

Solution to Kryptos 2: Challenge 1

The audio files indicate that the prisoners are communicating with each other by “tapping”. There are two distinct tapping sounds which indicate the two prisoners are exchanging some sort of information back and forth. Furthermore, unlike Morse Code, each audio file is made up of pairs of taps which leads one to believe that each pair of taps corresponds to a word or letter. The longest tapping sequence is five, so if one assumes that each tap-pair corresponds to a pair of integers between 1 and 5, then this code could encipher 25 items – most likely letters.

At this point, one could try a frequency analysis to help identify which pairs of integers correspond to which letters. Alternatively, a little research might yield the “tap code” (see e.g. Wikipedia) which has been used by prisoners of war in various conflicts throughout history, most recently Vietnam. It is based on the Polybius square, some of which have slightly different arrangements of the 26 letters placed into 25 cells. Challenge 1 was based on the following key found on Wikipedia:

		Tap code				
	1	2	3	4	5	
1	A	B	C	D	E	
2	F	G	H	I	J	
3	L	M	N	O	P	
4	Q	R	S	T	U	
5	V	W	X	Y	Z	

The tap code table

This has all letters except “K”, so “C” is used instead. The letter “X” is used to separate sentences.

The first audio file begins with the following tap-pairs: (2,4), (4,3), (1,3), (3,4), (5,1), (1,5), (4,2),... which yields the following plaintext: i, s, c, o, v, e, r, ...

By adding in the likely punctuation, the complete conversation can be decoded:

PLAINTEXT

Prisoner 1: Is cover intact?

Prisoner 2: Yes. They only suspect we are SVR. No proof. We’re OK.

Prisoner 1: Do they have Rudin?

Prisoner 2: No. Keep him out of it. We only have to stall two days. Help Coming.