

ACA JARROD

Quagmire II

PREREQUISITES:

- Aristocrats/Patristocrats
- Keyed Alphabet
- Caesar Shift
- Vigenere (Periodic/Keyword)

pt: In the Quag Two a straight plain alphabet is run against a keyed cipher alphabet.

Key: SPRINGFEV(ER)

Indicator key under plaintext alphabet **A** is **FLOWER** (period 6).

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

pt:	<u>1 2 3 4 5 6</u>	CT:	
	i n t h e q		J I C I C O
	u a g t w o		S L Y K I L
	a s t r a i		F V C H E B
	g h t p l a		D X C C O R
	i n a l p h		J I O E W A
	a b e t i s		F M W K K T
	r u n a g a		X B G W H R
	i n s t a k		J I B K E D
	e y e d c i		B J W Z A B
	p h e r a l		U X W H E H
	p h a b e t		U X O X C U

CT:
JICIC OSLYK ILFVC HEBDX CCORJ IOEWA FMWKK TXBGW HRJIB KEDBJ WZABU
XWHEH UXOXC U.

MA2011

E-15. Quagmire II. There it goes again!

XPRQK IESPS FOFHP RCSAU VCTSG XZQSG XTWTF AUVMN XTUDX HKWXX ABUWX
JVPEL HLPWE FDOIK NTXZE XGLOT FEYXH MTSIK BCARE BRXVL QWOMC SFLMG
TNXTB IAEKT PFWBT GHTRA PJKVO OVX. (eventsstrongitscurrent)

- Determine possible periods.
- Determine possible crib placements.
- Build possible tables from placements.
- Analyze, Update, and Eliminate Tables.
- Do partial decrypts with partial keys.
- Review and make changes.

ACA Says:
Quagmire II has a length of
15-18 rows * period.

This cryptogram is 138 characters long.

$$138 / 18 = 7.67$$

$$138 / 15 = 9.20$$

Based on 15-18 lines deep, what are the possible periods?

7.67 - 9.2

or

8 - 9

(Have been rare exceptions.)

Let's try a period of 8 first...

X	P	R	Q	K	I	E	S
P	S	F	O	F	H	P	R
C	S	A	U	V	C	T	S
G	X	Z	Q	S	G	X	T
W	T	F	A	U	V	M	N
X	T	U	D	X	H	K	W
X	X	A	B	U	W	X	J
V	P	E	L	H	L	P	W
E	F	D	O	I	K	N	T
X	Z	E	X	G	L	O	T
F	E	Y	X	H	M	T	S
I	K	B	C	A	R	E	B
R	X	V	L	Q	W	O	M
C	S	F	L	M	G	T	N
X	T	B	I	A	E	K	T
P	F	W	B	T	G	H	T
R	A	P	J	K	V	O	O
V	X						

We need to place our crib:

EVENTSSTRONGITSCURRENT

What column does it start in? 1-8

We need to inspect them all.

We make 8 columns of our crib because we are guessing the period is 8.

We start the crib in the first column and see if it fits anywhere.

Repeating letters in the vertical columns are the key.

E	V	E	N	T	S	S	T
R	O	N	G	I	T	S	C
U	R	R	E	N	T		

***Don't get confused. Horizontal letters that repeat don't help!**

Do we see anyplace in the 8 columns of the cryptogram that have repeating letters in the 6th and 7th column?

X	P	R	Q	K	I	E	S
P	S	F	O	F	H	P	R
C	S	A	U	V	C	T	S
G	X	Z	Q	S	G	X	T
W	T	F	A	U	V	M	N
X	T	U	D	X	H	K	W
X	X	A	B	U	W	X	J
V	P	E	L	H	L	P	W
E	F	D	O	I	K	N	T
X	Z	E	X	G	L	O	T
F	E	Y	X	H	M	T	S
I	K	B	C	A	R	E	B
R	X	V	L	Q	W	O	M
C	S	F	L	M	G	T	N
X	T	B	I	A	E	K	T
P	F	W	B	T	G	H	T
R	A	P	J	K	V	O	O
V	X						

NOPE!

X	P	R	Q	K	I	E	S
P	S	F	O	F	H	P	R
C	S	A	U	V	C	T	S
G	X	Z	Q	S	G	X	T
W	T	F	A	U	V	M	N
X	T	U	D	X	H	K	W
X	X	A	B	U	W	X	J
V	P	E	L	H	L	P	W
E	F	D	O	I	K	N	T
X	Z	E	X	G	L	O	T
F	E	Y	X	H	M	T	S
I	K	B	C	A	R	E	B
R	X	V	L	Q	W	O	M
C	S	F	L	M	G	T	N
X	T	B	I	A	E	K	T
P	F	W	B	T	G	H	T
R	A	P	J	K	V	O	O
V	X						

NOPE!

Let's try starting the crib in the second column and see if it fits anywhere.

	E	V	E	N	T	S	S
T	R	O	N	G	I	T	S
C	U	R	R	E	N	T	

Noticed we left a space in position 1 and shifted everything to the right.

This way the crib starts from the second position.

Again, look for matching vertical pairs of letters.

NOPE!

X	P	R	Q	K	I	E	S
P	S	F	O	F	H	P	R
C	S	A	U	V	C	T	S
G	X	Z	Q	S	G	X	T
W	T	F	A	U	V	M	N
X	T	U	D	X	H	K	W
X	X	A	B	U	W	X	J
V	P	E	L	H	L	P	W
E	F	D	O	I	K	N	T
X	Z	E	X	G	L	O	T
F	E	Y	X	H	M	T	S
I	K	B	C	A	R	E	B
R	X	V	L	Q	W	O	M
C	S	F	L	M	G	T	N
X	T	B	I	A	E	K	T
P	F	W	B	T	G	H	T
R	A	P	J	K	V	O	O
V	X						

NOPE!

Let's try starting the crib in the third column.

		E	V	E	N	T	S
S	T	R	O	N	G	I	T
S	C	U	R	R	E	N	T

X	P	R	Q	K	I	E	S
P	S	F	O	F	H	P	R
C	S	A	U	V	C	T	S
G	X	Z	Q	S	G	X	T
W	T	F	A	U	V	M	N
X	T	U	D	X	H	K	W
X	X	A	B	U	W	X	J
V	P	E	L	H	L	P	W
E	F	D	O	I	K	N	T
X	Z	E	X	G	L	O	T
F	E	Y	X	H	M	T	S
I	K	B	C	A	R	E	B
R	X	V	L	Q	W	O	M
C	S	F	L	M	G	T	N
X	T	B	I	A	E	K	T
P	F	W	B	T	G	H	T
R	A	P	J	K	V	O	O
V	X						

NOPE!

NOPE!

Let's try the fourth column.

			E	V	E	N	T
S	S	T	R	O	N	G	I
T	S	C	U	R	R	E	N
T							

X	P	R	Q	K	I	E	S
P	S	F	O	F	H	P	R
C	S	A	U	V	C	T	S
G	X	Z	Q	S	G	X	T
W	T	F	A	U	V	M	N
X	T	U	D	X	H	K	W
X	X	A	B	U	W	X	J
V	P	E	L	H	L	P	W
E	F	D	O	I	K	N	T
X	Z	E	X	G	L	O	T
F	E	Y	X	H	M	T	S
I	K	B	C	A	R	E	B
R	X	V	L	Q	W	O	M
C	S	F	L	M	G	T	N
X	T	B	I	A	E	K	T
P	F	W	B	T	G	H	T
R	A	P	J	K	V	O	O
V	X						

Eureka!!

Eureka!!

*This is a possible placement
but there could be others.
Let's keep going.

The fifth column.

				E	V	E	N
T	S	S	T	R	O	N	G
I	T	S	C	U	R	R	E
N	T						

NOPE!

X	P	R	Q	K	I	E	S
P	S	F	O	F	H	P	R
C	S	A	U	V	C	T	S
G	X	Z	Q	S	G	X	T
W	T	F	A	U	V	M	N
X	T	U	D	X	H	K	W
X	X	A	B	U	W	X	J
V	P	E	L	H	L	P	W
E	F	D	O	I	K	N	T
X	Z	E	X	G	L	O	T
F	E	Y	X	H	M	T	S
I	K	B	C	A	R	E	B
R	X	V	L	Q	W	O	M
C	S	F	L	M	G	T	N
X	T	B	I	A	E	K	T
P	F	W	B	T	G	H	T
R	A	P	J	K	V	O	O
V	X						

NOPE!

The sixth column.

					E	V	E
N	T	S	S	T	R	O	N
G	I	T	S	C	U	R	R
E	N	T					

NOPE!

X	P	R	Q	K	I	E	S
P	S	F	O	F	H	P	R
C	S	A	U	V	C	T	S
G	X	Z	Q	S	G	X	T
W	T	F	A	U	V	M	N
X	T	U	D	X	H	K	W
X	X	A	B	U	W	X	J
V	P	E	L	H	L	P	W
E	F	D	O	I	K	N	T
X	Z	E	X	G	L	O	T
F	E	Y	X	H	M	T	S
I	K	B	C	A	R	E	B
R	X	V	L	Q	W	O	M
C	S	F	L	M	G	T	N
X	T	B	I	A	E	K	T
P	F	W	B	T	G	H	T
R	A	P	J	K	V	O	O
V	X						

NOPE!

The seventh column.

						E	V
E	N	T	S	S	T	R	O
N	G	I	T	S	C	U	R
R	E	N	T				

NOPE!

X	P	R	Q	K	I	E	S
P	S	F	O	F	H	P	R
C	S	A	U	V	C	T	S
G	X	Z	Q	S	G	X	T
W	T	F	A	U	V	M	N
X	T	U	D	X	H	K	W
X	X	A	B	U	W	X	J
V	P	E	L	H	L	P	W
E	F	D	O	I	K	N	T
X	Z	E	X	G	L	O	T
F	E	Y	X	H	M	T	S
I	K	B	C	A	R	E	B
R	X	V	L	Q	W	O	M
C	S	F	L	M	G	T	N
X	T	B	I	A	E	K	T
P	F	W	B	T	G	H	T
R	A	P	J	K	V	O	O
V	X						

NOPE!

The eighth column.

V	E	N	T	S	S	T	E
O	N	G	I	T	S	R	R
R	R	E	N	T		C	U

NOPE!

X	P	R	Q	K	I	E	S
P	S	F	O	F	H	P	R
C	S	A	U	V	C	T	S
G	X	Z	Q	S	G	X	T
W	T	F	A	U	V	M	N
X	T	U	D	X	H	K	W
X	X	A	B	U	W	X	J
V	P	E	L	H	L	P	W
E	F	D	O	I	K	N	T
X	Z	E	X	G	L	O	T
F	E	Y	X	H	M	T	S
I	K	B	C	A	R	E	B
R	X	V	L	Q	W	O	M
C	S	F	L	M	G	T	N
X	T	B	I	A	E	K	T
P	F	W	B	T	G	H	T
R	A	P	J	K	V	O	O
V	X						

NOPE!

X	P	R	Q	K	I	E	S
P	S	F	O	F	H	P	R
C	S	A	U	V	C	T	S
G	X	Z	Q	S	G	X	T
W	T	F	A	U	V	M	N
X	T	U	D	X	H	K	W
X	X	A	B	U	W	X	J
V	P	E	L	H	L	P	W
E	F	D	O	I	K	N	T
X	Z	E	X	G	L	O	T
F	E	Y	X	H	M	T	S
I	K	B	C	A	R	E	B
R	X	V	L	Q	W	O	M
C	S	F	L	M	G	T	N
X	T	B	I	A	E	K	T
P	F	W	B	T	G	H	T
R	A	P	J	K	V	O	O
V	X						

This is the only position that fits so it MUST be the right placement.

Sometimes there are more than 1 and you have to test each one out.

What if we have a period of 9?

X	P	R	Q	K	I	E	S	P
S	F	O	F	H	P	R	C	S
A	U	V	C	T	S	G	X	Z
Q	S	G	X	T	W	T	F	A
U	V	M	N	X	T	U	D	X
H	K	W	X	X	A	B	U	W
X	J	V	P	E	L	H	L	P
W	E	F	D	O	I	K	N	T
X	Z	E	X	G	L	O	T	F
E	Y	X	H	M	T	S	I	K
B	C	A	R	E	B	R	X	V
L	Q	W	O	M	C	S	F	L
M	G	T	N	X	T	B	I	A
E	K	T	P	F	W	B	T	G
H	T	R	A	P	J	K	V	O
O	V	X						

The first column.

E	V	E	N	T	S	S	T	R
O	N	G	I	T	S	C	U	R
R	E	N	T					

X P R Q K I E S P
S F O F H P R C S
A U V C T S G X Z
Q S G X T W T F A
U V M N X T U D X
H K W X X A B U W
X J V P E L H L P
W E F D O I K N T
X Z E X G L O T F
E Y X H M T S I K
B C A R E B R X V
L Q W O M C S F L
M G T N X T B I A
E K T P F W B T G
H T R A P J K V O
O V X

NOPE!

NOPE!

The second column.

	E	V	E	N	T	S	S	T
R	O	N	G	I	T	S	C	U
R	R	E	N	T				

X P R Q K I E S P
S F O F H P R C S
A U V C T S G X Z
Q S G X T W T F A
U V M N X T U D X
H K W X X A B U W
X J V P E L H L P
W E F D O I K N T
X Z E X G L O T F
E Y X H M T S I K
B C A R E B R X V
L Q W O M C S F L
M G T N X T B I A
E K T P F W B T G
H T R A P J K V O
O V X

NOPE!

NOPE!

The third column.

		E	V	E	N	T	S	S
T	R	O	N	G	I	T	S	C
U	R	R	E	N	T			

X P R Q K I E S P
S F O F H P R C S
A U V C T S G X Z
Q S G X T W T F A
U V M N X T U D X
H K W X X A B U W
X J V P E L H L P
W E F D O I K N T
X Z E X G L O T F
E Y X H M T S I K
B C A R E B R X V
L Q W O M C S F L
M G T N X T B I A
E K T P F W B T G
H T R A P J K V O
O V X

NOPE!

NOPE!

The fourth column.

			E	V	E	N	T	S
S	T	R	O	N	G	I	T	S
C	U	R	R	E	N	T		

X P R Q K I E S P
S F O F H P R C S
A U V C T S G X Z
Q S G X T W T F A
U V M N X T U D X
H K W X X A B U W
X J V P E L H L P
W E F D O I K N T
X Z E X G L O T F
E Y X H M T S I K
B C A R E B R X V
L Q W O M C S F L
M G T N X T B I A
E K T P F W B T G
H T R A P J K V O
O V X

NOPE!

NOPE!

The fifth column.

				E	V	E	N	T
S	S	T	R	O	N	G	I	T
S	C	U	R	R	E	N	T	

X P R Q K I E S P
S F O F H P R C S
A U V C T S G X Z
Q S G X T W T F A
U V M N X T U D X
H K W X X A B U W
X J V P E L H L P
W E F D O I K N T
X Z E X G L O T F
E Y X H M T S I K
B C A R E B R X V
L Q W O M C S F L
M G T N X T B I A
E K T P F W B T G
H T R A P J K V O
O V X

NOPE!

NOPE!

The sixth column.

					E	V	E	N
T	S	S	T	R	O	N	G	I
T	S	C	U	R	R	E	N	T

X P R Q K I E S P
S F O F H P R C S
A U V C T S G X Z
Q S G X T W T F A
U V M N X T U D X
H K W X X A B U W
X J V P E L H L P
W E F D O I K N T
X Z E X G L O T F
E Y X H M T S I K
B C A R E B R X V
L Q W O M C S F L
M G T N X T B I A
E K T P F W B T G
H T R A P J K V O
O V X

NOPE!

NOPE!

The seventh column.

						E	V	E
N	T	S	S	T	R	O	N	G
I	T	S	C	U	R	R	E	N
T								

X P R Q K I E S P
S F O F H P R C S
A U V C T S G X Z
Q S G X T W T F A
U V M N X T U D X
H K W X X A B U W
X J V P E L H L P
W E F D O I K N T
X Z E X G L O T F
E Y X H M T S I K
B C A R E B R X V
L Q W O M C S F L
M G T N X T B I A
E K T P F W B T G
H T R A P J K V O
O V X

NOPE!

NOPE!

The eighth column.

							E	V
E	N	T	S	S	T	R	O	N
G	I	T	S	C	U	R	R	E
N	T							

X P R Q K I E S P
S F O F H P R C S
A U V C T S G X Z
Q S G X T W T F A
U V M N X T U D X
H K W X X A B U W
X J V P E L H L P
W E F D O I K N T
X Z E X G L O T F
E Y X H M T S I K
B C A R E B R X V
L Q W O M C S F L
M G T N X T B I A
E K T P F W B T G
H T R A P J K V O
O V X

NOPE!

NOPE!

The ninth column.

V	E	N	T	S	S	T	R	E
N	G	I	T	S	C	U	R	O
E	N	T						R

X P R Q K I E S P
S F O F H P R C S
A U V C T S G X Z
Q S G X T W T F A
U V M N X T U D X
H K W X X A B U W
X J V P E L H L P
W E F D O I K N T
X Z E X G L O T F
E Y X H M T S I K
B C A R E B R X V
L Q W O M C S F L
M G T N X T B I A
E K T P F W B T G
H T R A P J K V O
O V X

NOPE!

NOPE!

Next, we align our crib with the cipher text.

*Remember, we fit the crib at Period 8 Column 4.

X P R Q K I E S
P S F O F H P R
C S A U V C T S
G X Z Q S G X T
W T F A U V M N
X T U D X H K W
X X A B U W X J
V P E L H L P W
E F D O I K N T
X Z E X G L O T
F E Y X H M T S
I K B C A R E B
R X V L Q W O M
C S F L M G T N
X T B I A E K T
P F W B T G H T
R A P J K V O O
V X

Cipher text lines up here:

S S T R O N G I N
T S C U R R E N
E V E N T

X	P	R	Q	K	I	E	S
P	S	F	O	F	H	P	R
C	S	A	U	V	C	T	S
G	X	Z	Q	S	G	X	T
W	T	F	A	U	V	M	N
X	T	U	D	X	H	K	W
X	X	A	B	U	W	X	J
V	P	E	L	H	L	P	W
E	F	D	O	I	K	N	T
X	Z	E	X	G	L	O	T
F	E	Y	X	H	M	T	S
I	K	B	C	A	R	E	B
R	X	V	L	Q	W	O	M
C	S	F	L	M	G	T	N
X	T	B	I	A	E	K	T
P	F	W	B	T	G	H	T
R	A	P	J	K	V	O	O
V	X						

Cipher text lines up here:

S	S	T	R	O	N	G	I							
T	S	C	U	R	R	E	N							

That gives us:

4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1
E	V	E	N	T	S	S	T	R	O	N	G	I	T	S	C	U	R	R	E	N	T
Q	S	G	X	T	W	T	F	A	U	V	M	N	X	T	U	D	X	H	K	W	X

Make a list of letter pairs for each column.

PT=CT

1	2	3	4	5	6	7	8
S=W	S=T	T=F	E=Q	V=S	E=G	N=X	T=T
T=X		C=U	R=A	O=U	N=V	G=M	I=N
			U=D	R=X	R=H	E=K	N=W

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1

2

3

4

5

6

7

8

1	2	3	4	5	6	7	8
S=W	S=T	T=F	E=Q	V=S	E=G	N=X	T=T
T=X		C=U	R=A	O=U	N=V	G=M	I=N
			U=D	R=X	R=H	E=K	N=W

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1

WX

2

T

3

U

F

4

Q

A

D

5

U

X

S

6

G

V

H

7

K

M

X

8

N

W

T

Each CT alphabet is the same. It's just shifted.
That means if W is the letter before X in the 1st key then it is also the same in all the keys.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1

WX

2

T

3

U

F

4

Q

A

D

5

U

WX

S

6

G

V

H

7

K

M

WX

8

N

W

T

Each CT alphabet is the same. It's just shifted.
That means if W is the letter before X in the 1st key then it is also the same in all the keys.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1

WX

2

T

3

U

F

4

Q

A

D

5

U

WX

S

6

G

V

H

7

K

M

WX

8

N

W

T

And vice versa,
X will always be the letter after W
in all the keys.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1

WX

2

T

3

U

F

4

Q

A

D

5

U

WX

S

6

G

V

H

7

K

M

WX

8

N

WX

T

And vice versa,
X will always be the letter after W
in all the keys.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1						F					K		MN				U		WX						ST	
2	F										K		MN				U		WX						ST	
3		U																		ST		F			K	MN
4				Q																		A		D		
5						F					K		MN			U						WX			ST	
6				G											V							H				
7	F										K		MN			U									ST	
8		F														U									ST	

Let's use this logic with all the keys.
 We will do multiple passes until
 no more letters can be added.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1					F			K	L	MN			U	V	WX			S	T					
2	F							K		MN			U		WX			S	T					
3		U																F		K		MN		
4																			A			D		
5						F				K		MN			U				WX			S	T	
6																								
7	F									K		MN			U					WX			S	T
8		F																						

Let's Try to make some educated guesses about the missing letters.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 F K L M N U V W X S T

2 F K L M N U V W X S T

3 U V W X S T F K L M N

4 Q A D

5 F K L M N U V W X S T

6 G V H

7 F K L M N U V W X S T

8 F K L M N U V W X S T

Updating the other keys.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1					F				K L M N					U V W X					S T
2	F				K L M N				U V W X					S T					
3			U V W X					S T						F			K L M N		
4			Q											A		D			
5				F			K L M N			U V W X						S T			
6			G							V				H					
7	F				K L M N				U V W X					S T					
8		F			K L M N				U V W X					S T					

Now that we have V,
we can merge key 6 into the other keys.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 F G K L M N U V W X H S T

2 F G K L M N U V W X H S T

3 U V W X H S T F G K L M N

4 Q A D

5 F G K L M N U V W X H S T

6 F G K L M N U V W X H S T

7 F G K L M N U V W X H S T

8 F G K L M N U V W X H S T

Now that we have V,
we can merge key 6 into the other keys.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 F G K L M N U V W X H S T

2 F G K L M N U V W X H S T

3 U V W X H S T F G K L M N

4 Q A D

5 F G K L M N U V W X H S T

6 F G K L M N U V W X H S T

7 F G K L M N U V W X H S T

8 F G K L M N U V W X H S T

What now?

I don't have any more guesses for the gaps.

I don't see any vertical key words appearing.

We have a lot of new letters now.

Let's try to update the decrypt.

X P R Q K I E S
P S F O F H P R
C S A U V C T S
G X Z Q S G X T
W T F A U V M N
X T U D X H K W
X X A B U W X J
V P E L H L P W
E F D O I K N T
X Z E X G L O T
F E Y X H M T S
I K B C A R E B
R X V L Q W O M
C S F L M G T N
X T B I A E K T
P F W B T G H T
R A P J K V O O
V X

T _ R _ T _ E I _ S
_ R _ T _ F _ R _ S
_ R _ T _ P _ S _ S
S S T C U R O N G I N
T N _ _ T O O N _ N
R _ _ _ T H _ N _ T
_ H _ _ _ G H _ T S
_ _ E _ _ T _ I _ S
_ _ N D _ _ O _ S _ H
_ T _ S _ _ K _ E _ S _ I
_ _ E _ _ W _ E _ P _ T
_ _ _ _ I _ N _ _

X P R Q K I E S
P S F O F H P R
C S A U V C T S
G X Z Q S G X T
W T F A U V M N
X T U D X H K W
X X A B U W X J
V P E L H L P W
E F D O I K N T
X Z E X G L O T
F E Y X H M T S
I K B C A R E B
R X V L Q W O M
C S F L M G T N
X T B I A E K T
P F W B T G H T
R A P J K V O O
V X

T _ R _ E I _ S
_ R _ T _ F _ R _ S
_ R _ T _ P _ A _ S _ S
_ N _ G _ E _ V _ E _ N _ T
_ S _ S _ T _ R _ O _ R _ N _ I
_ T _ N _ _ _ _ _ _ _ _
_ B _ _ _ _ _ _ _ _ _
_ _ _ _ _ _ _ _ _ _ _
_ _ _ _ _ _ _ _ _ _ _
_ E _ D _ _ _ _ _ _ _ _
_ R _ S _ T _ _ _ _ _ _ _
_ B _ E _ S _ W _ E _ P _ T
_ N _ _ _ _ _ _ _ _ _ _

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 F G K L M N U V W X H S T

2 F G K L M N U V W X H S T

3 U V W X Z H S T F G K L M N

4 Q A B D

5 F G K L M N U V W X H S T

6 C F G K L M N U V W X H S T

7 F G K L M N U V W X H S T

8 F G K L M N U V W X H S T

Let's update our other keys

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 C F G K L M N U V W X Z H S T

2 F G K L M N U V W X Z H S T C

3 U V W X Z H S T C F G K L M N

4 Q A B D

5 C F G K L M N U V W X Z H S T

6 C F G K L M N U V W X Z H S T

7 F G K L M N U V W X Z H S T C

8 F G K L M N U V W X Z H S T C

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 C F G K L M N U V W X Z H S T

2 F G K L M N U V W X Z H S T C

3 U V W X Z H S T C F G K L M N

4 Q A B D

5 C F G K L M N U V W X Z H S T

6 C F G K L M N U V W X Z H S T

7 F G K L M N U V W X Z H S T C

8 F G K L M N U V W X Z H S T C

Let's update our decrypt and see if this helps.

X P R Q K I E S
P S F O F H P R
C S A U V C T S
G X Z Q S G X T
W T F A U V M N
X T U D X H K W
X X A B U W X J
V P E L H L P W
E F D O I K N T
X Z E X G L O T
F E Y X H M T S
I K B C A R E B
R X V L Q W O M
C S F L M G T N
X T B I A E K T
P F W B T G H T
R A P J K V O O
V X

T T E I R S
E I T E F R S
I S N S G E V A S S
S T S S C U R O R E N
T R B I T S H N
T H I I I G H S T
I E N D I I I O I H
E T S B E S W E S E T
R N I S I I N P I

X P R Q K I E S
P S F O F H P R
C S A U V C T S
G X Z Q S G X T
W T F A U V M N
X T U D X H K W
X X A B U W X J
V P E L H L P W
E F D O I K N T
X Z E X G L O T
F E Y X H M T S
I K B C A R E B
R X V L Q W O M
C S F L M G T N
X T B I A E K T
P F W B T G H T
R A P J K V O O
V X

T E I S T T R T H E T R
R R N S S N B I E N R S B N
T I S T C U S O T H I D T E S W I
E R A N G E N N T T S K E S E P
I F R S I T V E N G E N N T T S
E I R S I P A S I S T I N
R O U S O T H I S I H I T T S
A S W E N P T

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 C F G K L M N U V W X Z H S T

2 F G K L M N U V W X Z H S T C

3 U V W X Z H S T C D F G K L M N

4 L Q O A B D

5 C F G K L M N U V W X Z H I S T

6 C F G K L M N U V W X Z H S T

7 F G K L M N U V W X Z H S T C

8 F G K L M N U V W X Z H S T C

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 A B C D F G K L M N Q U V W X Z H I S T O

2 F G K L M N Q U V W X Z H I S T O A B C D

3 Q U V W X Z H I S T O A B C D F G K L M N

4 L M N Q U V W X Z H I S T O A B C D F G K

5 A B C D F G K L M N Q U V W X Z H I S T O

6 C D F G K L M N Q U V W X Z H I S T O A B

7 F G K L M N Q U V W X Z H I S T O A B C D

8 D F G K L M N Q U V W X Z H I S T O A B C

Quite a lot of new letters.

Mostly because we we able to integrate key 4.

Let's check our puzzle now.

X P R Q K I E S
P S F O F H P R
C S A U V C T S
G X Z Q S G X T
W T F A U V M N
X T U D X H K W
X X A B U W X J
V P E L H L P W
E F D O I K N T
X Z E X G L O T
F E Y X H M T S
I K B C A R E B
R X V L Q W O M
C S F L M G T N
X T B I A E K T
P F W B T G H T
R A P J K V O O
V X

What
else
can
we
find?

T _ _ E I S _ S
_ R _ T O F R _ S
_ E R _ T O F P A S _ S
I N G E V E N T
S S T R O N G I
T S C U R R E N
T N O S O O N _
R _ B _ R O U G H _ N
_ T _ _ I G H T T
H _ _ I T I S S
W _ E _ P T A _ _ Y
_ N D A N O _ T H
_ E R T A K E S I
T S P L A _ E T
_ B E S W _ E P T
_ R _ _ _ I N T U

X P R Q K I E S
P S F O F H P R
C S A U V C T S
G X Z Q S G X T
W T F A U V M N
X T U D X H K W
X X A B U W X J
V P E L H L P W
E F D O I K N T
X Z E X G L O T
F E Y X H M T S
I K B C A R E B
R X V L Q W O M
C S F L M G T N
X T B I A E K T
P F W B T G H T
R A P J K V O O
V X

What
else
can
we
find?

T _ _ E I S _ S
_ R _ T O F R _ S
_ R _ T O F P A S _ S
I N G E V E N T
S S T R O N G I
T S C U R R E N
T N O S O O N E
R _ B _ R O U G H N
_ _ _ I G H T T
H _ _ I T I S S
W _ E _ P T A _ Y
A N D A N _ H
E R T A K E S I
T S P L A C E T
_ B E S W E P T
_ W _ _ I N T U

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 R A B C D F G K L M N Q U V W X Z H I S T O

2 F G K L M N Q U V W X Z H I S T O A B C D

3 Q U V W X Z H I S T O A B C D F G K L M N

4 L M N Q U V W X Z H I S T O A B C D F G K

5 A B C D F G K L M N Q U V W X Z H I S T O

6 C D E F G K L M N Q U V W X Z H I S T O A B

7 F G K L M N Q U V W X Z H I S T O A B C D

8 D F G J K L M N Q U V W X Z H I S T O A B C

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 R A B C D E F G J K L M N Q U V W X Z H I S T O

2 E F G J K L M N Q U V W X Z H I S T O R A B C D

3 Q U V W X Z H I S T O R A B C D E F G J K L M N

4 L M N Q U V W X Z H I S T O R A B C D E F G J K

5 A B C D E F G J K L M N Q U V W X Z H I S T O R

6 C D E F G J K L M N Q U V W X Z H I S T O R A B

7 E F G J K L M N Q U V W X Z H I S T O R A B C D

8 D E F G J K L M N Q U V W X Z H I S T O R A B C

X P R Q K I E S
P S F O F H P R
C S A U V C T S
G X Z Q S G X T
W T F A U V M N
X T U D X H K W
X X A B U W X J
V P E L H L P W
E F D O I K N T
X Z E X G L O T
F E Y X H M T S
I K B C A R E B
R X V L Q W O M
C S F L M G T N
X T B I A E K T
P F W B T G H T
R A P J K V O O
V X

T _ M E I S A S
_ R T O F R _ V
_ E R O F P A _ S
I N G E V E N T
S S T R O N G I
T S C U R R E N
T N O S O O N E
R _ S A T H _ N
G B R O U G H T
T _ S I G H T T
H A _ I T I S S
W E P T A W A Y
A N D A N O T H
E R T A K E S I
T S P L A C E T
_ B E S W E P T
A W _ Y I N T U
R N

X P R Q K I E S
P S F O F H P R
C S A U V C T S
G X Z Q S G X T
W T F A U V M N
X T U D X H K W
X X A B U W X J
V P E L H L P W
E F D O I K N T
X Z E X G L O T
F E Y X H M T S
I K B C A R E B
R X V L Q W O M
C S F L M G T N
X T B I A E K T
P F W B T G H T
R A P J K V O O
V X

T _ M E I S A S
_ R T O F R _ V
_ E R O F P A _ S
I N G E V E N T
S S T R O N G I
T S C U R R E N
T N O S O O N E
R _ S A T H _ N
G B R O U G H T
T _ S I G H T T
H A _ I T I S S
W E P T A W A Y
A N D A N O T H
E R T A K E S I
T S P L A C E T
_ B E S W E P T
A W _ Y I N T U
R N

X P R Q K I E S
P S F O F H P R
C S A U V C T S
G X Z Q S G X T
W T F A U V M N
X T U D X H K W
X X A B U W X J
V P E L H L P W
E F D O I K N T
X Z E X G L O T
F E Y X H M T S
I K B C A R E B
R X V L Q W O M
C S F L M G T N
X T B I A E K T
P F W B T G H T
R A P J K V O O
V X

T I M E I S A S
O R T O F R I V
E R O F P A S S
I N G E V E N T
S S T R O N G I
T S C U R R E N
T N O S O O N E
R I S A T H I N
G B R O U G H T
T O S I G H T T
H A N I T I S S
W E P T A W A Y
A N D A N O T H
E R T A K E S I
T S P L A C E T
O B E S W E P T
A W A Y I N T U
R N

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 R Y A B C D E F G J K L M N P Q U V W X Z H I S T O

2 E F G J K L M N P Q U V W X Z H I S T O R Y A B C D

3 P Q U V W X Z H I S T O R Y A B C D E F G J K L M N

4 L M N P Q U V W X Z H I S T O R Y A B C D E F G J K

5 A B C D E F G J K L M N P Q U V W X Z H I S T O R Y

6 C D E F G J K L M N P Q U V W X Z H I S T O R Y A B

7 E F G J K L M N P Q U V W X Z H I S T O R Y A B C D

8 D E F G J K L M N P Q U V W X Z H I S T O R Y A B C

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 R Y A B C D E F G J K L M N P Q U V W X Z H I S T O

2 E F G J K L M N P Q U V W X Z H I S T O R Y A B C D

3 P Q U V W X Z H I S T O R Y A B C D E F G J K L M N

4 L M N P Q U V W X Z H I S T O R Y A B C D E F G J K

5 A B C D E F G J K L M N P Q U V W X Z H I S T O R Y

6 C D E F G J K L M N P Q U V W X Z H I S T O R Y A B

7 E F G J K L M N P Q U V W X Z H I S T O R Y A B C D

8 D E F G J K L M N P Q U V W X Z H I S T O R Y A B C

Keyed Alphabet = STORYABCDEFGHIJKL MN PQ UV WX Z HI

Indicator Letter = A

Keyword = REPLACED

That concludes my talk.

Try your hand at this one:

ND2011 Quagmire II. A fine line. (them separately a step above) OZ
TSDVG OKSUG EWOFC PKJFH BXOQR MSLIE KCHKR EGTLP VYFQJ ATKSR
DSUQT UXIOI YMEMI VVZUO KSTIU EVXZT XBLXY ZYDTR ILUBN HMRRMG
QLPZW FAJDV UKGXO DBBQL NPINF AGUJN CDHSP ICXXD KOPCA UJNDZ
NBJXI HHVDQ.

TSDVG	OKSUG	EWOFC	PKJFH	BXOQR	MSLIE	KCHKR	EGTLP	VYFQJ	ATKSR
DSUQT	UXIOI	YMEMI	VVZUO	KSTIU	EVXZT	XBLXY	ZYDTR	ILUBN	HMRMG
QLPZW	FAJDV	UKGXO	DBBQL	NPINF	AGUJN	CDHSP	ICXXD	KOPCA	UJNDZ
NBJXI	HHVDQ								

THEM SEPARATELY A STEP ABOVE

TSDVG	OKSUG	EWOFC	PKJFH	BXOQR	MSLIE	KCHKR	EGTLP	VYFQJ	ATKSR
DSUQT	UXIOI	YMEMI	VVZUO	KSTIU	EVXZT	XBLXY	ZYDTR	ILUBN	HMRMG
QLPZW	FAJDV	UKGXO	DBBQL	NPINF	AGUJN	CDHSP	ICXXD	KOPCA	UJNDZ
NBJXI	HHVDQ								

THEM SEPARATELY A STEP ABOVE

Cipher Text LENGTH of 160 characters.

SPOILER ALERT!!!

The following pages contain details about the puzzle.

TSDVG	OKSUG	EWOFC	PKJFH	BXOQR	MSLIE	KCHKR	EGTLP	VYFQJ	ATKSR
DSUQT	UXIOI	YMEMI	VVZUO	KSTIU	EVXZT	XBLXY	ZYDTR	ILUBN	HMRMG
QLPZW	FAJDV	UKGXO	DBBQL	NPINF	AGUJN	CDHSP	ICXXD	KOPCA	UJNDZ
NBJXI	HHVDQ								

THEM SEPARATELY A STEP ABOVE

Cipher Text LENGTH of 160 characters.

PERIOD of 9 - 10.

POSSIBLE PLACEMENTS:

Period 9

T	S	D	V	G	O	K	S	U
G	E	W	O	F	C	P	K	J
F	H	B	X	O	Q	R	M	S
L	I	E	K	C	H	K	R	E
G	T	L	P	V	Y	F	Q	J
A	T	K	S	R	D	S	U	Q
T	U	X	I	O	I	Y	M	E
M	I	V	V	Z	U	O	K	S
T	I	U	E	V	X	Z	T	X
B	L	X	Y	Z	Y	D	T	R
I	L	U	B	N	H	M	R	M
G	Q	L	P	Z	W	F	A	J
D	V	U	K	G	X	O	D	B
B	Q	L	N	P	I	N	F	A
G	U	J	N	C	D	H	S	P
I	C	X	X	D	K	O	P	C
A	U	J	N	D	Z	N	B	J
X	I	H	H	V	D	Q		

T	S	D	V	G	O	K	S	U
G	E	W	O	F	C	P	K	J
F	H	B	X	O	Q	R	M	S
L	I	E	K	C	H	K	R	E
G	T	L	P	V	Y	F	Q	J
A	T	K	S	R	D	S	U	Q
T	U	X	I	O	I	Y	M	E
M	I	V	V	Z	U	O	K	S
T	I	U	E	V	X	Z	T	X
B	L	X	Y	Z	Y	D	T	R
I	L	U	B	N	H	M	R	M
G	Q	L	P	Z	W	F	A	J
D	V	U	K	G	X	O	D	B
B	Q	L	N	P	I	N	F	A
G	U	J	N	C	D	H	S	P
I	C	X	X	D	K	O	P	C
A	U	J	N	D	Z	N	B	J
X	I	H	H	V	D	Q		

POSSIBLE PLACEMENTS:

Period 9

T	S	D	V	G	O	K	S	U
G	E	W	O	F	C	P	K	J
F	H	B	X	O	Q	R	M	S
L	I	E	K	C	H	K	R	E
G	T	L	P	V	Y	F	Q	J
A	T	K	S	R	D	S	U	Q
T	U	X	I	O	I	Y	M	E
M	I	V	V	Z	U	O	K	S
T	I	U	E	V	X	Z	T	X
B	L	X	Y	Z	Y	D	T	R
I	L	U	B	N	H	M	R	M
G	Q	L	P	Z	W	F	A	J
D	V	U	K	G	X	O	D	B
B	Q	L	N	P	I	N	F	A
G	U	J	N	C	D	H	S	P
I	C	X	X	D	K	O	P	C
A	U	J	N	D	Z	N	B	J
X	I	H	H	V	D	Q		

This second placement
has conflict with pairs
such as:

1 Q=U T=L & 2 B=Q E=F
So it cannot be correct.

Also, Period 10 has no
valid placements. So it
cannot be correct.

1 H=M T=T A=B

2 E=I B=L

3 M=V L=U O=X

4 S=V Y=E V=Y

5 E=Z A=V

6 P=U S=X

7 A=O T=Z

8 R=K E=T

9 T=E A=S P=X

SPOILER ALERT!!!

The next page contains the solution.

ABCDEFGHIJKLMNOPQRSTUVWXYZ
BCDFGJKLMQUVWXYZRELATIONSHIP
ELATIONSHIPBCDFGJKLMQUVWXYZR
HPBCDFGJKLMQUVWXYZRELATIONS
ATIONSHIPBCDFGJKLMQUVWXYZREL
VWXYZRELATIONSHIPBCDFGJKLMQU
IONSHIPBCDFGJKLMQUVWXYZRELAT
ONSHIPBCDFGJKLMQUVWXYZRELATI
RELATIONSHIPBCDFGJKLMQUVWXYZ
SHIPBCDFGJKLMQUVWXYZRELATION

THE SUBLIME AND THE RIDICULOUS ARE SO RELATED THAT IT
IS DIFFICULT TO CLASS THEM SEPARATELY A STEP ABOVE THE
SUBLIME MAKES THE RIDICULOUS AND A STEP ABOVE THE
RIDICULOUS MAKES THE SUBLIME AGAIN