10-month academic teaching/teaching-and-research positions. The second and third columns are from p. 822 in the August 2008 *Notices*; they give the salaries in current and in 2007 dollars respectively. The fourth column gives the salaries adjusted to the AWI (all in hundreds of dollars).

1980	171	379	552
1985	250	429	600
1990	320	469	614
1995	350	455	579
2000	415	497	523
2001	420	491	517
2002	450	517	547
2003	450	506	536
2004	450	491	508
2005	465	493	507
2006	490	503	514
2007	500	500	500

The wage-adjusted figures show a downward trend (after 1990) that is not apparent in the COL-adjusted numbers.

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Mathematics Education for Girls

The article "Cross-cultural analysis of students with exceptional talent in mathematical problem solving" [November 2008 *Notices*] reminded me of how, back in the USSR, everyone claimed that the Soviets had the best math schools in the world. The widely-accepted explanation was that every person who was gifted in technical fields had no choice but to become a scientist. Indeed, neither private business nor the stock market existed in the USSR. Lawyers didn't need any gifts, other than the ability to obey. The only way to get a hefty salary was to become a big manager, and for this you had to sell your soul by joining the Communist Party.

On the other hand, if you had a Ph.D., you would get a sizable bonus. Hence, every gifted person tried to enter the prestigious world of science and mathematics. No wonder the Soviet math tradition and math education was so good. Can you imagine what would happen to math education in the U.S. if energetic and ambitious people like Google founders Larry Page and Sergey Brin decided to become math educators?

I do think that math education here in the U.S. is a disaster. But it would be a bigger disaster to try to improve it by following the communism path. Let's find another way.

In examining the data in this article, it appears that girls in Communist countries are doing better in math competitions than American girls. We are supposed to be the democratic leaders around gender

equality issues, but why then are our young women mathematicians behind? I was gratified to see the AMS addressing this concern. I also started exploring issues around women and math on my blog at http://blog.tanyakhovanova.com/?cat=17.

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Editor's Note: The author was a member of the USSR IMO team (1975 silver medal; 1976 gold medal).

Loewner Archive Established

We are writing to convey to the mathematical community that professional and personal documents from the legacy of Charles Loewner, which were donated to Stanford University by his daughter Marian Tracy, have been organized and catalogued and are part of the Stanford University Archives located in the Stanford University Libraries. The online guide can be accessed at http://content.cdlib.org/view?docId=kt7c6037bh&brand=oac.

Those wishing to view the material should contact publication staff in the Department of Special Collections and University Archives, at speccolref@stanford.edu.

Many of the current readers will have arrived too recently on the mathematical scene to be directly impacted as we have been by Loewner's profound insights and originality, by his selfless human qualities, and by the depth and universality of his scientific contributions. Beyond those comments, his life experiences as a Jewish refugee who barely escaped the Nazi holocaust, and who lost close family members in those horrid events, reflect poignantly the sweeping social changes and the terrible human suffering of the time. The correspondence preserved in these documents also puts into vivid relief the often resentful attitude of the United States university establishment of that time toward refugees of highest creative achievement who were sometimes driven to accept survival salaries under demeaning conditions.

Despite the often difficult circumstances of his life, Loewner produced an impressive body of original work that left permanent imprints on mathematical thinking, in a wide range of directions. He published little, but each work that appeared was on a level to change the direction of mathematics. Much of his contribution was offered in informal conversation with students and colleagues; he shared everything, and fruits of his talent appear in many publications by others. His central interest was geometric function theory, to which he applied variational methods. Using strikingly original reasoning, he proved the initial case for the Bieberbach Conjecture, and the ideas of that proof were central to the later complete proof by de Branges. He was interested also in fluid flow problems, in which his geometric thinking had great influence. His thinking led him to the general study of semi-groups of transformations, for which again there were remarkable consequences in several directions, with unexpected physical applications.

Loewner was also famous for his interaction with students at all levels. His lectures were polished and perfect, presented without notes; they attracted students and also professors. His problem seminar at Stanford was celebrated, and became a birthplace of inspiration leading to Ph.D. dissertations, for many students.

For the convenience of readers, we are enclosing below a brief summary of the material.

Physical Description: 4.5 linear ft. Summary: The first seven boxes of this collection consist largely of Loewner's lectures notes, 1923–1956, with some exams and class projects; manuscripts and typescripts of articles, 1919–62, including his 1933 thesis; and research notes and writings. Subjects of his writings and research include differential equations, matrices, and semigroups. Other items include several articles by other mathematicians on Loewner's work, note cards, and a small amount of correspondence. Accession 2007-257 consists of Loewner's personal papers, which contain correspondence pertaining to his emigration to the United States during World War II, his wartime employment search, and attempts to determine the whereabouts of his family remaining in Europe. This accession also contains academic records and correspondence to and from colleagues at the many academic institutions where Loewner taught including the University of Louisville, Brown University, Syracuse University, and Stanford University. Other items include photographs, publishing contracts, memorial tributes to Loewner and his wife Elizabeth, and news clippings about the Loewner family. Notes: Charles Loewner was born on May 29, 1893, in Lany, Bohemia (now in the Czech Republic), and received his Promotion (Ph.D.) in Mathematics at the (German) Charles University in Prague. From 1922–1928 he taught at Friedrich Wilhelm University in Berlin. Following a brief lectureship at Cologne, he returned to the (German) Charles University as Ausserordentlicher Professor (associate professor) and was later promoted to Ordinarius (full professor). The occupation of Czechoslovakia in 1939 prompted his emigration to the United States. He taught at Louisville, Brown, and Syracuse University prior to his appointment in 1951 as professor of mathematics at Stanford University, where he remained until his death on January 8, 1968. Indexes: Unpublished guide available (folder level inventory). Notes: Gift of Marian Tracy, 2007/1972. Subject (LC): Loewner, Charles, 1893–1968.

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