

Charles Babbage: Codebreaker

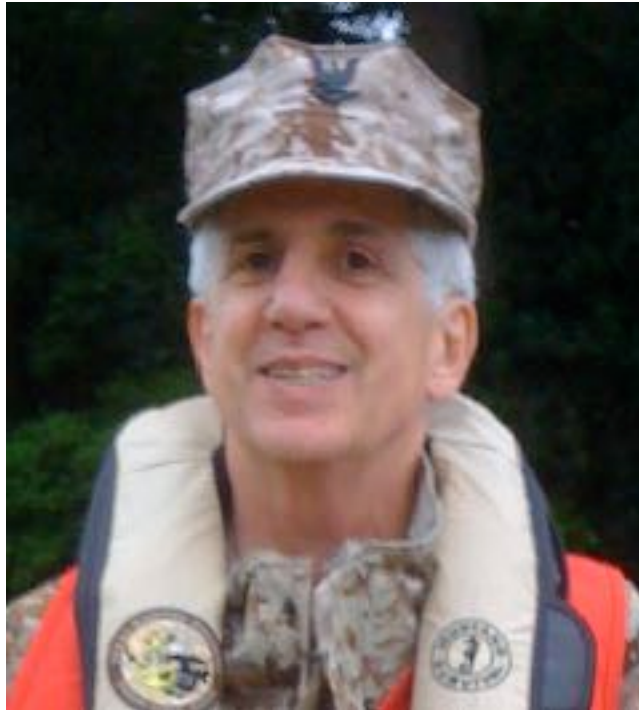
Michael E. Marotta
January 23, 2018



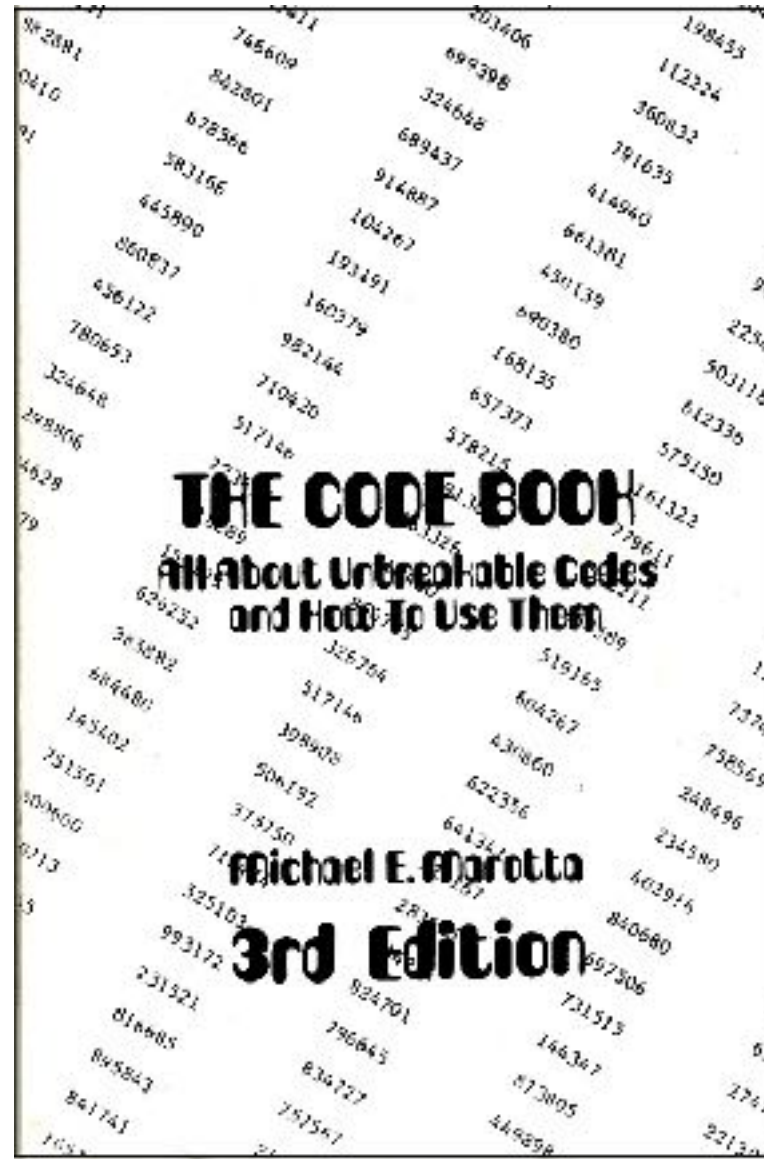
OWASP

The Open Web Application Security Project

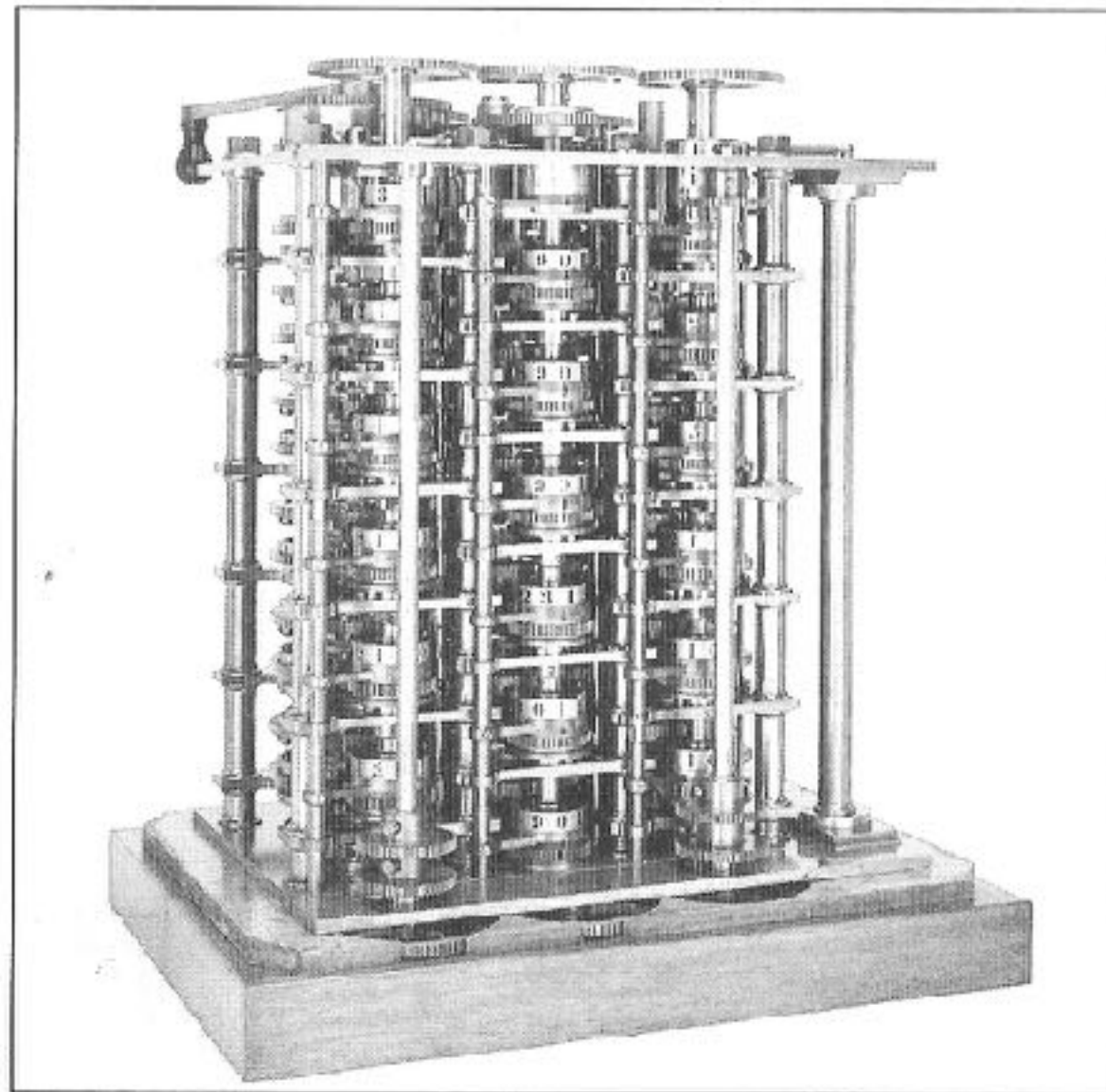
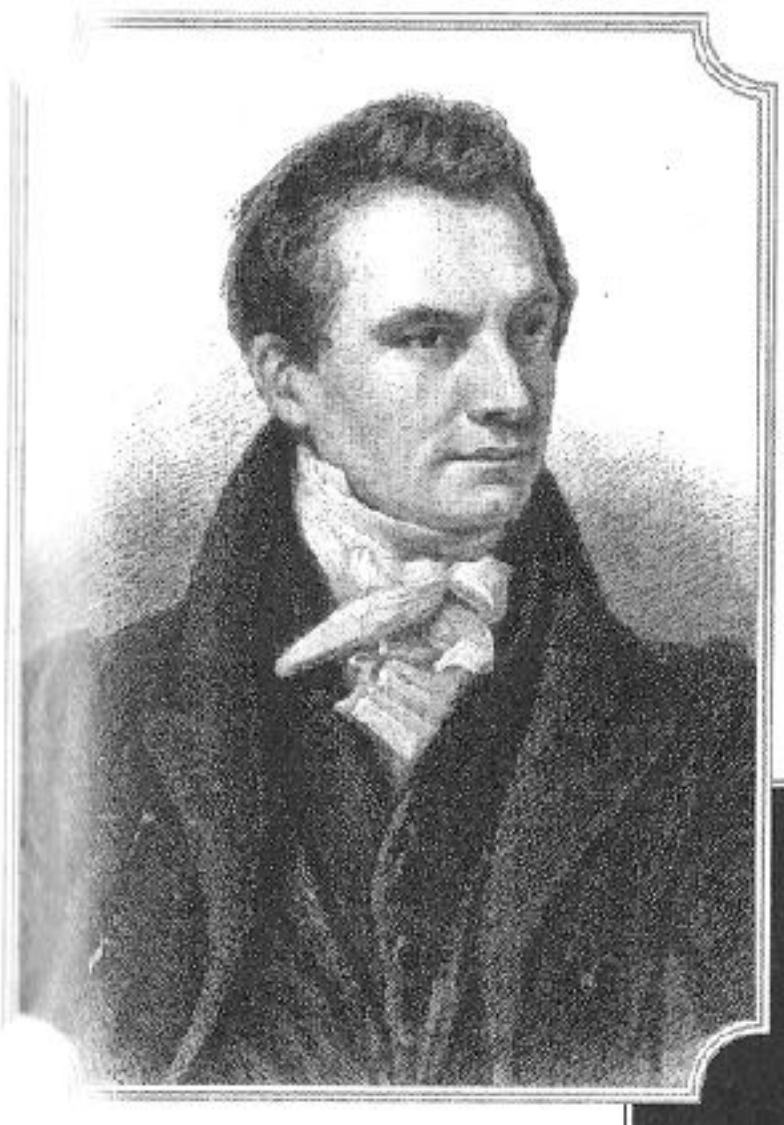
About Me



April 23, 2015



Z
104
M3
1987



Edgar Allen Poe

“The Gold-Bug”

1843

I LOVE YOU. MARRY ME.

7376798669898579. 77658282897769.

J MNWF ZPV. NBSSZ NF.

IOEOMRYE LUYUARM.

POLYALPHABETIC CIPHERS

**Gian Battista Belaso –
1553**

Blaise de Vigenere – 1585

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

I LOVE YOU. MARRY ME

	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	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
2	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M
3	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
4	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
5	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D
6	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C
7	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H
8	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B
9	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
10	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
11	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	A
12	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K
13	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X

	I	L	O	V	E	Y	O	U	M	A	R	R	Y	M	E	
	C	Y	D	M	I	B	W	W	F	A	S	C	W	G	R	

T	H	E	M	A	N	S	E	E	S	T	H	E
N	U	T					G	Y		U	T	C
E	N	D	O	F	T	H	E	L	I	N	E	
Y					W	P	G				J	

le chiffre indéchiffrable



“If you have to use brute force, you are not thinking.”

Laziness

Periodicity

ISOGRAMS

17 letters	12 letters	12 letters	11 letters	11 letters	10 letters
subdermatoglyphic	incomputable	adsorptively	abolishment	regulations	aftershock
16 letters	incomputably	ambidextrous	abridgement	republicans	artichokes
uncopyrightables	kymographies	amblygonites	atmospheric	secondarily	authorizes
15 letters	lexicography	amylopectins	backgrounds	spaceflight	background
dermatoglyphics	Lubavitchers	bankruptcies	birthplaces	speculation	bankruptcy
hydropneumatics	lycanthropes	blastodermic	campgrounds	stenography	binoculars
misconjugatedly	malnourished	bluestocking	complainers	subcategory	blackhorse
uncopyrightable	mendaciously	cabinetworks	copyrighted	Switzerland	blacksmith
14 letters	metalworking	centrifugals	countryside	thunderclap	boyfriends
ambidextrously	multipronged	computerniks	dangerously	trampolines	campground
computerizably	nightwalkers	configured	designatory	undesirably	clothespin
croquet-playing	outpreaching	considerably	disgraceful	unpolarized	complaints
dermatoglyphic	outsparkling	counterplays	disturbance	vibraphones	conjugated
hydromagnetics	outspreading	countervails	documentary	vouchsafing	despicably
hydropneumatic	overhaulings	customizable	earthmoving	warehousing	destroying
pseudomythical	overmatching	demographics	embracingly	workmanship	downstream
subformatively	packinghouse	demonstrably	facetiously	xylographic	dumbwaiter
troublemakings	pelargoniums	discountable	filmography		duplicates
undiscoverably	phagocytized	discrepantly	fluoridates		farsighted
13 letters	phagocytizes	disreputably	foremanship		formidable
consumptively	phytoalexins	doublethinks	geophysical		godparents
copyrightable	polycentrism	drumbeatings	imprudently		graciously

UNPREDICTABLY

I LOVE YOU. MARRY ME.

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

CONPLAN 3501-08, DEFENSE SUPPORT OF CIVIL AUTHORITIES [DSCA)
PLAN SUMMARY

I. Purpose. Natural or man-made disasters and special events can be so demanding that local, tribal, state and non-military federal responders are temporarily overwhelmed by the situation. The Department of Defense (DOD) has a long history of supporting civil authorities in the wake of catastrophic events. When directed by the President or the Secretary of Defense (SecDef), United States Northern Command (USNORTHCOM) will respond quickly and effectively to the requests of civil authorities to save lives, prevent human suffering, and mitigate great property damage. The Joint Strategic Capabilities Plan 2008 (JSCP) directs CDRUSNORTHCOM to prepare a plan to support the employment of Title 10 DOD forces providing Defense Support of Civil Authorities (DSCA) in accordance with (IAW) the National Response Framework (NRF), applicable federal law, DOD Directives (DODD), and other policy guidance including those hazards defined by the National Planning Scenarios that are not addressed by other JSCP tasked plans. DSCA is a subset of DOD civil support that is performed within the parameters of the NRF.

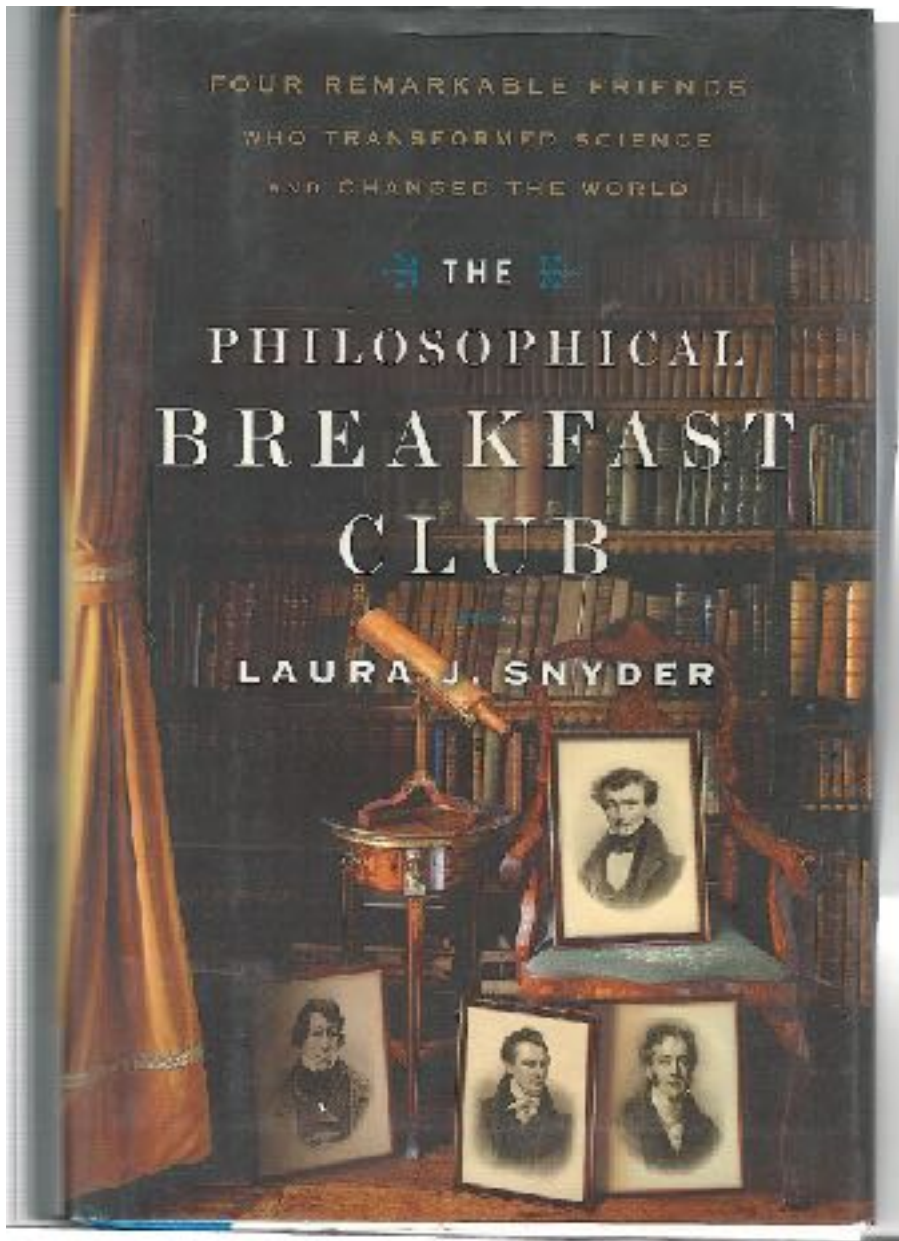
a. Politico-Military Situation

(1) USNORTHCOM was established in response to the September 11, 2001 terrorist attacks against the United States. USNORTHCOM's dual L- mission is to conduct Homeland Defense (HD) and civil support operations.

$$a = \frac{A_1 R_1 - A_1 R_2 - A_2 R_1 + A_2 T_2 - A_0 R_2 + A_0 R_3 - A_1 R_2 - A_1 R_3}{A_1^2 - 2A_1 A_2 + A_2^2 - A_0 A_2 + A_0 A_3 + A_1 A_2 - A_1 A_3}$$

**“It may have been as efficacious
as it is formidable,
but neither an index to its symbolism,
nor any clue to its purpose exist.”**

– David Kahn, *The Codebreakers*, Chapter 6, “The Contributions of the Dilettantes,” pg. 207.



The Philosophical Breakfast Club by Laura J. Snyder

President 2009-2010
International Society
for the History of Philosophy of Science

B.A. Brandeis University
M.A. and Ph.D., The Johns Hopkins University.
Life Member of Clare Hall College, Cambridge.

Professor of Philosophy
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Thank you

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