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EWD 475: A letter to my old friend Jonathan

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A letter to my old friend Jonathan.

My dear Jonathan,

After so many years of silence, you will be surprised to receive such a long letter from me. But, read on, and you will understand that this time I must address myself to a lawyer I can trust and of whom I know that he understands.

Remember our schooldays, when we argued about the relative merits of the Greek and the Roman culture? How I defended the Greeks by quoting Plato and you the Romans by quoting Cicero, and how the unsettled question did not impair the friendship and companionship between the two of us? (Happy youths, who could argue hotly about the relative superiority of classical cultures, whereas, today, the inferiority of contemporary civilization seems to be the only common meeting ground!) Our fates were decided that evening by the choice of our heroes: you chose law and I chose mathematics and our ways parted. (It is a strange thought that, if in that same discussion, I had chosen Homer and you Horatius, we might both have become professional poets and our paths might have continued to cross each other....)

Dear Jonathan, I am in a fix. I leave it to your great wisdom or to your wordly experience to decide for yourself, whether my problem is that I don't understand them, or whether they are so short-sighted that they are unable to understand me. But the long and the short of it is that I am in a fix, I have painted myself into a corner to the extent that I need legal advice, imagine! As you know --Hugo has certainly told you something about it-- I am presently responsible for Mathematics Inc., the most exciting and most miserable business ever conceived. It is really most exciting, because --beside being a most flourishing business (and that is saying a good deal, these days)-- by blending the strength of Greek contemplation with that of Roman enterprise, we are changing the face of the world! Our problem is, however, that apparently the world is not quite ready for this (truly!) "Cultural Revolution" and is beginning to fight back in a most unartistic manner, just because it --and in particular: its legal procedures!-- cannot cope with it. There are legal procedures for the protection of property of "things", but there is no true protection of property of "ideas", and of such nature are the products of Mathematics Inc. (There are, of course, patent law and copy-right, but as you read on, you, as a lawyer, will immediately see that in our case they are insufficient.)

One of our most successful product lines is connected with what used to be know as the Riemann Hypothesis, but now should be named our Theorem. To bring you into the picture, Riemann --originally trained to become a Lutheran minister!-- was one of those romantic mathematicians of the nineteenth century, who maintained his fame by dying young enough to ensure that nobody saw that he himself was also unable to prove his conjecture. Riemann completely missed the vision and imagination, needed to escape from the prejudices of the pre-industrial society and, according to the tradition of the period, he fought his problem single-handed: the amateur, needless to say, failed miserably.

To supply the missing proof was for Mathematics Inc. an obvious target, not only because we have built up the first (and only) corporation in the world, that is technically capable of constructing such a proof, but also, because commercially it is a most attractive proposition. The point is that whole flocks of mathematicians have made themselves dependent on it and have (somewhat irresponsibly) based whole branches of mathematics on Riemann's

assumption. Think what a market! All those dangling results, ready to be harvested by the first company that provides the missing link! We have provided that link and, having the Proof, besides claiming all previous results based on Riemann's Hypothesis, we insist on substantial royalties for all future use of it. That is fair, isn't it? You cannot expect a huge company like Mathematics Inc. to distribute its goodies like Father Xmas, can you? But, reasonable as our claims are, we experience the greatest difficulties in getting our rights recognized.

As most royalties would come from abroad, our own government --with an eye on the balance of payments-- is in principle eager to assist us and to support our foreign claims, but, Good Heavens!, it is incredible how it paralyzes itself (to the point of complete ineffectiveness) by insisting upon all sorts of clearly inadequate, inappropriate and impossible legal procedures. I have now received three letters from three different departments (Science and Education, Commerce and Foreign Affairs), all of them stating that according to (different!) articles so-and-so they can do nothing for us before we have shown our Proof! What do they think? For, as they also explain, this disclosure does not guarantee that they can do anything real for us, oh no, only after the disclosure they can start the investigations whether our claims can be supported! Knowing how our departments' work, my heart sinks, for it would take at least another five years!

But, besides that, disclosure of the Proof is absolutely out of the question! Has no one heard of industrial property? You see, we want to sell the result of the Proof --viz. that Riemann's Hypothesis is no longer a hypothesis but a truth--, but certainly not disclose the Proof itself, for that embodies a radically new technique of mathematical reasoning that, as long as it is ours and exclusively ours, we would like to apply to a few similar outstanding problems. Disclosure of the Proof would be similar to the disclosure of "manufacturing secrets" of classical industries. How can we make them understand this situation?

(There is another reason --but this is strictly between you and me-- why I do not care too much about disclosure of the Proof right now, because the Proof, although essentially correct, is still in the prototype stage: minor deficiencies --of which we know, that they are easily mended: it has already all been planned-- could be misused to weaken our claims. My marketing division has made quite clear that, as far as they are concerned, disclosure has to be postponed until the Proof has reached such a state of stability that it won't require significant maintenance for the first five years after delivery.)

Another serious problem --in view of the huge amounts of money involved-- is connected with exportation within the European Community, viz. how to compute the Value Added Tax to be paid, when we sell the Proof. As you, no doubt, are aware of, the rules don't provide for it, as we cannot define our "raw materials": are they the symbols we use, or the Laws of Aristotelean Logic? (Here, I am sorry to say, I expect from my government an even less cooperative attitude!)

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Thank goodness we don't have only serious problems, but ridiculous ones as well. Before we could get the top twelve floors of the Hosanna Building, I had (to humour the old gentleman who owned half of them) to order from an architect a Toilet Flushing Water Recycling System --I have included a

copy of his design--. As the old gentleman died, he did not need any humouring anymore and we decided not to implement the TFWR System, although brilliantly designed, in view of the risks involved. But now the architect complains, even after having received his fee. His argument is that he is entitled to have his ideas realized. He points out that if all his customers would act as we have done, he would end his days with lots of money, received but not earned, and none of his brain-children to survive him. He is now threatening to sue us for wasting his creative powers. I am afraid he is an incurable artist. (Don't worry, our regular lawyer will deal with him in the usual way.)

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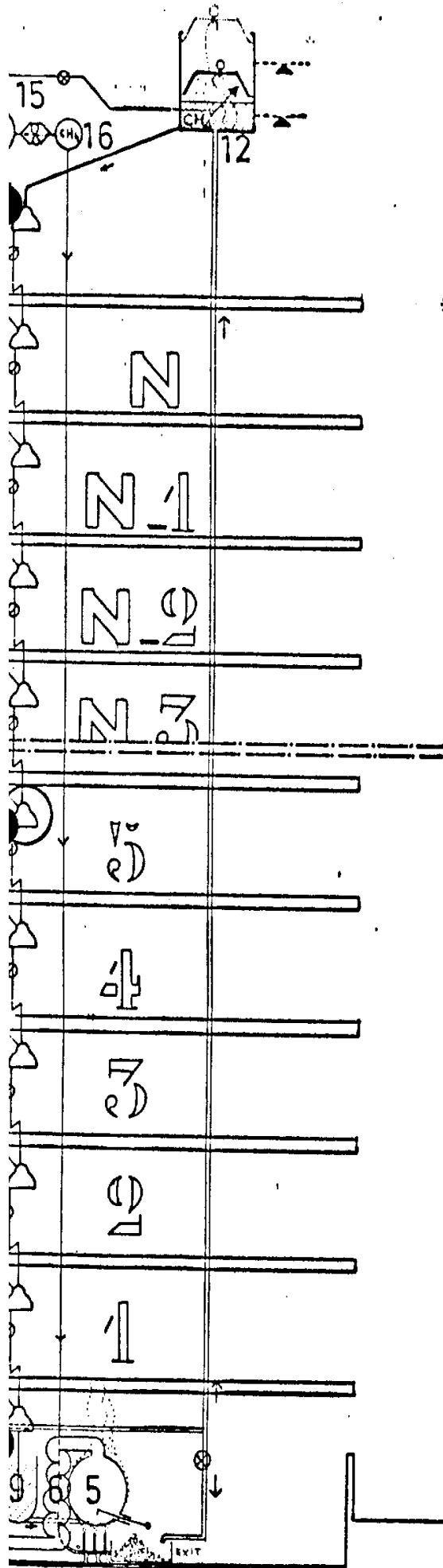
Dear Jonathan, one of these days I shall ask my secretary to make an appointment for an afternoon. Can we have dinner afterwards? (I suggest the Restaurant "Bali": it adds to an excellent kitchen the advantage of the proximity of a cafeteria where my chauffeur can have some food while we are having dinner.) I would like to discuss with someone like you the current mis-education provided by our Universities. Today's graduates leave the campus made to believe that it is Knowledge that matters, while all of us know that only Secrets matter. If all goes well, I could endow the major Universities with an appropriate chair. How should I call it? "The Edsger W. Dijkstra Chair of Industrial Espionage" or "The Mathematics Inc. Chair for Security and Privacy"? I shall ask my P.R.-man anyhow, but would appreciate your unbiased opinion.

I am very much looking forward to meeting you again. Till then!

Yours ever

9th February 1975

Edsger W. Dijkstra  
Mathematics Inc.  
Hosanna Building



\* **N** = max 17

