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Feb. 11th, 1936

Dear Friedman:

As I understand it, you are not questioning the basic relationship of XX to 18470 - on this point there can be no question - but the way in which this relationship was expressed in the printing of the code-book. I have assumed a two-part code; you prefer the idea of an alphabetical arrangement only, with the tables of one kind or another for enciphering this arrangement.

When I was in Washington for the Mixed Claims Commission (1932?) I showed you an arrangement of this kind that I had worked out. As I put it then, it was an arrangement by which a single printing might be made to serve for both encoding and decoding. You were not impressed - and I myself was not convinced; a possibility was all I called it.

I shall reproduce this arrangement here. It is a bit awkward to use, and I am afraid that its use might invite errors. On the other hand, because of the random rearrangement of the blocks - of - ten in going from XX to 18470 there can be no simpler method.

I do not believe they did it this way. On the other hand the idea may be worth incorporating in my paper in the form of a foot-note.

On the accompanying sheet I am taking a hypothetical page, omitting the vocabulary, and making a random arrangement of the blocks-of-ten.

If such an arrangement was used it was for 18470 only - not for 80574, 1777, etc., etc. These are not co-ordinate in compilation with 18470, because 18470 has, on page 184, the ten groups assigned to "Chiffre Nummer" - a positive sign that the original was of 18470 only. All the brothers and sisters arrived later and were used by means of page tables. Their blocks-of-ten differ from those of 18470 systematically (see my paper on Additional Codes of the 18470 Family), and that is just the difference between their relationship to 18470 and the relationship of 18470 to XX.

It is not impossible, but, in my opinion, all but impossible that a detailed study might show that the different re-arrangements of the blocks-of-ten in going from XX to 18470 are limited in number, and repeated with some system. In that case a table might be devised for these changes in connection with a formula showing that pages will have re-arrangement A, pages re-arrangement B, etc. This study could easily be combined with one to determine the position of the stops and the numerals on the page. I'd be glad to make it, but should, of course, have to have the 18470 code-book; I'd need 17040 too as a check on blank blocks.

It was nice to see you here. I hope that by this time going without tobacco has so improved your state of health that you have again begun to smoke.

Cordially

C. F. M.

In encoding
change penul-
timate figure
to

In encoding
change penul-
timate figure
to

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01
02
03
04
8 05
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07
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55 7
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5 14
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Each page will have its own ar-
rangement.

In addition there must be a page
table for decoding, to convert 18470
to XX. Instead of this table some of
the printed volumes could be arranged
in the order of the XX pages (alph-
abetical), and some in the order of the
18470 pages. This last idea is not
unattractive.

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65 2
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4 24
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75 1
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6 34
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85 3
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9 44
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95 0
96
97
98
99

In decoding, change penultimate 0 1 2 3 4 5 6 7 8 9 (This will, of course, differ for
To 9 7 6 8 2 1 3 5 0 4 .each page.)