

Trip report E.W.Dijkstra, Ithaca, Albany, Austin (Texas), 26/5 - 10/6 1979.

I left home on Saturday 26th May 1979 at 10.15 and arrived at J.F. Kennedy Airport twelve hours later. Flight KL641 had not been very smooth, and the usual discomfort of flying had been enhanced by a large number of Italian tourists in the "reduced fare section": Italian is another one of those languages that has to be spoken very loudly. To catch my connection to Ithaca I had to go from J.F.Kennedy to La Guardia Airport; the helicopter service connecting the two airports no longer existing, I went by limousine (\$ 3.00 and 40 minutes). At 21.00 (local time) I arrived at Ithaca where David Gries and his twins were waiting for me at the gate. The Grieses go to bed early and are early risers (5.30 is not unusual for David), and this makes them really ideal hosts for the traveller from Europe that arrives with his body still full of six hours of time shift (the absorption of which was a main purpose of that visit). Two hard-boiled eggs, three glasses of milk, some whisky and then: off to bed!

On Sunday morning Bob Constable and Jim Donahue came with their families and we walked after a short drive to the local waterfall, distinguished by some superlative --"the highest East of the Mississippi" I think-- . The rest of the afternoon the whole lot of us enjoyed the meal that Elaine Gries had prepared in our absence. (I still felt a bit groggy and my thoughts --if any-- sometimes wandered away.) The next two days I went with David to Cornell University. On Monday afternoon I gave a lecture for a sizeable audience (in spite of the fact that it was Memorial Day), Tuesday was mostly spent on private interests. (David was extremely helpful: my private interests were suddenly increased by one when we discovered that the Dutch travel agent had booked me on a non-existent flight from Austin to New York!)

Early in the evening I flew with two other passengers in a one-pilot plane from Ithaca to Albany. When I arrived in the Americana Inn I was still rather shaky, for we had met a great thunderstorm on our way. The pilot was proud of the way in which he had managed to avoid it (and I am willing to believe in the justification of his pride); I wonder how bad the "ups" and "downs" would have been otherwise.

The next two-and-a-half days I attended the "Software Engineering Workshop" that had been my primary reason for this visit to the USA. "The workshop is sponsored by the Rensselaer Polytechnic Institute, the General Electric Research and Development Center, and the National Science Foundation. The objective of the workshop is to focus on R+D in software engineering as a national need." It had been organized by Dr. Philip Lewis (GE) and Prof. Herbert Freeman (RPI).

The DC-10's being grounded, Barry Boehm (TRW) was unable to present his talk in person. He sent his visuals by special delivery and gave his presentation via a telephone link. The technical organization involved in this last-minute arrangement was impressive; the result was hardly worth the trouble.

As a panopticum displaying current programming practice and management superficiality it may have been highly successful, but as a workshop on Research and Development in software engineering it was a depressing disaster. To indicate the level: Earl Van Horn (DEC) used most of his half hour as a speaker to argue that "software evolution" would be a more appropriate term than "software maintenance" and Jean Sammet (IBM) thought this remark really an eye-opener! (In passing we note that at least two participants did not know their literature, cf. Comm.ACM, 21, 10 (Oct.1979) p.882.) Also illuminating were recommended activities such as "Measurement of Productivity, Reliability, Quality" or "Development of Integrated Software Development Support Systems".

In my innocence I thought that by now it was common knowledge and a reason for common concern that in so many software activities the separation between research and development is not made with sufficient clarity, with the result that many projects are undertaken as development projects, the required research component being grossly underestimated. But things seem to have gotten worse! Many seemed not to have the slightest idea what research in connection with software would look like, and the vital distinction seemed more blurred than ever. (In this connection I thought it telling that Research and Development has become such a unity that in its abbreviation "R+D" the spaces were usually omitted: "R + D" was exceptional.)

Elsewhere (EWD690) I have compared the pragmatic engineer --who believes in his design as long as it works-- with the scientific designer --who believes in his design because he understands why it must work-- because, in general, we seem to have too much of the first and too little of the second. I would therefore welcome a shift in the division of labour between the two types. But such a shift fell way beyond the mental horizon of this community which, as a result, in expressing its needs could only ask for more and more of the same. (In the weekend thereafter I saw the June 4 issue of Newsweek "Innovation: has America lost its edge?" What I had seen seemed a striking confirmation.)

At Cornell David had shown me a curious document in which questionnaire answers had been summarized showing how U.S. Departments of Computing Science rated each other. The three with the highest general ranking were Stanford, MIT and CMU. They were also specifically the ones with the highest ranking for AI and I could not escape the impression that the glitter of AI --at least: of its hopes and claims!-- had been confused more than once with scientific achievements in computing. I would have forgotten this document, had it not been for Carl E.Hewitt (MIT) who, in a discussion, referred without hesitation to "the best institutes, MIT and Stanford" to which he added "and CMU" --after a very small hesitation, but the "and" between MIT and Stanford had already given him away!--, whereas at the same time he had already made it abundantly clear that computing science at MIT is still in a poor shape. (His proudest announcement boiled down to how successfully they had mimicked Xerox PARC!)

Prof.D.Tsichritzis (Toronto) gave a short, sensible talk. The gist of his message was that concurrently active microprocessors, all by themselves, will tend to make life more complicated, and that, therefore, we should try to exploit them for simplification wherever possible, e.g. by reducing the complexities of sharing. He spoke after me, and did better than I had done: hesitating between presenting the survey I had prepared and quickly designing a talk for this audience, I had chosen for the first option. Prof.F.L.Bauer, who spoke on the last day (and had tactfully left his title undefined) chose the second option: he gave a very clear, very elementary introduction to

formal techniques, full of reassurance that they were no more than "a shorthand notation for common sense". It was well-adapted to his audience and well received. At 13.30 that Friday I was in the air on my way to Austin, Texas, where I arrived at 20.05 that evening.

I was picked up at the gate by Walter E. Feeser, the manager of the Burroughs Engineering Technology Center that I would visit the next week, and taken to the Austin Hilton that still proudly announced that "There is no place like Hilton". Thank goodness! In one's room no desk at which one can write, only a wobbly one-legged table floating on a thick floor carpet. (At least I invented a new article for the American travel market: the portable, cordless carpet mower.)

During the weekend Dr. Hamilton Richards of Burroughs and his wife extended their hospitality to me. They had excellent desks in their new home, and when I did not work I could satisfy my curiosity by observing the progress of such interesting activities as further insulation of a newly installed solar water heater. For the next week I would have dinner each evening with one or two different staff members of the Technology Center, with the exception of Wednesday evening, when I had dinner at the home of professors Dale, both of Texas University. (Portions at Texan restaurants are such that it is no problem to maintain one's weight by skipping lunch. I advise, in fact, the untrained visitor to do so.)

On Tuesday, at noon, I was collected by someone from the University of Texas at Austin, had lunch with a few more, and in the late afternoon gave a lecture at the Department of Computer Science. It was the same lecture I had given a week earlier at Cornell University and this time it went very smooth despite the lack of adequate blackboard space, a lack for which I was unprepared. Overhead projectors are suitable for giving presentations --sales or otherwise-- , but for the delivery of a good lecture a sizeable blackboard is indispensable, and from its absence in a university lecture room I can draw but one conclusion about that university, and that is a sad one. (Monday afternoon and Tuesday morning at Burroughs we had been addressed by Christoph Hoffmann. Though the facilities in the conference room

were almost adequate, he preferred to show his visuals; but he was from Purdue...) Professor Dale tried to understand the development of computing science in terms of the (older) development of economy, and his colleague, professor Simmons --by training a psychologist!-- considered "applied mathematics" as a contradictio in terminis. But all this I only discovered the day after my talk, of which it became in retrospect almost surprising that it had been received so well. (Is the fact that my audience was by no means restricted to people from T.U. perhaps an explanation?)

The rest of the week I spent at the Burroughs Engineering Technology Center. My hosts were considerate and inspiring and my visit was satisfying, except that at the end I realized that a week was too short. On the other hand, I had been on the road for two weeks and going home was a welcome change. David Gries had discovered that for the trip home the Dutch travel agent had booked me on a nonexistent flight from Austin to New York, and I had been booked on the existing one, about one hour later. The Braniff plane from Austin was an additional 50 minutes late; after an agonizing wait for my luggage to appear at La Guardia, I jumped into a taxi to J.F.Kennedy (\$ 12.-- and 25 minutes) and I caught my connection. At Sunday noon my wife, who had come with the car to Schiphol, and I were on our way to Nuenen.

Thanks to the good care of my hosts in Austin, my American vocabulary has been extended vigorously, with words such as "humdinger" and "red-neck"; I was reminded of the latter one on my way back when I crossed the Atlantic with in the seat next to me a (too) rich 63-year-old, talkative person who, I think, is properly described as "a reactionary gentleman". He complained bitterly about the decay of the New York Plaza Hotel that was no longer what it used to be, and declared me to be his greatest friend as soon as he had discovered that I was a Dutchman because at least in South Africa they still knew how to deal with those niggers. The exposure was tiring --I would have preferred some sleep-- but very instructive.

18 June 1979
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