There was only one Edsger

On August 6, 2002, Edsger W. Dijkstra, Schlumberger Chair Emeritus and Professor of Computer Sciences and Mathematics at The University of Texas at Austin, died at his home in Nuenen, the Netherlands. Much has been written elsewhere about Edsger's profound impact on computing and how his passing may affect the science. (See pg. 3 for a listing of some of these sources.) In this article, we present a glimpse of the person we knew within the department—a man, professor, and friend who happened to be a scholar of world renown. The friend who sometimes stopped by our offices or who offered a cup of coffee (often in a mug stating "Rule 0: Don't Make a Mess of It"). The professor who cared enough to teach undergraduate classes and attend the department's scholarship and graduation receptions every year. The man who was generally spotted in khaki shorts, bolo tie, cowboy hat, and sandals.

A standing appointment in Edsger's weekly schedule was the Tuesday Afternoon Club (TAC). During TAC, Edsger, some colleagues, and several students would read a manuscript in a thoughtful fashion that, while it focused extraordinarily careful attention on the details, was guided by an awareness of global principles of elegance and simplicity. Edsger started TAC in Eindhoven, The Netherlands, where he was on the faculty prior to 1984. TAC continued in Austin, Texas, so that for many years the ETAC and ATAC ran concurrently.

The courses that Edsger taught regularly all had the title Capita Selecta (selected topics). Prior to his retirement in 1999, the offering alternated each semester between the graduate and undergraduate level. Taking Edsger's course was an intimate experience and a unique learning opportunity. The class enrollment was limited to 20 or so students, which allowed a rewarding level of interaction between instructor and students. The main form of assessment in his course (in addition to the informal impressions he formed throughout the semester) was a two-hour oral examination, held either in his office or at his home. During this individual session, Professor Dijkstra would present the (usually nervous) student with a problem or two. The student's task was to develop a satisfactory argument during the allotted time, writing the solution on the blackboard. Afterward, the student would generally leave the room with a warm glow of accomplishment thanks to Edsger's gentle prodding and questioning during the session. As a former graduate student, Markus Kaltenbach (Ph.D. '96) explained, "It was his teaching, his example, and the ongoing interaction with him that not only made me recognize the importance of striving for

Professor Edsger Wybe Dijkstra, a noted pioneer of the science and industry of computing, died of cancer on August 6, 2002, at his home in Nuenen, the Netherlands.

a balance between simplicity and necessity, beauty and quickly getting the job done, but helped me understand that not compromising the former significantly aids the latter in the long run, and provided me both with the tools and the vision for pursuing these principles in my own work. Thus, it is honest to state that Edsger has had an immense impact on my life not only as a renowned scholar, but also as a teacher of principles transcending mere science, and as a friend."

Edsger worked directly with undergraduate students as a regular guest speaker for CS373, Software Engineering. Because Edsger's contributions were cited so frequently in the readings assigned in the CS373 course, his willingness to share personal perspectives on the development of the field and his own experiences provided a unique opportunity for these students. Each of the nine presentations that Edsger gave for CS373 students was guided by questions from the students themselves. For example, in the fall 2001 semester the question on the journal entry stated: "Provide at least two questions for Professor Dijkstra. Only one of your questions need concentrate on issues related to software engineering. 'Obvious' questions are OK as long as they provide an original slant on the issues. Examples of some obvious questions that do not provide an original slant: Why did you think goto was bad? or What is the shortest path algorithm? Professor Dijkstra responds especially well to thoughtful questions that require him to reflect deeply."

In preparing for his "performance," Edsger would consider the questions from all of the students and derive some themes to guide his presentation. For fall 2000, Edsger also produced EWD 1305 in response to some student questions. (The day after the associated presentation, Edsger was diagnosed with the cancer that eventually led to his death.) In making the presentation, Edsger would use one hour to carefully develop an algorithm such as binary search, with the other hour devoted to a number of questions from the students.

After each of Edsger's CS373 lectures, another journal entry asked the students to reflect on what they had heard during the lecture as well as what they had read in writings by and about Edsger. Each semester, these responses were gathered into a single document (eliminating names and identifying information), which Edsger received as feedback and a thank you. He and Ria, his wife, always seemed to enjoy reading through the comments to see student reactions; it was illuminating to see how some students seemed to "get it" and some did not.

One student, Chris Emmons (B.S. '03) commented in his journal entry: "Seeing Professor Dijkstra and observing him was the most interesting part of the whole presentation for me. When he stood up to speak to us in his quiet voice, one could not help but notice the sunburst belt with a big Texas belt buckle and "E.W.D." branded on the back. His tablecloth-like red and white checkered shirt helped complete the look. I mention these things because he is one of the few computer science oriented people that has ever really had my attention. Contrasting his slow and steady manner of presentation with the typical behavior of a late 90's tech employee —fast talking and fast moving— was quite interesting. The contrast is very representative of software engineering today. Dijkstra follows rigid, sound structure to develop solutions — good practice, while the industry as a whole does the quick thing to get the product on the shelf .... One particular question led Dijkstra to comment on where he developed the shortest-

path algorithm — over a cup of coffee with his wife. Finally, his advice to us before leaving: "enjoy life." That is what I will remember about listening to him. The simplicity it appears he strives for in his life is mirrored in his thought process for designing the algorithms he creates."

Another student, Phil Joffrain (B.S. '02), wrote in his journal entry: "Ten years from now, I would tell my colleagues that I had the honor and privilege of seeing Professor Dijkstra derive the Binary Search in 30 minutes on a chalkboard. I originally thought that he would spend the entire session discussing students' questions. Much to my surprise and amazement, this was not the case. His personal stories added so much more to the discussion, bringing historical facts and humor. His stories of asking people and professors to derive the Binary Search in front of him, their failures, and his students' success. In 10 years, on a random day, I will ask my fellow colleagues to derive the Binary Search for me, and remember one Friday morning where I saw a great man accomplish a feat that few would ever dream."

"And I don't need to waste my time with a computer just because I'm a computer scientist. [Medical researchers are not required to suffer from the diseases they investigate.]" EWD 1305

Edsger W. Dijkstra was not only a founder of computing science, but a man whom we will remember with love, respect, and admiration. Throughout his illness, Edsger continued to enjoy life and set an inspiring example. As Edsger explained to one of his former graduate students, J.R. Rao (Ph.D. '92), when J.R. phoned a few days after Edsger had been diagnosed with untreatable liver cancer, "When you hear of my passing, you will be sad and tears will come to your eyes but then you should let the moment pass and continue with your life for my [Edsger's] life is one that should be celebrated and not be mourned."

Edsger's funeral was held in Heeze, the Netherlands on August 11, 2002. UTCS was represented by Chairman J Strother Moore (See his remarks on pg. 3.) and Professor E. Allen Emerson. Other attendees with strong ties to UTCS included Sir C. A. R. Hoare from the UK, as well as David Gries and David Naumann from the USA.

On Thursday, November 21, 2002, the department held a memorial celebration to honor Edsger's life. The program included a piano recital featuring a number of Edsger's favorite pieces.

For details about the event, please visit http://www.cs.utexas.edu/users/EWD/memorial/.

(left-right) faculty retreat fall 1997; EWD with his "greatest hits," a CD collection of his writings, which was presented to guests at the symposium in honor of his retirement and 70th birthday, May 2000.

UTCS Chairman's Remarks at the Funeral of Edsger W. Dijkstra

I apologize for speaking in English.

I am the chairman of the Department of Computer Sciences at The University of Texas at Austin and Edsger held the Schlumberger Centennial Chair in our department.

Edsger was part of our family for almost 20 years. He was a father figure to many of us. But he was also a colleague and a friend.

Often, people who knew him only in passing said to me "It must be terrible to have Dijkstra on your faculty." They were afraid that his outspoken manner would produce contention. But that was not the case. Edsger was a wonderful colleague. He taught his students with supreme skill and passion. He brought to faculty meetings only one agenda: How can we improve? How can we become better scientists? Better scholars? Better teachers? He stated his positions in the open and debated them. Then he cast his single vote and that was that. Never did he come to the chair's office and argue, behind the scenes, that because he was Edsger W. Dijkstra we should do things his way. I wish I had 10 faculty members like Edsger. But, alas, there was only one Edsger.

He often came to campus in a cowboy hat. And a T-shirt. From the waist up, he looked more Texan than I do. But he also wore shorts and sandals and carried a little bag. That ruined the Texan image. He was different and we were better for it. He was like a man with a light in the darkness. He illuminated virtually every issue he discussed. Almost every encounter with him taught me something.

Yes, he was a great computer scientist. He defined much of our vocabulary. He invented many of the important ideas. He will be remembered as one of the giants of the science. But we at The University of Texas at Austin will remember him with more than just respect and admiration. We will remember him with love and affection.

Thank you.
J Strother Moore, Chairman
Department of Computer Sciences, UT Austin
Heeze, the Netherlands
August 10, 2002

More on Professor Dijkstra

UTCS web site
http://www.cs.utexas.edu/users/EWD/

Krzysztof Apt's
Edsger Wybe Dijkstra (1930 — 2002):
A Portrait of a Genius
http://www.cwi.nl/~apt/ps/dijkstra02.ps

The London Register
http://www.theregister.co.uk/content/4/26585.html

Digidome
http://www.digidome.nl/edsger_wybe_dijkstra.htm

ACM Pressroom
http://www.acm.org/announcements/
dijkstraACMobit.html

Burroughs Corporation records
http://www.cbi.umn.edu/collections/inv/burros/
dijkstra.htm

ZD Net, UK News
http://news.zdnet.co.uk/story/0,,t269-s2120564,00.html

CWI - Centrum voor Wiskunde en Informatica,
Amsterdam
http://www.cwi.nl/cwi/press-releases/2002/Dijkstra-
obituary.html