We consider a graph with $n$ vertices, all pairs of which are connected by an edge; each edge is of given positive length. The following two basic problems are solved. Problem 1: construct the tree of minimal total length between the $n$ vertices. (A tree is a graph with one and only one path between any two vertices.) Problem 2: find the path of minimal total length between two given vertices. [The SCI® indicates that this paper has been cited in over 120 publications since 1961.]

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December 8, 1982

"I found my solution to the second problem about a year later, when the next machine was under construction and I was asked whether I could minimize the amount of cable needed for the back-panel wiring, which had to connect pins tree-fashion. I remember its discovery more vividly than that for the shortest route: my wife and I were having a cup of coffee in front of some café at the sunny side of the Damrak. I found both solutions unhamperepd by such mechanical aids as pencil and paper. It was clearly the more interesting of the two problems: looking at how my program represented trees, I rediscovered Cayley's theorem that the number of different trees connecting $n$ vertices equals $n^{n-2}$ (with a proof that was much nicer than Cayley's original one)."

"At the time, I was fully aware of having found two gems: at the moment of discovery I was duly excited and I remember having presented them in a lecture. In retrospect, it seems strange that I waited another two years before I submitted them for publication. The main reason was the absence of journals dedicated to automatic computing; something the foundation of Numerische Mathematik sought to remedy. I wrote and submitted my little article—my second one—trying to assist the fledgling. Furthermore, the publish-or-perish syndrome had not reached the Netherlands yet.

"This paper has been cited for the following reason. The solutions, as elegant as effective, now belong to the intellectual baggage of any well-educated computer scientist, and the first one to publish them gets the credit and 'collects' the references. I am pleased to see that by now the computing community is beginning to regard them as 'common property' and to refer to them without mentioning my name: their birth has become history (as it should be)."