

# Text reconstruction

by

**Knut KLEVE**

*Université d'Oslo - NORVÈGE*

## The lacunae

The most serious obstacle in deciphering papyrus texts is the existence of lacunae (gaps). Several photographic techniques have been tried to recover the lost text, but in vain. The ink seems to have fallen off without leaving any traces.

In collaboration with Mr. I. Fønnes and Mr. E. S. Ore (both Oslo) I have tried to work out two computer methods in order to reconstruct such text. The methods do not pretend to be more than aids. The final choice of reading is left to the scholar. But we think that our methods will give him a far stronger basis for a decision than the conventional reference works can do.

We also believe that our methods are of interest, not only to papyrologists, but to everybody who works with fragmentary preserved texts.

### Method I

This method takes its point of departure in the actual letters which can be read before and/or after a lacuna (say, E. . . N, M. .II. I, etc). Our program makes it possible for the computer to carry out a search in any machine readable text one chooses for instances where the letters occur in the relevant positions and distances to each other. The letters need not belong to the same word.

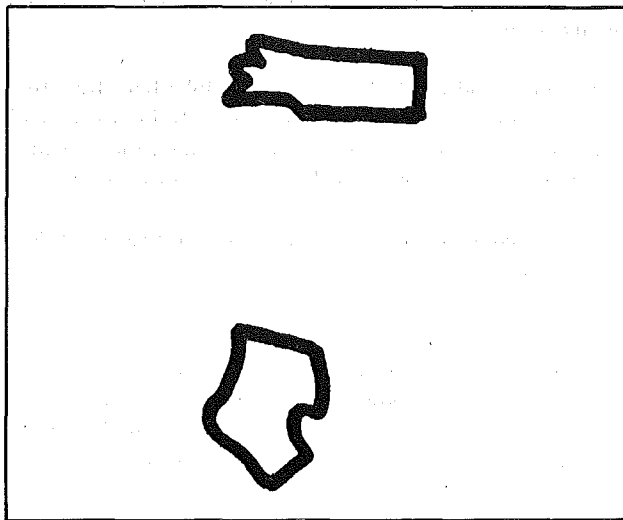
A full description of the program, its commands and algorithm, illustrated with flow charts, is given in K. Kleve - I. Fønnes, 'Lacunology : On the Use of Computer Methods in Papyrology', *Symbolae Osloenses* LVI, 1981, 157 - 170.

### Method II

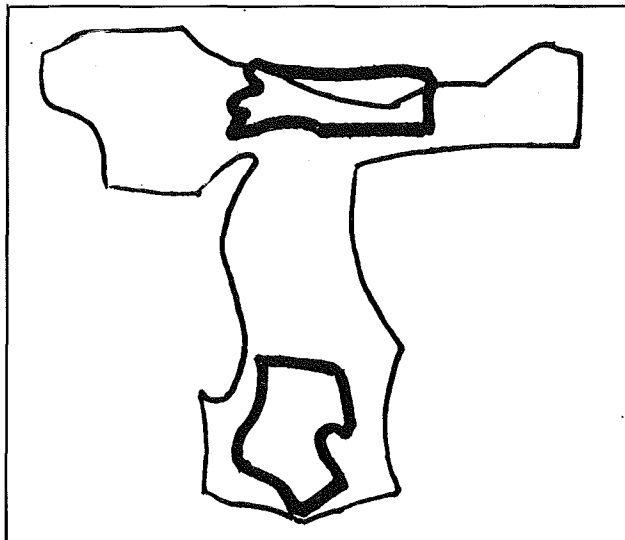
Through a microscope it is possible to detect in the lacunae remnants of ink which have not fallen off the papyrus. These remnants which have been parts of lost letters, can be determined by comparing them with fully preserved letters of the same hand.

Example 1

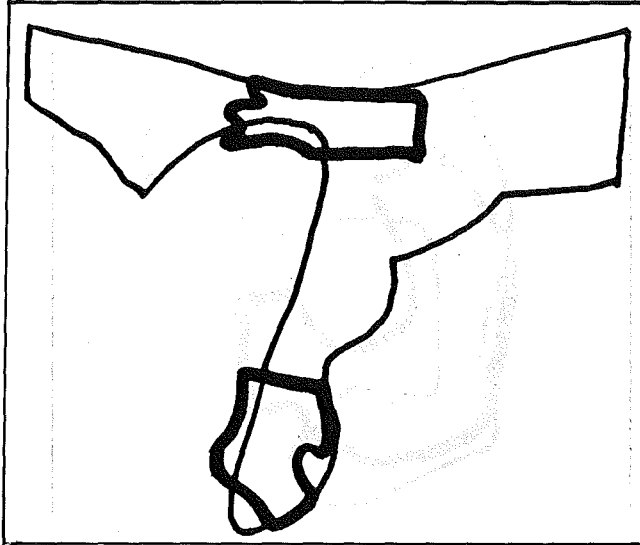
Let us take the following fragment



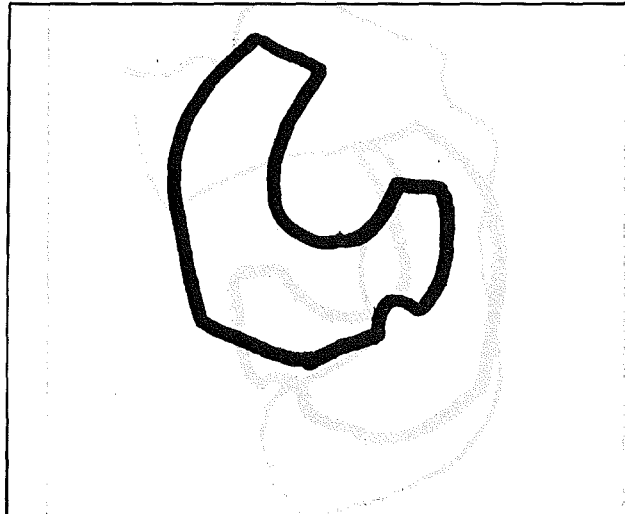
and compare it with a specimen of T (Tau) :



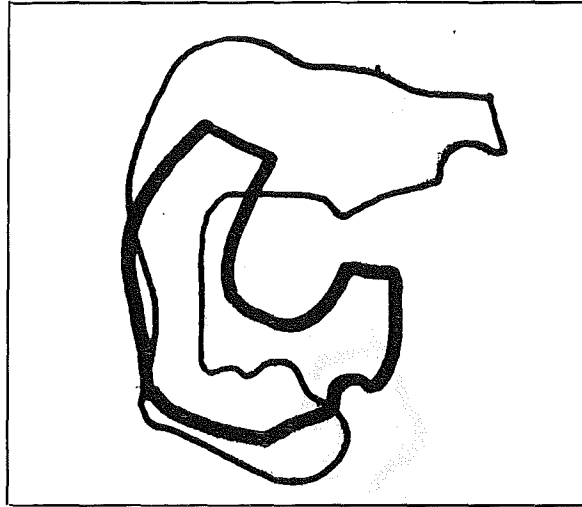
If we are not satisfied, a comparison with another specimen of T may give a better result :



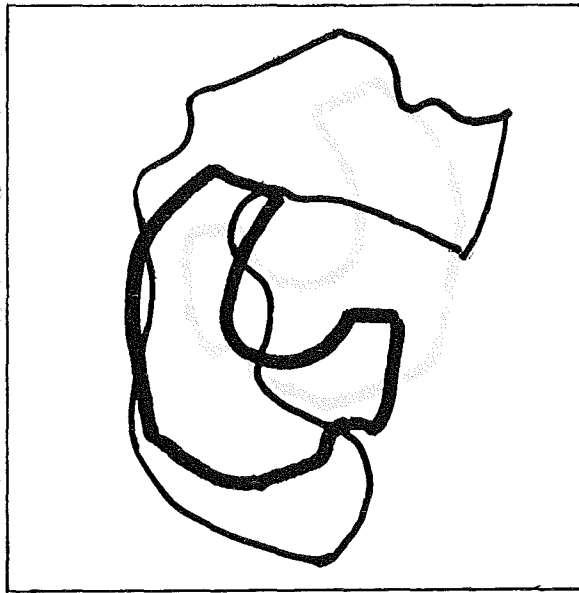
Example 2  
The fragment



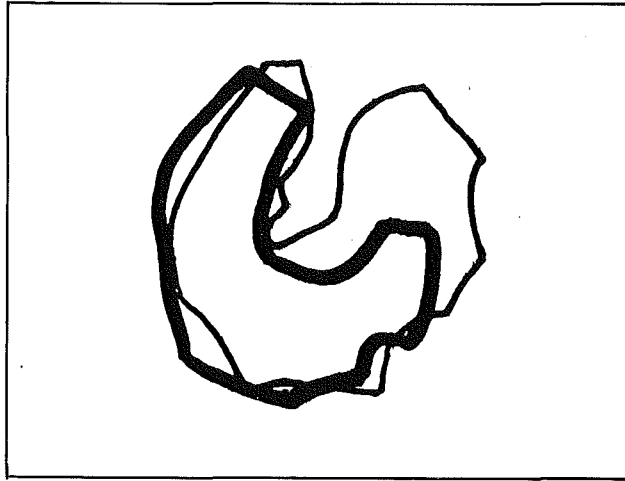
may at the first glance look like a part of a C (Sigma). But that can hardly be correct, as a comparison with an actual specimen of this letter will demonstrate :



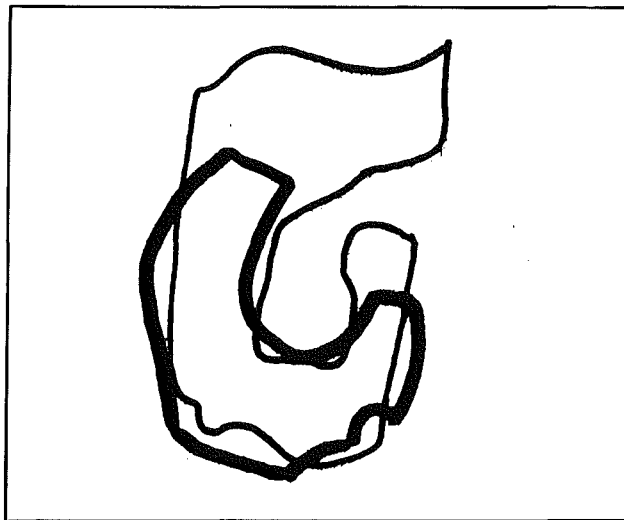
Our impression will be further confirmed by a comparison with another specimen of C :



A comparison with a specimen of O (Omicron) gives somehow a better result :



Another specimen of O seems even more to the point (but perhaps still not good enough) :



The comparisons will be carried out by means of a graphic equipment, presumably on a screen where fragments and letters can be presented simultaneously. A program is in preparation.