EWD427
Speech at the Occasion of an Anniversary

by Edsger W. Dijkstra

Ladies and Gentlemen!

It is my pleasure and privilege, as Chairman of the Board of “Mathematics Inc.”, to address you, its shareholders, at the 10th Anniversary of our Company. At this occasion it seems befitting to give you a short survey of its illustrious history.

All of you, of course, know how the company was founded, when three young, eager and enterprising mathematicians left their common employer, dissatisfied as they were with its purely commercial objectives and also convinced that, on their own, they could make much more money. And right they were!

We are all here as witnesses of the fact that it was not the inside information they took with them, but the vigor of the fresh young organization they founded, based on professional competence only, that made the enterprise the financial and scientific success their initiative deserved. Their native abilities were, of course, supported by keen insight into the problems and possibilities of their former employer’s market, but it clearly needed people of their keen intellectual perception to see that the old four-colour problem — almost forgotten to be a problem! — could serve as the basis and starting point of a business as successful as ours.

Up till that moment all cartographers had always thought that they would never need more than four different colours on their maps. Similarly, eye tests for colour sensitivity of pilots and ship captains had never required the ability to distinguish between more than four different colours. It was in this sensitive area of map making and traffic by air and sea that these three gentlemen pointed out that up to that moment the sufficiency of the number “four” was no more than a mere assumption that could be killed by the first counter-example.

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In view of the reorganizations that would be needed when a fifth colour would be discovered to be necessary, a great nervousness was aroused and at that moment the young company saw the possibility of one, or possibly two contracts in connection with the four-colour problem. A quick but thorough piece of market research was launched in order to discover where the greatest opportunities would lie: would it be in the proof that four colours would always suffice or would it be in the proof that occasionally five (or perhaps even six!) would be needed? For the first product they had the support of the Map Makers Association and of the International Union of Airline Pilots, for the second product the support of printing ink manufacturers and some small shipping companies that would like to use the result as a means of getting rid of a few of their older captains. The critical question, of course, was which of the two products would be preferred by the Navy and the Air Force. As luck would have it, the needs of the latter two pointed into the same direction and within two months, based on solid contracts with both the military and the civilian, our Company was founded.

In its earliest time it was beset by all problems of a young and growing company: moving from modest dwellings to more sumptuous quarters, readjusting the planning, the budget etc. and, as was to be expected, after the almost canonical period of nine months, serious disagreement between the three founders caused one of them to leave the Company and to start all by himself. His parting — I am happy to say — did not create any ill-feelings: he still owns a part of the company’s stock and occasionally he acts as independent consultant. The disagreement was on planning.

The remaining two directors felt that a first working version of the Proof could be delivered 27 months after the contract had been signed and this planning was not reconsidered until the 12th month. At that critical stage it became apparent that the project had suffered from two misfortunes. Upon closer scrutiny one of the smaller Proof Modules had presented difficulties that, with the then present state of the art, proved to be unsurmountable. For a few weeks the company hesitated between two different courses of action, either to redesign the interfaces between the Proof Modules such as to make each of them more manageable, or to launch a research effort that would yield the technology enabling us to deal with the obstinate, unruly Module. As some of you will remember, this was the Company’s most critical moment, not in the least because each course of action was preferred by one of the two remaining directors.

Within a few weeks, however, one of them managed to get the Navy’s support for his approach, as a result of which the other director got the Air Force’s support the next day. Of course this meant doubling the Company’s size, a move to new quarters and all that: the Company’s two Divisions, I am happy to say, work together in full harmony and the Board was very happy to see the broadening in scope: a one-product company is always somewhat vulnerable.