

Solicitors
13 Shyster Lane
Oldcastle-upon-Time

Your Ref: EWD 475

29th February 1975.

Dear Edsger,

I was delighted to hear from you after all these years. My apologies for the delay in replying to your letter, but as you will see, it had to be forwarded to my new address.

It was indeed fortunate that you should seek my advice, since my firm represents the International Research Development Corporation. The IRDC is a well-established non-profit-sharing corporation which seeks to assist creative institutions and individuals to obtain real rewards for their abstract labours. Amongst their clients have been L.D.Vinci, N.Bourbaki, D.Scott, the Department of Machine Intelligence of the University of Edinburgh and the publishers of the Vienna Telephone Directory, to name but six.

To my surprise, it would appear from your letter that Mathematics Inc. has not established a legal department capable of overseeing the protection and exploitation of its creations, and I would therefore suggest that you join forces with IRDC. Contrary to your supposition, recent changes in patent law have enabled Mathematicians to obtain legal protection for their Theorems. IRDC are perhaps the first organisation to take full advantage of this new situation. They have, in conjunction with my firm, started offering their services to Mathematics-based industrial concerns such as yours, and on occasion to individual Mathematicians, although the day of the individual Mathematician is I fear drawing to a close.

I enclose for your information a draft form of the revenue sharing agreement that IRDC would wish you to accept. You will I believe find the provisions most reasonable, although I am afraid they cannot undertake any aspect of the task of theorem maintenance.

Incidentally, although, as you say, it will be necessary at some stage for you to disclose the Proof of your Theorem, it has become the fashion to do this by providing what is called an Implementation, which can be given in such excruciating detail that you need have no fear that your competitors would find it more profitable to understand the proof than to sign a Royalty Agreement. Thus, our last patent, for one of the gentlemen named above, contained no fewer than 2973 lemmas, and was based on a novel extension, to three dimensions, of Petri-Net Theory.

I look forward to hearing from you and to joining you for dinner at the Bali. My secretary's assistant will make the detailed arrangements by telephone.

Yours most sincerely,

Jonathan Pettifogger.

E.W.Dijkstra,
Chairman,
Mathematics Inc.
Hosanna Buildings,
Plataanstraat 3
NUENEN
The Netherlands

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13 Sijster Lane
Bristol-upon-Tine

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Chairman

Mathematics Inc.

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The Netherlands.

(i) the filing and prosecution of Patent Applications and the procurement and maintenance of Letters Patent or like protection

(ii) proceedings before the Patent Office or any appeal tribunal therefrom in any country

(iii) professional advice on patent matters relating to the said theorems or otherwise incidental to the implementation of this Agreement

(iv) proceedings by or against the Corporation in any Court or Tribunal in any country for the enforcement or defense of any Letters Patent to which this Agreement applies or for revocation of or opposition to any Letters Patent or Application therefor of any third party or for any other cause (including any costs or sums awarded against the Corporation in any such proceedings)

(v) the preparation and stamping of legal documents

(vi) agents' commission

(C) payments (if any) made by the Corporation to the Mathematician and the Institution in reimbursement of expenses incurred in applying for Letters Patent in respect of the said theorems or for any items or services provided by the Inventors or the Institution under the provisions of Clause 2 hereof

(D) travelling and out-of-pocket expenses and other direct expenditure incurred by the Corporation in furtherance of its obligations under this Agreement

(2) AS soon as possible after the last day of December in each year commencing with the last day of December One thousand nine hundred and seventy-five the Corporation shall render to the Institution a cumulative statement showing the receipts and expenditure of the Corporation for the preceding year (or any period longer than a year or any proportion thereof) under the headings in sub-clause (1) of this Clause and the Institution shall render to the Corporation at the same time a statement of any expenditure of the Institution and the Mathematician for the same period which it may have been agreed by the Corporation shall be amortised as hereinafter provided

(3) THE gross receipts shall be absolute property of the Corporation but the Corporation shall pay to the Institution annually such sum as shall (when aggregated with previous payments) amount to the greater for the time being of:-

(I) five per centum (5%) of the cumulative gross receipts

or

(II) fifty per centum (50%) of the net amount for the time being remaining after amortization out of the cumulative gross receipts of the aggregate of:-

(i) the costs fees payments and expenses of the Corporation referred to in paragraphs (B) (C) and (D) of sub-clause (1) of this clause and

(ii) any expenses of the Institution and the Mathematician which it may have been agreed by the Corporation shall be amortized out of the gross receipts

(4) THE costs fees payments and expenses referred to in sub-clause (3)(II) of this Clause shall be amortized in proportion to the respective amounts arising under sub-paragraphs (i) and (ii) thereof and the amount of the expenses of the Institution and the Mathematician so amortized shall be paid to the Institution from time to time as provided in sub-clause (8) of this Clause

(5) THE receipt of the Institution shall be a good discharge to the Corporation for any payments to be made by the Corporation under the provisions of this Clause

(6) THE expression "gross receipts" as used in this Clause shall mean the actual royalties or other sums received from time to time by the Corporation in respect of the exploitation of the said theorems (including the amount of any damages awarded to the Corporation in any infringement proceedings) or of any drawings models designs lemmas technical data information or know-how furnished to the Corporation pursuant to Clause 2 hereof but excluding any sums received by the Corporation in respect of or relative to the recovery of expenditure incurred by the Corporation in the development of the said theorems There shall be added to such gross receipts the amount of any income tax deducted therefrom before receipt

(7) WHERE the said theorems are exploited in conjunction with other theorems and patent rights owned by the Corporation in such manner that the Corporation receives royalties or other sums in respect of all such theorems and patent rights without distinction as to the amount deriving from each such theorem the gross receipts attributable to the said theorems shall be as determined by the Corporation

(8) PAYMENTS by the Corporation pursuant to sub-clause (3) and (4) of this Clause shall be made annually on or before the last day of March in each year

(9) EACH of the parties hereto shall (on request) produce to any duly authorised representative of the other parties for inspection the accounts of its receipts and expenses referred to in this Clause and any receipts or vouchers relating thereto

(10) NOTHING in this Agreement contained shall be construed as requiring the Corporation to develop and maintain or to assist or procure the development and maintenance of the said theorems nor as precluding the Corporation from developing and maintaining or assisting or procuring the development and maintenance thereof on such terms as it may in its sole discretion deem fit But no expenditure incurred on such development and maintenance and no sums recovered in respect thereof or relative thereto shall be included in the accounts referred to in this Clause

4. (1) BEFORE abandoning any Application or withholding payment of any fee necessary for procuring or keeping in force any Letters Patent (which expression shall include any like form of protection) to which this Agreement applies the Corporation shall use all reasonable endeavours to give to the Institution adequate notice of its intended course of action and for the period of three months thereafter (if so required by the Institution and if and so far as practicable) to procure the continuance of the prosecution of the Application or the grant or maintenance of the Letters Patent PROVIDED THAT the Institution shall pay or indemnify the Corporation against all costs and expenses incurred in such period in so doing

(2) EXCEPT in regard to any Application and Letters Patent referred to in sub-clause (1) hereof which the parties may agree shall continue to be prosecuted or maintained by the Corporation after the period therein referred to (whether at the expense of the Institution or otherwise) the Institution shall have the right at any time within three months after the receipt of notice under such sub-clause to the re-assignment of the Applications and Letters Patent therein mentioned which are still subsisting upon payment by the Institution to the Corporation of the costs of such assignment and of the expenditure of the Corporation in respect of the Applications and Letters Patent so assigned and certified by the Corporation's Accountant as not having been amortized under sub-clause (4) of Clause 3 hereof

(3) ANY assignment of any Applications or Letters Patent to the Institution under the provisions of sub-clause (2) of this Clause shall be subject to the provisions of any Agreements or other arrangements which the Corporation shall previously have entered into relating thereto and unless all Applications and Letters Patent to which this agreement for the time being applies are so assigned there shall be reserved or granted to the Corporation under the Letters Patent and Applications so assigned the irrevocable right to make use and sell without payment of royalty and to grant sub-licence for such purposes

(4) EXCEPT as hereinbefore provided the Corporation shall not be liable to prosecute any Application or to procure or maintain in force any letters Patent to which this Agreement applies

5. THE Mathematician and the Institution shall not at any time oppose the grant of or dispute the validity of any Letters Patent or like protection to which this Agreement applies or any of the claims thereof or assist or advise any person so to do

6. THE Corporation shall not be under any obligation to institute or defend any legal proceedings whether for infringement or otherwise in respect of any Application or any Letters Patent or like protection to which this Agreement applies

7. NOTHING herein contained shall be deemed to constitute partnership between the parties hereto or to constitute the Corporation as the Agent of the Institution or the Mathematician

8. THE Institution and the Mathematician shall not nor shall any of them assign this Agreement or any of their rights benefits liabilities or obligations thereunder except with the previous consent of the Corporation

9. THE Mathematician and the Institution shall:-

(A) consult with the Corporation (so far as they are free to do so) as to the desirability of applying for Letters Patent in respect of the results of any further research or as to exploitation of any program produced by them (or any of them) relating to the said theorems in reasonable time before making such results or any part thereof available for publication or commercial use

(B) keep the Corporation informed from time to time of the results of any such further research as aforesaid (so far as they are free to do so)

(C) keep the Corporation informed of any commitments or arrangements entered into or undertaken by them (or any of them) which restrict or prevent the fulfilment of this Clause and Clause 2 of this Agreement

10. (1) IN this Agreement the expression "the said theorems" shall wherever the context permits include all patent rights (being Letters Patent or like protection and Applications therefor in any parts of the world) in respect of the said theorems and shall (when-ever appropriate) be deemed also to include any further theorems and patent rights which by agreement between the parties hereto are assigned to the Corporation for exploitation on the terms of this Agreement

(2) IN so far as the Institution or the Mathematician or any of them may control or write future Works particularly adapted for use with or relating to the said theorems the Institution and Mathematician will consult with the Corporation as to the assignment of all rights in the future works to the Corporation for exploitation upon the terms hereof (the copyrights being included in the term patent rights and Works in the term Theorem) all before any part thereof is made available to others save only a supply for usage for a non commercial purpose by a user under contract (in a form approved by the Corporation) to maintain the Works confidential

10 (3) ANY such assignment agreed shall include undertakings to supply copy of the Works to the Corporation and to keep the Works confidential

11. ANY notice consent or other communication authorised or required to be given hereunder or for the purpose hereof shall be deemed to be duly given by the Corporation if left at or sent by recorded delivery post to the Institution at its principle address or to the Mathematician at his last known address and in the case of a notice given to the Corporation if left at or sent by recorded delivery post to the principle office of the Corporation

12 ANY dispute question or difference arising under this Agreement as to the rights or duties of any of the parties or the construction or effect of any of the provisions of this Agreement shall be referred to an Arbitrator to be agreed between the parties and in default of agreement to be nominated by the President for the time being of The Law Society and such reference shall be deemed to be an arbitration agreement within the meaning of the Arbitration Act 1950 or any re-enactment or modification thereof for the time being in force

IN WITNESS whereof the Mathematician has hereunto set his hand and seal and the Institution and the Corporation have caused their Common Seals to be hereunto affixed the day and year first above written

THE SCHEDULE above referred to

| <u>Application No.</u> | <u>DATE</u> | <u>Title of Theorem</u> | <u>Mathematician.</u> |
|------------------------|-----------------|-------------------------|-----------------------|
| 16766/75 | 9 February 1975 | Riemann Theorem | E.W.Dijkstra |

SIGNED SEALED and DELIVERED)
by the above named EDSGER WYBE)
DIJKSTRA in the presence of:-)

THE COMMON SEAL of MATHEMATICS)
Inc. was hereunto affixed in the)
presence of:-)

The COMMON SEAL OF THE INTER-)
NATIONAL RESEARCH DEVELOPMENT)
CORPORATION was hereunto affixed)
and authenticated by:-)

Authorised by the Corporation

Secretary