THIS MACHINE KILLS SECRETS
How Wikileaks, Cypherpunks, and Hacktivists Aim to Free the World's Information

ANDY GREENBERG
## CONTENTS

**CHARACTERS** xi  
**PROLOGUE**  THE MEGALEAK 1  

**PART ONE**  LEAKER PRESENT, LEAKER PAST 9  
**CHAPTER 1**  THE WHISTLEBLOWERS 11  

**PART TWO**  THE EVOLUTION OF LEAKING 47  
**CHAPTER 2**  THE CRYPTOGRAPHERS 49  
**CHAPTER 3**  THE CYBERPUNKS 94  
**CHAPTER 4**  THE ONION ROUTERS 135  

**PART THREE**  THE FUTURE OF LEAKING 169  
**CHAPTER 5**  THE PLUMBERS 171  
**CHAPTER 6**  THE GLOBALIZERS 226  
**CHAPTER 7**  THE ENGINEERS 272  
**CONCLUSION**  THE MACHINE 315  

**SOURCES** 325  
**ACKNOWLEDGMENTS** 357  
**THE PUZZLE CONTAINED IN THIS BOOK** 359  
**INDEX** 361
CHARACTERS

(IN ORDER OF APPEARANCE)

JULIAN ASSANGE
Founder of WikiLeaks, former hacker, cypherpunk, and activist who demonstrated the power of digital, anonymous leaking by publishing record-breaking collections of secret corporate and government material.

DANIEL ELLSBERG
Military analyst who from 1969 to 1971 exfiltrated and leaked the top secret Pentagon Papers to The New York Times and seventeen other newspapers.

BRADLEY MANNING
Army private who, at the age of twenty-two, allegedly leaked a trove of secret military and State Department documents to WikiLeaks that would become the largest-ever public disclosure of classified materials.

ADRIAN LAMO
A former hacker and homeless wanderer to whom Manning confessed his leak. Lamo turned Manning in to army investigators.

TIM MAY
Intel physicist, libertarian, and crypto-anarchist thinker who would cofound the cypherpunks in 1991 and create a thought-experiment prototype for cryptographically anonymous leaks called BlackNet.

PHIL ZIMMERMANN
Applied cryptographer whose Pretty Good Privacy program (PGP) brought free, strong encryption to the masses. His investigation by the U.S. Justice Department from 1993 to 1996 ignited a debate over users’ right to uncrackable encryption.

DAVID CHAUM
Inventor and academic whose anonymity systems, including DC-Nets and Mix Networks, would inspire the cypherpunks and lead to tools like anonymous remailers and Tor.

ERIC HUGHES
Mathematician, cryptographer, and cofounder of the cypherpunks who ran one of the Internet’s first anonymous remailers.

JOHN GILMORE
Former Sun Microsystems programmer who would cofound the cypherpunks as well as the Electronic Frontier Foundation.

JOHN YOUNG
Architect, activist, and cypherpunk who founded Cryptome.org in 1996, a leak-focused site that has published thousands of names of intelligence agents and their sources, along with hundreds of secret encryption- and security-related documents.

JULF HELSINGIUS
Finnish systems administrator and privacy advocate, Helsingius created the Penet anonymous reamer and faced legal pressure from the
Church of Scientology that demanded he turn over the identity of one of his users.

**JIM BELL**
Engineer and libertarian whose 1997 essay “Assassination Politics” described a system of using encryption to facilitate anonymous, untraceable, and crowd-funded contract killings.

**JACOB APPELBAUM**
Activist, hacker, and developer for the Tor anonymity network who befriended Julian Assange and became the WikiLeaks’ primary American associate.

**PAUL SYVERSON**
Logician and cryptographer in the Naval Research Laboratory who is credited with inventing the anonymous communications protocol known as “onion routing.”

**NICK MATHEWSON AND ROGER DINGLEDINE**
Two MIT researchers who worked with Syverson to develop onion routing into a usable tool and then a nonprofit known as the Tor Project.

**PEITER “MUDGE” ZATKO**
Former “gray hat hacker” who served as a spokesperson for the hacker group the L0pht. Now leads the cybersecurity division of the Pentagon’s Defense Advanced Research Projects Agency, including its program to find a method of rooting out rogue insiders known as CINDER or Cyber Insider Threat.

**AARON BARR**
Former chief executive of HBGary Federal, a small D.C. security firm that touted his methods for unmasking anonymous hackers and leakers.

**THOMAS DRAKE**
National Security Agency whistleblower who was threatened with prosecution under the Espionage Act for communicating with a reporter regarding alleged financial fraud and waste at the agency.

**BIRGITTA JÖNSDÓTTIR**
Icelandic member of parliament, poet, and activist who worked with WikiLeaks and is pushing a collection of radical transparency bills through Iceland’s legislature known as the Icelandic Modern Media Initiative.

**DANIEL DOMSCHETT-BERG**
German former WikiLeaks associate who worked closely with Assange but was pushed out of the group in the fall of 2010. He has since engaged in a bitter feud with Assange and founded his own digital whistleblower group known as OpenLeaks.

**ATANAS TCHOBANOV AND ASSEN YORDANOV**
Two Bulgarian investigative reporters who founded the independent media outlet Bivol and were inspired by WikiLeaks to create the Bulgaria-focused leak site BalkanLeaks.

**ANDY MÜLLER-MAGUHN**
Former member of the board of the German hacker group the Chaos Computer Club. Müller-Maguhn worked with WikiLeaks and served as an intermediary in the dispute between Assange and Domschett-Berg.

**THE ARCHITECT**
Secretive and pseudonymous engineer who worked with Assange and Domschett-Berg to set up a revamped submission system for WikiLeaks in late 2009 and 2010. After a falling-out with Assange, he joined Domschett-Berg at OpenLeaks.
Afghan War, 2, 14–15, 175, 295, 296
Al Jazeera, 230, 291
American Indian reservations, 268
Ames, Aldrich, 30, 220
Anderson, Mark, 188
AnonLeaks, 213, 214
AnonNews, 215
anonymity
and "Assassination Politics," 117, 121–22
Barr on abuse of, 217–18
and Cypherpunk Mailing List, 114
of Ellsberg, 36–37
key role of, 6
of Manning, 39–40, 43, 45–46
required by government agencies, 139
technologies of, 6–7, 39, 66–70, 76–77, 79–80 (see also encryption and
cryptography; remailers; Tor)
and whistleblowing, 7
Anonymous
arrests of members, 215–16
on Bologna scandal, 316
and the Church of Scientology, 185–86
described, 183
and HBGary Federal, 192–95, 210–15
leak site of, 213, 214

victims of, 183–84
and WikiLeaks, 184–85
AOL, 266
Appelbaum, Jacob
activism of, 135–38
and Assange, 163–64
background of, 152–56, 160–62
BlockFinder tool of, 137
and Chaos Computer Club, 162–63
on copycat sites, 230
and Cypherpunk Mailing List, 154
on Domscheit-Berg, 288
government harassment of, 151
investigation of, 266–67
keynote address of, 151, 167–68
MAID system of, 163
on May, 91–92
and OpenLeaks, 278
privacy paranoia of, 137, 138
threat of indictment, 151
and Tor, 136, 150–51, 153, 167
and WikiLeaks, 138–39, 151–52
the Architect
anonymity of, 287, 322
and OpenLeaks, 292–94, 297
the Architect (cont.)
WikiLeaks' digital custody dispute with,
297–98, 299–300, 302, 303–4, 307, 310
WikiLeaks tenure of, 287, 292–98
Assange, Julian
appearance of, 286
and Appelbaum, 163–64
and the Architect, 294–98
background of, 102–8
and BalkanLeaks, 263–64
on bank leak, 1–2, 3–4, 178, 319
and Bourbakis concept, 156, 317
and Cablegate security breach, 305–6
charges against, in youth, 112, 113
"Conspicuous as Governance" essay,
127–29, 300, 312
criticisms of, 320–21
and Cypherpunk Mailing List, 96, 114, 125
and Cypherpunks, 96, 98, 113–14
distrust of power, 105–6
and Domscheit-Berg's wife, 288–90
education of, 94–96, 127
on fear of leaks, 178–79, 189
house arrest of, 177, 320
in Iceland, 257–58
and ideology of anonymous
whistle blowing, 7
and IMMI legislation, 228
as influencing figure, 317
investigation of, 266
jail sentence of, 177
and Jonsdottir, 257–58
leaks theory of, 128–29, 300
manifesto of, 127–29
and Manning, 4, 39–40, 43
May on, 92
megaleaks of, 2–3, 174–79 (see also
Afghan War; Cablegate; Iraq War)
"Mendax" hacker persona of, 103, 106–8, 112
paranoia of, 286–87, 302
Rubberhose, 126–27, 163, 164
sex crimes allegations, 4, 177
and Suburia ISP, 112–13, 114
threat of indictment, 139, 177, 178,
224, 320
on Tor, 138
Twitter data of, 138–39
and Young, 130–32
and Zatko, 174, 201–2
and Zimmermann, 113
"Assassination Politics," 117, 119–22,
123–24, 125, 133–34
Bahnhof ISP, 237–38
Baker, Stewart, 101
BalkanLeaks, 231–35, 261–62, 268–69
Bank of America, 2, 4, 178, 179, 214, 304
Barlow, John Perry, 186, 254–56
Barr, Aaron
on abuse of anonymity, 217–18
and Anonymous, 187, 192–95, 210–15
background of, 202–6
Paranoia Meter proposal of, 218–20
social media analysis of, 179–83, 205–6
Belarus, 300
Bell, James Dalton
and Assange, 128
"Assassination Politics" concept of, 117,
119–22, 123–24, 125, 133–34
convictions of, 124–25
interview with, 132–34
libertarianism of, 119, 120
and Young, 123–24, 125
Berg, Daniel. See Domscheit-Berg, Daniel
BGP (Border Gateway Protocol) hijacking,
207, 208
Biden, Joe, 73–74, 84, 176
Binney, Bill, 220–21
BitTorrent, 318
See also BalkanLeaks
black hats, 137–38, 183, 216–17.
See also Anonymous
BlackNet concept, 89–92
blind signatures, 67–68
BlockFinder, 137
Boritsov, Boyko, 246, 264–65
Bright, Arthur, 267
Brooke, Heather, 300
Bulgaria, 231–35, 241–46, 252–54,
259–60, 266–71
Bush (G. W.) administration, 223–24
Byrne, William, 41
Cablegate
and BalkanLeaks, 261–65
files on Manning's computer, 39
influence of, 3
information leaked by, 28, 176
Pentagon Papers compared to, 14–15
responses to, 176–77, 189
security breach at WikiLeaks, 300,
305–9, 321
Central Intelligence Agency (CIA), 91
Chaos Computer Club
Appelbaum's participation in, 162–63
Camp of, 272–74, 276, 277–82, 290–92,
299, 303
congresses of, 162, 284, 286
and Domscheit-Berg, 284, 298–99,
301–2, 303, 310
and OpenLeaks penetration test, 274,
276, 278, 293, 303
Charm, David
background of, 65–66
crypto-conference of, 77
DigiCash company, 119
Hughes's employment with, 78
Mix Network concept of, 79–80, 82, 117,
118–19, 139, 141
transaction system of, 66–70, 76, 89, 119
Cheney, Dick, 101
China, 130
Church of Scientology
Anonymous' attacks on, 185–86
and Assange, 114
and Helsingius's Pentad remailer, 116,
125–26
and Suburia ISP, 113, 114
and WikiLeaks, 166, 168
CINDER (Cyber Insider Threat) initiative,
173–74, 187–88, 190–91, 216–17,
218–20
Citizens' Movement, 251–52
Clarke, Richard, 206–7
classified information, 5, 40, 45, 189
Clinton, Hillary, 140
Clinton administration, 84–85, 88
Clinten Chip, 84–85, 86, 88
Cohen, Bram, 318
Collateral Murder video
discussion of, in Soldiers, 311
at Hackers on Planet Earth conference, 168
and Jonsdottir, 258
Manning's discovery of, 28–29
perpetrators of, 43
release of, 34
Collins, Susan, 38
Columbia University Occupation of 1968,
108–9, 110
Computer Fraud and Abuse Act (1986), 197
Cotrell, Lance, 118–19, 144
Crowley, P. J., 31, 308
"Crypto-Anarchist Manifesto" (May),
76–77, 79, 122
Crypto Anarchy game, 79–81
crypto-anarchy movement
and "Assassination Politics," 119–22
and Chaos's concepts, 69–70, 79–80
coalescence of, 81 (see also cypherpunks)
manifesto of, 76–77, 79, 122
on secrecy, 90–91
See also cypherpunks; May, Tim
cryptography. See encryption and
cryptography
Cryprome
Berg's support of, 284–85
on Bologna scandal, 316
and Cablegate security breach, 307
Domscheit-Berg's memoir on, 297
information leaked by, 100–101, 129–30
model of, 131
news featured on, 122, 125
security of, 101–2
WikiLeaks' communications leaked on,
157–58, 159–60, 285
cybersecurity industry, 187–91
Cypherpunk Mailing List
and Appelbaum, 154
archives of, 92
Assange's participation in, 96, 114, 125, 127
MAID (mutually assured destruction). 168
Manning, Bradley
acquisition of documents, 14–15
anonymity attempted by, 39–40, 43, 45–46
Anonymous defense of, 186, 214
army career of, 21, 27
arrest of, 43–44
and Assange, 39–40, 43
background of, 18–21
and Elberg, 14–15, 44, 45
and future military leakers, 312
and helicopter airstrike footage, 28–29, 34, 43, 168, 311
imprisonment of, 30–31, 44, 321
investigation of, 266
Lamo’s conversations with, 34, 38–39, 42–43
Lamo’s informing on, 31–32, 40, 42–43, 46, 142, 168
and leaker profile, 26–27, 45
on military security, 37–39
motivation of, 27–29
prosecution of, 224
for used by, 39, 139
upload of documents to WikiLeaks, 39
Markov, Georgi, 234
Marshall, Robert, 251
Mathewson, Nick, 135–36, 147–48, 149, 188
Matt, Mawilu, 165–66
May, Tim
background of, 55–59
and Bill’s “Assassination Politics,” 121–22
BlackNet concept of, 89–92
career at Intel, 49–52
and Chaum’s transaction system, 65, 69–70
and Clipper Chip, 85
gun interests of, 56, 82
and Hughes, 78–79
and information market, 59–60, 64–65
and legal interests, 56–60
and New York Times magazine story, 112
and origins of Cyberpunks, 79, 80–81
writing ambitions of, 76, 77–78
and Zimmermann, 85, 88
Mazzucato, Osmar, 216
McCarthy, Scari, 298, 268, 287, 300
McGovern, George, 35, 36–37
McNamara, Robert, 24–25
Meredith, Daniel, 291–92
Merritt, Charlie, 70–72, 75
Metzger, Reinier, 281–82
Microsoft, 101, 200–201
Middle East, freedom fighting in, 135–38
Minerva mainframe system hack, 102–4
MFT, 148
MFT Press, 87
Mixmaster reamer, 118–19, 144
Mix Network concept
and Cottrell’s Mixmaster reamer, 118–19
and Cypherpunk Remailer, 82
described, 79–80
and remailer, 80–81, 82, 117
and Tor, 139, 141, 144, 145–46
Monseger, Hector Xavier, 215–16
Morozov, Evgeny, 4, 268–69
Mubarak, Hosni, 138
Mullen, Mike, 175
Müller-Maguhn, Andy, 279, 299–300, 301–3, 305–7, 310
Napster, 317–18
National Security Agency (NSA)
and Clipper Chip, 84–85, 86, 88
and cryptology, 72
and NSA wiretapping program, 222–23
and Snowden, 113
and White House computerlog, 222–23
National Security Agency (NSA), 113, 143–45, 149, 151
Neij, Fredrik, 258–39
NetWitness, 189
network forensics, 189
New York Times
writing ambitions of, 76, 77–78
and Zimmermann, 85, 88
Pentagon Papers
access to, 24–25, 36, 45
contents of, 24–26
coping of, 11–13
disclosure of, 270, 321
release of, 34–37
See also Ellsberg, Daniel
Nixon, Richard, 36, 40–42, 46, 54
nuclear weapons, 53–55
Oak Ridge National Laboratories, 90
Obama, Barack, 3, 5, 44–45, 224–25
Occupy Wall Street, 315
Olaski, Jon, 209–10
onion routing, 143–46, 156. See also Tor
OpenLeaks
and the Architect, 292–94, 297
and Lamo, 275
and NSA wiretapping program, 299
digital custody dispute of, 310
future of, 311
goal of, 275
heads of, 309–10
Mueller-Maguhn, 302
origins of, 297
penetration test of, 274, 276, 278, 292, 303
security of, 274–75, 278, 293–94
test launch of, 273–76, 277–82, 310
“owning” a target, 137–38
Paradox quarterly magazine, 94, 98
Parrano, Brian, 218–20
Paride, James, 262
Patton Act, 268
Penet reamer, 115–17, 321
Pentagon Papers
access to, 24–25, 36, 45
contents of, 24–26
coping of, 11–13
disclosure of, 270, 321
release of, 34–37
See also Ellsberg, Daniel
WikiLeaks (cont.)
document repository of, 159
and Domscheit-Berg, 229–30, 276,
285–88, 296–98, 300
donations and funding for, 4, 34, 175,
177, 182, 186, 264, 286, 319–20
eyears of, 156–60, 164–66, 285
and HBGary Federal, 179–83, 214
in Iceland, 256–59
and IMMI legislation, 228
leaks left unpublished by, 300, 302–4
leaks released by, 2–3, 174–79, 285,
295–96 (see also Afghan War;
Cablegate; Iraq War)
leaks submitted to, 39, 164–66, 293–94,
297, 298, 299–300
non-disclosure agreement of, 300–301
OpenLeakers' digital custody dispute
with, 178, 297–98, 299–300, 301–5,
307, 310
operations of, 286
partial shutdown of, 296–97
prototype for, 113
redactions of names, 295, 296, 309
security breaches at, 300–301, 305–9
servers of, 157, 177, 182, 237, 285, 294,
297
submission system of, 157–58, 168, 230,
238, 297, 298, 300, 302
supporters of, 4, 182–83
and Tar, 138, 157, 158–60, 168
transnational status of, 235–36
web hosting for, 237–41, 294
and Young, 102, 130–32, 157–58,
World War II, 311

Young, John
and Assange, 130–32
background of, 108–11
and Bell, 123–24, 125
and Cablegate security breach, 307
and cypherpunks, 111, 122–25
interview with, 99–102
libertarianism of, 109
and WikiLeaks, 102, 130–32, 157–58,
See also Cryptoeme

Zaiko, Peter "Mudge"
and Assange, 174, 201–3
background of, 195–202
at Black Hat conference, 216–17
CINDER initiative, 173–74, 187–88,
190–91, 216–17, 218–20
and Forbes article, 202
and L0pht, 206–9
role at Department of Defense, 171–74,
190–91

Zimmermann, Philip R.
activism of, 53–55, 71, 84
and Assange, 113
background of, 60–62
and Bell's "Assassination Politics," 122
and Clipper Chip, 85, 88
congressional testimony of, 83
and cypherpunks, 85, 86
encryption engine of, 70–75 (see also PGP)
and export laws, 86–87
interview with, 53
investigation of, 75, 83–84, 86–87
and May, 85, 88
media coverage of, 85–86
and Merritt, 70–72
and New York Times magazine
story, 122