

## Transposition Cipher

If you have 44 characters the only matrices that you can obtain use are  $4 \times 11$ ,  $2 \times 22$  and their transposes. On the other hand, when you have 48 characters you can have many more matrices, namely,  $2 \times 24$ ,  $3 \times 16$ ,  $4 \times 12$ ,  $6 \times 8$  and their transposes.

There are 192 characters in this piece of text. Then the matrices that can be made are:

$96 \times 2$ ,  $48 \times 4$ ,  $32 \times 6$  and  $24 \times 8$ .

Let see what happens for the  $96 \times 2$ -town... No, not working. What about  $48 \times 4$ -top... No.  $32 \times 6$ -in... No.  $24 \times 8$ -the... Seems promising-let's try it out:

ttanopns  
 hons t pde  
 epdo aihe  
 r lts mnem  
 ai hy ogre  
 bked mhsd  
 bend e e e t  
 i ad n rlo  
 tt in t sfb  
 hup i t e f e  
 onpy olaa  
 lnet t flv  
 e edh h ble  
 w lsa i e i r  
 e fut n f ny  
 noda k o g d  
 t r d l a r d e  
 s sei b e o e  
 t on c o s u p  
 r m l e u h r w  
 a e y h t e w e  
 i w d a s f h l  
 g a o d t o a l  
 h y w n o u t x

The message we get is:

the rabbit hole went straight on like a tunnel for some way and then dipped suddenly down so suddenly that Alice had not a moment to think about stopping herself before she found herself falling down what seemed to be a very deep well.

This is a quote from 'Alice in the Wonderland' and the final x is just a padding character.