

Noten

MAVEN
PUBLISHING

1. DE SOFTWARE-UPDATE DIE DE WERKELIJKHEID HEEFT VERANDERD

- ¹ Adam Fisher, *Valley of Genius: The Uncensored History of Silicon Valley (As Told by the Hackers, Founders, and Freaks Who Made It Boom)*, (New York: Twelve, 2017), 357.
- ² Fisher, *Valley of Genius*, 361.
- ³ Dit segment is gebaseerd op een interview van mij met Sanghvi, en op verscheidene boeken, artikelen en video's over de begindagen van Facebook, waaronder: Daniela Hernandez, 'Facebook's First Female Engineer Speaks Out on Tech's Gender Gap', *Wired*, 12 december 2014, <https://www.wired.com/2014/12/ruchi-qa/>; Mark Zuckerberg, 'Live with the Original News Feed Team', Facebookvideo, 25:36, 6 september 2016, <https://www.facebook.com/zuck/videos/10103087013971051>; David Kirkpatrick, *The Facebook Effect: The Inside Story of the Company That Is Connecting the World* (New York: Simon & Schuster, 2011); INKtalksDirector, 'Ruchi Sanghvi: From Facebook to Facing the Unknown', YouTube, 11:50, 20 maart 2012, <https://www.youtube.com/watch?v=64AaXC00bkQ>; TechCrunch, 'TechFellow Awards: Ruchi Sanghvi', TechCrunch-video, 4:40, 4 maart 2012, <https://techcrunch.com/video/techfellow-awards-ruchi->

- sanghvi/517287387/; FWDus2, 'Ruchi's Story', YouTube, 1:24, 10 mei 2013, <https://www.youtube.com/watch?v=i86ibVt1OMM>; alle video's geraadpleegd op 16 augustus 2018.
- ⁴ Clare O'Connor, 'Video: Mark Zuckerberg in 2005, Talking Facebook (While Dustin Moskovitz Does a Keg Stand)', *Forbes*, 15 augustus 2011, geraadpleegd op 7 oktober 2018, <https://www.forbes.com/sites/clareoconnor/2011/08/15/video-mark-Zuckerberg-in-2005-talking-facebook-while-dustin-moskovitz-does-a-keg-stand/#629cb86571a5>.
 - ⁵ Ruchi Sanghvi, 'Facebook Gets a Facelift', Facebook, 5 september 2006, geraadpleegd op 18 augustus 2018, <https://www.facebook.com/notes/facebook/facebook-gets-a-facelift/2207967130/>.
 - ⁶ Brenton Thornicroft, 'Something to Consider before You Complain about Facebook's News Feed Updates', *Forbes*, 2 april 2013, geraadpleegd op 18 augustus 2018, <https://www.forbes.com/sites/quora/2013/04/02/something-to-consider-before-you-complain-about-facebooks-news-feed-updates/#7154da847938>.
 - ⁷ Mark Zuckerberg, 'An Open Letter from Mark Zuckerberg', Facebook, 8 september 2006, geraadpleegd op 18 september 2018, <https://www.facebook.com/notes/facebook/an-open-letter-from-mark-Zuckerberg/2208562130/>.
 - ⁸ Evan Asano, 'How Much Time Do People Spend on Social Media?', *SocialMediaToday*, 4 januari 2017, geraadpleegd op 18 augustus 2018, <https://www.socialmediatoday.com/marketing/how-much-time-do-people-spend-social-media-infographic>.
 - ⁹ Facebook spreekt niet openlijk over de nuances met betrekking tot de rangschikking van de items in de feed, maar spreekt soms over de algemene details, zoals in: Miles O'Brien, 'How Does the Facebook News Feed Work? An Interview with Dan Zigmond, Head of Facebook News Feed Analytics', Miles O'Brien Productions, 30 maart 2018, geraadpleegd op 18 augustus 2018, <https://milesobrien.com/how-does-the-facebook-news-feed-work-an-interview-with-dan-zigmond-head-of-facebook-news-feed-analytics/>; Will Oremus, 'Who Controls Your Facebook Feed', *Slate*, 3 januari 2016, geraadpleegd op 18 augustus 2018, http://www.slate.com/articles/technology/cover_story/2016/01/how_facebook_s_news_feed_algorithm_works.html.
 - ¹⁰ Janko Roettgers, 'Facebook Says It's Cutting Down on Viral Videos as 2017 Revenue Tops \$40 Billion', *Variety*, 31 januari 2018,

- geraadpleegd op 18 augustus 2018, <https://variety.com/2018/digital/news/facebook-q4-2017-earnings-1202683184/>.
- ¹¹ Clive Thompson, 'Social Networks Must Face Up to Their Political Impact', *Wired*, 5 februari 2017, geraadpleegd op 18 augustus 2018, <https://www.wired.com/2017/01/social-networks-must-face-political-impact>.
- ¹² Mark Zuckerberg, 'Building Global Community', Facebook, 16 februari 2017, geraadpleegd op 18 augustus 2018, <https://www.facebook.com/notes/mark-Zuckerberg/building-global-community/10154544292806634/>.
- ¹³ Marc Andreessen, 'Why Software Is Eating the World', *The Wall Street Journal*, 20 augustus 2011, geraadpleegd op 18 augustus 2018, <https://www.wsj.com/articles/SB10001424053111903480904576512250915629460>.
- ¹⁴ John Morris, 'How Facebook Scales AI', ZDNet, 6 juni 2018, geraadpleegd op 18 augustus 2018, <https://www.zdnet.com/article/how-facebook-scales-ai/>.
- ¹⁵ Erwin C. Surrency, 'The Lawyer and the Revolution', *American Journal of Legal History* 8, nr. 2 (april 1964), 125-135.
- ¹⁶ Mijn beschrijving van Moses' werk put uit: Robert A. Caro, *The Power Broker: Robert Moses and the Fall of New York* (New York: Knopf, 1974), 850-884; David W. Dunlap, 'Why Robert Moses Keeps Rising from an Unquiet Grave', *The New York Times*, 21 maart 2017, geraadpleegd op 18 augustus 2018, <https://www.nytimes.com/2017/03/21/nyregion/robert-moses-andrew-cuomo-and-the-saga-of-a-bronx-expressway.html>; Sydney Sarachan, 'The Legacy of Robert Moses', PBS, 17 januari 2013, geraadpleegd op 18 augustus 2018, <http://www.pbs.org/wnet/need-to-know/environment/the-legacy-of-robert-moses/16018/>.
- ¹⁷ Er zijn er veel meer dan 250; ze zijn moeilijk te tellen, deels doordat bedrijven en programmeurs voortdurend nieuwe bedenken voor speciale doelen. Twee pogingen om ze te tellen zijn: Robert Diana, 'The Big List of 256 Programming Languages', DZone, 16 mei 2013, geraadpleegd op 18 augustus 2018, <https://dzone.com/articles/big-list-256-programming>; en 'How Many Programming Languages Are There in the World?', CodeLani, 17 november 2017, geraadpleegd op 18 augustus 2018, <http://codelani.com/posts/how-many-programming->

languages-are-there-in-the-world.html.

- 18 Fred Brooks, *The Mythical Man-Month: Essays on Software Engineering* (New York: Addison-Wesley, 1975), 7-8.
- 19 Jon Carroll, 'Guerrillas in the Myst', *Wired*, 1 augustus 1994, geraadpleegd op 18 augustus 2018, <https://www.wired.com/1994/08/myst/>.
- 20 Daniel Hillis, *The Pattern on the Stone: The Simple Ideas That Make Computers Work*, 2e druk (New York: Basic Books, 2014), locatie 112 van 2741, Kindle.
- 21 Maciej Cegłowski, 'The Moral Economy of Tech', Idle Words (blog), geraadpleegd op 18 augustus 2018, http://idlewords.com/talks/sase_panel.htm.
- 22 Joseph Weizenbaum, *Computerkracht en mensenmacht: van oordeel tot berekening* (Amsterdam: Contact, 1984).
- 23 Seymour Papert, *Mindstorms: Children, Computers, and Powerful Ideas* (New York: Basic Books, 1980), 23.
- 24 Daniel Kohanski, *The Philosophical Programmer: Reflections on the Moth in the Machine* (New York: St. Martin's, 1998), 160.
- 25 INKtalksDirector, 'Ruchi Sanghvi: From Facebook to Facing the Unknown.'
- 26 Barry A. Stevens, 'Probing the DP Psyche', *Computerworld*, 21 juli 1980, 28.
- 27 'Degrees in Computer and Information Sciences Conferred by Degree-granting Institutions, by Level of Degree and Sex of Student: 1970–71 through 2010–11', National Center for Education Statistics, geraadpleegd op 16 augustus 2018, https://nces.ed.gov/programs/digest/d12/tables/dt12_349.asp.
- 28 Roger Cheng, 'Women in Tech: The Numbers Don't Add Up', CNET, 6 mei 2015, geraadpleegd op 16 augustus 2018, <https://www.cnet.com/news/women-in-tech-the-numbers-dont-add-up/>.
- 29 'Employed Persons by Detailed Occupation, Sex, Race, and Hispanic or Latino Ethnicity', Bureau of Labor Statistics, geraadpleegd op 16 augustus 2018, <https://www.bls.gov/cps/cpsaat11.pdf>.
- 30 Rani Molla, 'It's Not Just Google—Many Major Tech Companies Are Struggling with Diversity', Recode, 7 augustus 2017, geraadpleegd op 16 augustus 2018, <https://www.recode.net/2017/8/7/16108122/major-tech-companies-silicon-valley-diversity-women-tech-engineer>.

- ³¹ Alyssa Mazzina, 'Do Developers Need College Degrees?', Stack Overflow (blog), 7 oktober 2016, geraadpleegd op 16 augustus 2018, <https://stackoverflow.blog/2016/10/07/do-developers-need-college-degrees>.
- ³² Erin Carson, 'When Tech Firms Judge on Skills Alone, Women Land More Job Interviews', CNET, 27 augustus 2016, geraadpleegd op 16 augustus 2018, <https://www.cnet.com/news/when-tech-firms-judge-on-skills-alone-women-land-more-job-interviews>.
- ³³ Douglas Rushkoff, *Program or Be Programmed: Ten Commands for a Digital Age* (New York: OR Books, 2010), 133.

2. DE VIER GOLVEN CODERS

- ¹ Andrew Myers, 'Period of Transition: Stanford Computer Science Rethinks Core Curriculum', Stanford Engineering, 14 juni 2012, geraadpleegd op 16 augustus 2018, <https://engineering.stanford.edu/news/period-transition-stanford-computer-science-rethinks-core-curriculum>.
- ² Chris Dixon, 'How Aristotle Created the Computer', *The Atlantic*, 20 maart 2017, geraadpleegd op 16 augustus 2018, <https://www.theatlantic.com/technology/archive/2017/03/aristotle-computer/518697>.
- ³ Bryony Norburn, 'The Female Enigmas of Bletchley Park in the 1940s Should Encourage Those of Tomorrow', *The Conversation*, 26 januari 2015, geraadpleegd op 16 augustus 2018, <https://theconversation.com/the-female-enigmas-of-bletchley-park-in-the-1940s-should-encourage-those-of-tomorrow-36640>; Sarah Rainey, 'The Extraordinary Female Codebreakers of Bletchley Park', *The Telegraph*, 4 januari 2015, geraadpleegd op 16 augustus 2018, <https://www.telegraph.co.uk/history/world-war-two/11308744/The-extraordinary-female-codebreakers-of-Bletchley-Park.html>.
- ⁴ Jennifer S. Light, 'When Computers Were Women', *Technology and Culture* 40, nr. 3 (juli 1999), 455-483.
- ⁵ Charles E. Molnar en Wesley A. Clark, 'Development of the LINC', in *A History of Medical Informatics*, red. Bruce I. Blum, Karen A. Duncan (New York: ACM Press, 1990), 119-138.
- ⁶ John Markoff, 'Wesley A. Clark, Who Designed First Personal Computer, Dies at 88', *The New York Times*, 27 februari 2016,

- geraadpleegd op 16 augustus 2018, <https://www.nytimes.com/2016/02/28/business/wesley-a-clark-made-computing-personal-dies-at-88.html>.
- ⁷ Mary Allen Wilkes, ‘Conversational Access to a 2048-Word Machine’, *Communications of the ACM* 13, nr. 7 (juli 1970), 407-414.
 - ⁸ Deze opmerking komt uit Wilkes’ interview in deze video: Dr. Bruce Damer ‘DigiBarn TV: Mary Allen Wilkes Programming the LINC Computer in the mid-1960s’, YouTube, 15:41, 25 april 2011, geraadpleegd op 16 augustus 2018, <https://www.youtube.com/watch?v=Cmv6p8hN0xQ>.
 - ⁹ Joe November, ‘LINC: Biology’s Revolutionary Little Computer’, *Endeavour* 28, nr. 3 (september 2004), 125-131.
 - ¹⁰ Dit segment is gebaseerd op het uitstekende boek van Steven Levy, vooral op hoofdstuk 3 (‘Spacewar’) en 4 (‘Greenblatt and Gosper’), Steven Levy, *Hackers: Heroes of the Computer Revolution—25th Anniversary Edition* (Sebastopol, CA: O’Reilly Media, 2010).
 - ¹¹ Levy, *Hackers*, 67.
 - ¹² Levy, *Hackers*, 139.
 - ¹³ Russell Brandom, “‘Spacewar!’: The Story of the World’s First Digital Video Game”, The Verge, 4 februari 2013, geraadpleegd op 16 augustus 2018, <https://www.theverge.com/2013/2/4/3949524/the-story-of-the-worlds-first-digital-video-game>.
 - ¹⁴ Levy, *Hackers*, 26-37.
 - ¹⁵ Levy, *Hackers*, 107.
 - ¹⁶ ‘GNU General Public License’, Free Software Foundation, 29 juni 2007, geraadpleegd op 16 augustus 2018, <https://www.gnu.org/licenses/gpl-3.0.en.html>.
 - ¹⁷ Levy, *Hackers*, 129.
 - ¹⁸ Clive Thompson, ‘Steve Wozniak’s Apple I Booted Up a Tech Revolution’, *Smithsonian*, maart 2016, geraadpleegd op 18 augustus 2018, <https://www.smithsonianmag.com/smithsonian-institution/steve-wozniaks-apple-i-booted-up-tech-revolution-180958112/>.
 - ¹⁹ Philip H. Dougherty, ‘Commodore Computers Plans Big Campaign’, *The New York Times*, 18 februari 1982, geraadpleegd op 18 augustus 2018, <https://www.nytimes.com/1982/02/18/business/advertising-commodore-computers-plans-big-campaign.html>.
 - ²⁰ Harry McCracken, ‘Fifty Years of BASIC, the Programming Language

That Made Computers Personal’, *Time*, 29 april 2014, geraadpleegd op 18 augustus 2018, <http://time.com/69316/basic/>; ‘BASIC Begins at Dartmouth’, Dartmouth, geraadpleegd op 18 augustus 2018, <https://www.dartmouth.edu/basicfifty/basic.html>; Jimmy Maher, ‘In Defense of BASIC’, *The Digital Antiquarian* (blog), 2 mei 2011, geraadpleegd op 18 augustus 2018, <https://www.filfre.net/2011/05/in-defense-of-basic>.

- ²¹ Nate Anderson, ‘First Encounter: *COMPUTE!* Magazine and Its Glorious, Tedious Type-in Code’, *Ars Technica*, 28 december 2012, geraadpleegd op 18 augustus 2018, <https://arstechnica.com/staff/2012/12/first-encounter-compute-magazine-and-its-glorious-tedious-type-in-code>; Shelby Goldstein, ‘Making Music with Your Vic’, *Creative Computing* 9, nr. 7 (juli 1983), 43; Marek Karcz, ‘Conway’s Game of Life on a Commodore 64’, *Commodore and Retro Computing*, 15 september 2013, geraadpleegd op 18 augustus 2018, <http://c64retr.blogspot.com/2013/09/conways-game-of-life-on-commodore-64.html>.
- ²² Patrick S. Ryan, ‘War, Peace, or Stalemate: Wargames, Wardialing, Wardriving, and the Emerging Market for Hacker Ethics’, *Virginia Journal of Law & Technology* 9, nr. 7 (zomer 2004), 1-57, geraadpleegd op 18 augustus 2018, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=585867.
- ²³ De door mannen bevolkte wereld van het programmeren op thuiscomputers bespreek ik uitvoerig in hoofdstuk 7, ‘De ENIAC-meisjes verdwijnen’, enkele documenten over dit fenomeen: Sara Kiesler, Lee Sproull en Jacquelynne Eccles, ‘Pool Halls, Chips, and War Games: Women in the Culture of Computing’, *Psychology of Women Quarterly* 9, nr. 4 (december 1985), 451-462; Jane Margolis en Allan Fisher, *Unlocking the Clubhouse: Women in Computing* (Cambridge, MA: MIT Press, 2003).
- ²⁴ Janet Abbate, ‘Oral-History: Judy Clapp’, *Engineering and Technology History Wiki*, 11 februari 2001, geraadpleegd op 18 augustus 2018, https://ethw.org/Oral-History:Judy_Clapp.
- ²⁵ Tom Steinert-Threlkeld, ‘Can You Work in Netscape Time?’, *Fast Company*, 31 oktober 1995, geraadpleegd op 27 september 2018, <https://www.fastcompany.com/26443/can-you-work-netscape-time>.
- ²⁶ ‘Netscape Navigator’, *Blooberry*, geraadpleegd op 18 augustus 2018, <http://www.blooberry.com/indexdot/history/netscape.htm>.

- ²⁷ Anil Dash, 'The Missing Building Blocks of the Web', Medium, 21 maart 2018, geraadpleegd op 18 augustus 2018, <https://medium.com/@anildash/the-missing-building-blocks-of-the-web-3fa490ae5cbc>; Amélie Lamont, 'From Designing Neopets Pages to Becoming a Professional Web Developer', *Superyesmore*, 20 juni 2016, geraadpleegd op 18 augustus 2018, <https://superyesmore.com/d6121b7fe42324e456deb8988d481ec8>; Brittney Lopez, 'How I Became a Web Designer', Branded by Britt, geraadpleegd op 18 augustus 2018, <https://www.brandedbybritt.co/how-i-became-a-web-designer>.
- ²⁸ Ian Leslie, 'The Scientists Who Make Apps Addictive', *1843*, oktober/november 2016, geraadpleegd op 18 augustus 2018, <https://www.1843magazine.com/features/the-scientists-who-make-apps-addictive>.
- ²⁹ Stephen Wendel, *Designing for Behavior Change: Applying Psychology and Behavioral Economics* (Sebastopol, CA: O'Reilly Media, 2013), locatie 189 van 7988, Kindle.
- ³⁰ Alyson Shontell, 'Meet the 13 Lucky Employees and 9 Investors Behind \$1 Billion Instagram', Business Insider, 9 april 2012, geraadpleegd op 18 augustus 2018, <https://www.businessinsider.com/instagram-employees-and-investors-2012-4>; Marty Swant, 'This Instagram Timeline Shows the App's Rapid Growth to 600 Million', *AdWeek*, 15 december 2016, geraadpleegd op 18 augustus 2018, <https://www.adweek.com/digital/instagram-gained-100-million-users-6-months-now-has-600-million-accounts-175126/>; Nancy Messieh, 'Instagram Could Hit 1bn Photos by April, Twice as Fast as Flickr Managed', The Next Web, 19 januari 2012, geraadpleegd op 18 augustus 2018, <https://thenextweb.com/socialmedia/2012/01/19/instagram-could-hit-1bn-photos-by-april-twice-as-fast-as-flickr-managed/>.
- ³¹ Olivia Fleming, "'Why Don't I Look Like Her?': How Instagram Is Ruining Our Self Esteem", *Cosmopolitan*, 15 januari 2017, geraadpleegd op 18 augustus 2018, <https://www.cosmopolitan.com/health-fitness/a8601466/why-dont-i-look-like-her-how-instagram-is-ruining-our-self-esteem/>; Amanda MacMillan, 'Why Instagram Is the Worst Social Media for Mental Health', *Time*, 25 mei 2017, geraadpleegd op 18 augustus 2018, <http://time.com/4793331/instagram-social-media-mental-health/>; Mahita Gajanan, 'Young

Women on Instagram and Self-esteem: “I Absolutely Feel Insecure”, *The Guardian*, 4 november 2015, geraadpleegd op 18 augustus 2018, <https://www.theguardian.com/media/2015/nov/04/instagram-young-women-self-esteem-essena-oneill>.

- ³² Zoe Brown en Marika Tiggemann, ‘Attractive Celebrity and Peer Images on Instagram: Effect on Women’s Mood and Body Image’, *Body Image* 19 (december 2016), 37-43.
- ³³ Lily Herman, ‘Pro-Eating Disorder Content Continues to Spread Online, Researchers Say’, *Allure*, 17 oktober 2017, geraadpleegd op 18 augustus 2018, <https://www.allure.com/story/bonespiration-thinspiration-instagram-hashtag>; Stevie Chancellor et al., ‘#thyghgapp: Instagram Content Moderation and Lexical Variation in Pro-Eating Disorder Communities’, ACM Conference on Computer-Supported Cooperative Work and Social Computing, 27 februari tot 2 maart 2016, geraadpleegd op 18 augustus 2018, http://www.munmund.net/pubs/cscw16_thyghgapp.pdf; Emily Reynolds, ‘Instagram’s Pro-anorexia Ban Made the Problem Worse’, *Wired VK*, 14 maart 2016, geraadpleegd op 18 augustus 2018, <https://www.wired.co.uk/article/instagram-pro-anorexia-search-terms>.
- ³⁴ Leslie, ‘The Scientists Who Make Apps Addictive.’
- ³⁵ Recode-medewerkers, ‘Full Transcript: Time Well Spent Founder Tristan Harris on *Recode Decode*’, *Recode*, 7 februari 2017, geraadpleegd op 18 augustus 2018, <https://www.recode.net/2017/2/7/14542504/recode-decode-transcript-time-well-spent-founder-tristan-harris>.
- ³⁶ Ameet Ranadive, ‘New Tools to Manage Your Time on Facebook and Instagram’, Facebook Newsroom, 1 augustus 2018, geraadpleegd op 2 oktober 2018, <https://newsroom.fb.com/news/2018/08/manage-your-time/>.

3. VOORTDURENDE FRUSTRATIE EN UITBARSTINGEN VAN VREUGDE

- ¹ Elizabeth Dickason, ‘Looking Back: Grace Murray Hopper’s Younger Years’, *Chips Ahoy*, juli 1986, online gepost 27 juni 2011, geraadpleegd op 18 augustus 2018, <http://www.doncio.navy.mil/chips/ArticleDetails.aspx?ID=2388>.

- ² Casey Newton, 'How a Typo Took Down S3, the Backbone of the Internet', The Verge, 2 maart 2017, geraadpleegd op 18 augustus 2018, <https://www.theverge.com/2017/3/2/14792442/amazon-s3-outage-cause-typo-internet-server>.
- ³ Alexander B. Magoun en Paul Israel, 'Did You Know? Edison Coined the Term 'Bug'', The Institute, 23 augustus 2013, geraadpleegd op 18 augustus 2018, <http://theinstitute.ieee.org/tech-history/technology-history/did-you-know-edison-coined-the-term-bug>.
- ⁴ 'Log Book with Computer Bug', National Museum of American History, geraadpleegd op 18 augustus 2018, http://americanhistory.si.edu/collections/search/object/nmah_334663.
- ⁵ Michael Lopp, 'Please Learn to Write', Rands in Repose (blog), 16 mei 2012, geraadpleegd op 18 augustus 2018, <http://randsinrepose.com/archives/please-learn-to-write/>.
- ⁶ 'Angular 2 Passing Data into a For Loop', Stack Overflow, 17 juni 2017, geraadpleegd op 18 augustus 2018, <https://stackoverflow.com/questions/44610183/angular-2-passing-data-into-a-for-loop>.
- ⁷ Alex Pasternack, 'Sometimes a Typo Means You Need to Blow Up Your Own Spacecraft', Motherboard, 26 juli 2014, geraadpleegd op 18 augustus 2018, https://motherboard.vice.com/en_us/article/4x3n9b/sometimes-a-typo-means-you-need-to-blow-up-your-spacecraft.
- ⁸ Robert C. Martin, *Clean Code: A Handbook of Agile Software Craftsmanship* (New York: Pearson Education, 2009), 14.
- ⁹ Natasha Dow Schüll, *Addiction by Design: Machine Gambling in Las Vegas* (Princeton, NJ: Princeton University Press, 2012), 68.
- ¹⁰ Ter aanvulling op de vele programmeurs die met mij hebben gesproken over hun gevoel van verslaving – of van een 'programmeurs-high': Joseph Weizenbaums (nogal sombere) observatie van het 'dwangmatige programmeur'-type dat hij bij het MIT zag, aangehaald in Levy, *Hackers*, 107.
- ¹¹ Jacob Thornton, 'Isn't Our Code Just the *BEST* ☒', Medium, 20 januari 2017, geraadpleegd op 18 augustus 2018, <https://medium.com/bumpers/isnt-our-code-just-the-best-f028a78f33a9>.
- ¹² Blake Ross, 'Mr. Fart's Favorite Colors', Medium, 4 maart 2016, geraadpleegd op 18 augustus 2018, <https://medium.com/@blakeross/mr-fart-s-favorite-colors-3177a406c775>.
- ¹³ Caroline Mimbs Nyce, 'The Winter Getaway That Turned the

Software World Upside Down', *The Atlantic*, 8 december 2017, geraadpleegd op 18 augustus 2018, <https://www.theatlantic.com/technology/archive/2017/12/agile-manifesto-a-history/547715>.

- ¹⁴ Matthew B. Crawford, *Shop Class as Soulcraft: An Inquiry into the Value of Work* (New York: Penguin, 2009), 14.
- ¹⁵ Chad Fowler, *The Passionate Programmer: Creating a Remarkable Career in Software Development* (Raleigh, NC: Pragmatic Bookshelf, 2009), locatie 929 van 2976, Kindle.
- ¹⁶ Teresa M. Amabile en Steven J. Kramer, 'The Power of Small Wins', *Harvard Business Review* 89, nr. 5 (mei 2011), online geraadpleegd op 18 augustus 2018, <https://hbr.org/2011/05/the-power-of-small-wins>.

4. TE MIDDEN VAN INTJ'S

- ¹ Delen van deze passage over Bram Cohen komen uit een profiel dat ik eerder van hem heb gemaakt voor het tijdschrift *Wired*: Clive Thompson, 'The BitTorrent Effect', *Wired*, januari 2005, online geraadpleegd op 18 augustus 2018, <https://www.wired.com/2005/01/bittorrent-2>.
- ² Sarah Kessler, 'The Infinite Lives of BitTorrent', *Fast Company*, 10 maart 2014, geraadpleegd op 18 augustus 2018 <https://www.fastcompany.com/3027441/the-infinite-lives-of-bittorrent>.
- ³ William H. Whyte, *De medewerker*, vert. P. Verstegen (Amsterdam: De Arbeiderspers, 1965).
- ⁴ William M. Cannon en Dallis K. Perry, 'A Vocational Interest Scale for Computer Programmers', notulen Fourth SIGCPR Conference on Computer Personnel Research (juni 1966), 61-82.
- ⁵ Nathan Ensmenger bespreekt de 'Programmer Aptitude Test' van IBM in *The Computer Boys Take Over: Computers, Programmers, and the Politics of Technical Expertise* (Cambridge, MA: MIT Press, 2012), 64-67; de tests zijn heel interessant, hier staat een scan van een ervan: 'IBM Programmer Aptitude Test (Revised)', geraadpleegd op 18 augustus 2018, <http://ed-thelen.org/comp-hist/IBM-ProgApti-120-6762-2.html>.
- ⁶ Ensmenger, *The Computer Boys*, 52.
- ⁷ Dallis Perry en William Cannon, 'Vocational Interests of Female Computer Programmers', *Journal of Applied Psychology* 52, nr. 1 (1968), 34.

- ⁸ Nathan Ensmenger, 'Making Programming Masculine', in *Gender Codes: Why Women Are Leaving Computing*, red. Thomas J. Misa (New York: IEEE Computer Society, 2010), 128.
- ⁹ Ensmenger, *The Computer Boys*, 159.
- ¹⁰ Herendira Garcia-de Galindo, 'An Investigation of Factors Related to Preservice Secondary Mathematics Teachers' Computer Environment Preferences for Teaching High School Geometry' (proefschrift, Ohio State University, 1994), 56-57, geraadpleegd op 27 september 2018, https://etd.ohiolink.edu/!etd.send_file?accession=osu1487856906259719&disposition=inline.
- ¹¹ Mariko R. Pope, 'Creativity and the Computer Professional: The Impact of Personality Perception on Innovation Approach Preferences in Terms of Creative Thinking and Behavior' (proefschrift, Colorado Technical University, 1997), 31.
- ¹² Levy, *Hackers*, 107.
- ¹³ Nathan Ensmenger en William Aspray, 'Software as a Labor Process', in *History of Computing: Software Issues*, red. Ulf Hashagen, Reinhard Keil-Slawik en Arthur L. Norberg (Berlijn: Springer Science & Business Media, 2013), 142.
- ¹⁴ Uit deze analyse blijkt dat er 'tussen de 3.357.626 en 4.185.114 mensen werk verrichten waarbij enige softwareontwikkeling vereist is': PK, 'How Many Developers Are There in America, and Where Do They Live?', Don't Quit Your Day Job, 10 augustus 2017, geraadpleegd op 18 augustus 2018, <https://dqydj.com/number-of-developers-in-america-and-per-state>; volgens het Bureau of Labor Statistics werkten er in 2017 4,8 miljoen mensen in 'een computer- of wiskundegerelateerd beroep': Bureau of Labor Statistics, 'Employed Persons.'
- ¹⁵ Jean Hollands, *The Silicon Syndrome: How to Survive a High-tech Relationship* (New York: Bantam Books, 1985), 1-2.
- ¹⁶ Matt Parker, 'The Secretary Problem', Slate, 17 december 2014, geraadpleegd op 18 augustus 2018, http://www.slate.com/articles/technology/technology/2014/12/the_secretary_problem_use_this_algorithm_to_determine_exactly_how_many_people.html.
- ¹⁷ Scott Hanselman, 'More Relationship Hacks with Scott's Wife', Hanselminutes (podcast), 17 april 2012, geraadpleegd op 18 augustus 2018, <https://hanselminutes.com/314/more-relationship-hacks-with-scotts-wife>.

- ¹⁸ John Geirland, 'Go with the Flow', *Wired*, september 1996, online geraadpleegd op 18 augustus 2018, <https://www.wired.com/1996/09/czik>.
- ¹⁹ Lev Grossman, 'Jonathan Franzen: Great American Novelist', *Time*, 12 augustus 2010, geraadpleegd op 18 augustus 2018, <http://content.time.com/time/magazine/article/0,9171,2010185,00.html>
- ²⁰ Lauren Passell, 'Stephen King's Top 20 Rules for Writers', B&N Reads (blog), 22 maart 2013, geraadpleegd op 18 augustus 2018, <https://www.barnesandnoble.com/blog/stephen-kings-top-20-rules-for-writers>.
- ²¹ Paul Graham, 'Maker's Schedule, Manager's Schedule', Paul Graham (blog), juli 2009, geraadpleegd op 18 augustus 2018, <http://www.paulgraham.com/makersschedule.html>.
- ²² Matt Giles, "'Mr. Robot' Creator Explains What's Really Going on in Elliot's Mind", *Popular Science*, 3 september 2015, geraadpleegd op 18 augustus 2018, <https://www.popsci.com/mr-robot-creator-explains-whats-really-going-on-in-elliots-mind>.

5. DE EFFICIENCYCULTUS

- ¹ Walter Isaacson, *Benjamin Franklin: An American Life* (New York: Simon & Schuster, 2004), 426.
- ² Isaacson, *Benjamin Franklin*, 130-132; Benjamin Franklin, *Memoirs of the Life and Writings of (the Same), Continued to the Time of His Death by William Temple Franklin*, deel 1 (Londen: H. Colburn, 1818), 94.
- ³ Jennifer Brostrom, 'The Time-management Gospel', in *Commodify Your Dissent: Salvos from the Baffler*, red. Thomas Frank en Matt Weiland (New York: W.W. Norton, 2011), 116.
- ⁴ 'Address of President Charles Hermany', *Transactions of the American Society of Civil Engineers*, 53 (1904), 464.
- ⁵ Frederick Winslow Taylor, *The Principles of Scientific Management* (New York: Harper & Brothers, 1919), 5; David A. Hounshell, 'The Same Old Principles in the New Manufacturing', *Harvard Business Review* (november 1988), online geraadpleegd op 18 augustus 2018, <https://hbr.org/1988/11/the-same-old-principles-in-the-new-manufacturing>.
- ⁶ Jill Lepore, 'Not So Fast', *The New Yorker*, 12 oktober 2009,

- geraadpleegd op 18 augustus 2018, <https://www.newyorker.com/magazine/2009/10/12/not-so-fast>; Dennis McLellan, 'Ernestine Carey, 98; Wrote a Comical Look at Her Big Family in "Cheaper by the Dozen"', *Los Angeles Times*, 7 november 2006, geraadpleegd op 18 augustus 2018, <http://articles.latimes.com/2006/nov/07/local/me-carey7>.
- ⁷ Alexandra Lange, 'The Woman Who Invented the Kitchen', *Slate*, 25 oktober 2012, http://www.slate.com/articles/life/design/2012/10/lillian_gilbreth_s_kitchen_practical_how_it_reinvented_the_modern_kitchen.html.
- ⁸ Clive Thompson, 'We Need Technology to Help Us Remember the Future', *Wired*, 22 januari 2013, geraadpleegd op 18 augustus 2018, <https://www.wired.com/2013/01/a-sense-of-place-ct>.
- ⁹ Kah Seng Tay, 'What Is the Etymology of "Cron"?', *Quora*, 22 december 2015, geraadpleegd op 18 augustus 2018, <https://www.quora.com/What-is-the-etymology-of-cron>.
- ¹⁰ Peter Seibel, *Coders at Work: Reflections on the Craft of Programming* (New York: Apress, 2009), 77.
- ¹¹ Nicholas Carr, *De glazen kooi*, vert. H. Stegeman (Amsterdam: Maven Publishing, 2014).
- ¹² Tom Christiansen, Brian D Foy, Larry Wall en Jon Orwant, *Programming Perl: Unmatched Power for Text Processing and Scripting* (Sebastopol, CA: O'Reilly Media, 2012), 387, 1062.
- ¹³ 'As a programmer, what tasks have you automated to make your everyday life easier? How can one expect to improve life through automated programming?', *Quora*, 4 juni 2017, geraadpleegd op 18 augustus 2018, <https://www.quora.com/As-a-programmer-what-tasks-have-you-automated-to-make-your-everyday-life-easier-How-can-one-expect-to-improve-life-through-automated-programming>.
- ¹⁴ Alexander Yumashev, 'Now That's What I Call a Hacker', *JitBit*, 20 november 2015, geraadpleegd op 18 augustus 2018, <https://www.jitbit.com/alexblog/249-now-thats-what-i-call-a-hacker/>.
- ¹⁵ Martin Campbell-Kelly, 'OBITUARY: Konrad Zuse', *Independent*, 21 december 1995, geraadpleegd op 18 augustus 2018, <https://www.independent.co.uk/news/people/obituary-konrad-zuse-1526795.html>; Paul A. Youngman, *We Are the Machine: The Computer, the Internet, and Information in Contemporary German Literature* (Rochester, NY: Camden House, 2009), 94.

- 16 Jake Brutlag, 'Speed Matters', Google AI Blog, 23 juni 2009, geraadpleegd op 2 oktober 2018, <https://ai.googleblog.com/2009/06/speed-matters.html>.
- 17 Blaise Pascal, *The Provincial Letters of Blaise Pascal* (New York: Hurd and Houghton, 1866), 18.
- 18 William Shakespeare, *Hamlet*, vert. Willy Courteaux (Amsterdam, Antwerpen: Meulenhoff|Manteau, 2007), 71.
- 19 Cade Metz, 'Google Is 2 Billion Lines of Code – and It's All in One Place', *Wired*, 16 september 2015, geraadpleegd op 18 augustus 2018, <https://www.wired.com/2015/09/google-2-billion-lines-codeand-one-place>.
- 20 Jinghao Yan, 'How many lines of code do professional programmers write per hour?', Quora, 6 juli 2014, geraadpleegd op 18 augustus 2018, <https://www.quora.com/How-many-lines-of-code-do-professional-programmers-write-per-hour>.
- 21 Matt Ward, 'The Poetics of Coding', Smashing, 5 mei 2010, geraadpleegd op 18 augustus 2018, <https://www.smashingmagazine.com/2010/05/the-poetics-of-coding/>.
- 22 Mark Ford, 'Ezra Pound and the Drafts of *The Waste Land*', British Library, 13 december 2016, geraadpleegd op 18 augustus 2018, <https://www.bl.uk/20th-century-literature/articles/ezra-pound-and-the-drafts-of-the-waste-land>; Helen Vendler, 'The Most Famous Modern Poem – What Was Left In and What Was Cut Out', *The New York Times*, 7 november 1971, online geraadpleegd op 18 augustus 2018, <https://www.nytimes.com/1971/11/07/archives/review-1-no-title-the-waste-land-a-facsimile-and-transcript-of-the.html>; Charles McGrath, 'Il Miglior Fabbro', *The New York Times*, 27 januari 2008, online geraadpleegd op 18 augustus 2018, <https://www.nytimes.com/2008/01/27/books/review/McGrath-t.html>.
- 23 Kent Beck en Martin Fowler, 'Bad Smells in Code', in *Refactoring: Improving the Design of Existing Code*, Martin Fowler, Kent Beck, John Brant, William Opdyke en Don Roberts (New York: Addison-Wesley, 2012), 75.
- 24 Michele Tufano, Fabio Palomba, Gabriele Bavota, Rocco Oliveto, Massimiliano Di Penta, Andrea De Lucia en Denys Poshyvanyk, 'When and Why Your Code Starts to Smell Bad', gepresenteerd op de IEEE/ACM 37th IEEE International Conference on Software

- Engineering, mei 2015, online geraadpleegd op 18 augustus 2018, <http://www.cs.wm.edu/~denys/pubs/ICSE%2715-BadSmells-CRC.pdf>
- ²⁵ Bryan Cantrill, 'A Spoonful of Sewage', in *Beautiful Code: Leading Programmers Explain How They Think*, red. Greg Wilson en Andy Oram (Sebastopol, CA: O'Reilly Media, 2007), 367-368.
- ²⁶ Lizzie Widdicombe, 'The End of Food', *The New Yorker*, 12 mei 2014, online geraadpleegd op 18 augustus 2018, <https://www.newyorker.com/magazine/2014/05/12/the-end-of-food>.
- ²⁷ Rob Rhinehart, 'How I Stopped Eating Food', Mostly Harmless (blog), 13 februari 2013, geraadpleegd op 18 augustus 2018 via het Internet Archive, <https://web.archive.org/web/20130517220351/http://robrhinehart.com:80/?p=298>.
- ²⁸ 'Who Are You and Why Do You Use Soylent?', Reddit, geraadpleegd op 18 augustus 2018, https://www.reddit.com/r/soylent/comments/5j57i5/who_are_you_and_why_do_you_use_soylent.
- ²⁹ Ruhi Sarikaya, 'Making Alexa More Friction-free', Alexa Blogs, 25 april 2018, geraadpleegd op 18 augustus 2018, <https://developer.amazon.com/blogs/alexa/author/Ruhi+Sarikaya>.
- ³⁰ Steven Overly, 'Washio Picks Up Your Dirty Laundry, Dry Cleaning with the Tap of an App', *The Washington Post*, 30 januari 2014, https://www.washingtonpost.com/business/capitalbusiness/washio-picks-up-your-dirty-laundry-dry-cleaning-with-the-tap-of-an-app/2014/01/29/08509ae4-8865-11e3-833c-33098f9e5267_story.html; Steven Bertoni, 'Handybook Wants to Be the Uber for Your Household Chores', *Forbes*, 26 maart 2014, <https://www.forbes.com/sites/stevenbertoni/2014/03/26/handybook-wants-to-be-the-uber-for-your-household-chores/#221628987fa9>; Brittain Ladd, 'The Trojan Horse: Will Instacart Become a Competitor of the Grocery Retailers It Serves?', *Forbes*, 1 juli 2018, https://www.forbes.com/sites/brittainladd/2018/07/01/_trashed-2/#7cc74ef1e4d1; Ken Yeung, 'TaskRabbit's App Update Focuses on Getting Tasks Done in under 90 Minutes', *VentureBeat*, 1 maart 2016, <https://venturebeat.com/2016/03/01/taskrabbits-app-update-focuses-on-getting-tasks-done-in-under-90-minutes>; allen geraadpleegd op 18 augustus 2018.
- ³¹ Clara Jeffery (@ClaraJeffery), 'So many Silicon Valley startups', Twitter, 13 september 2017, geraadpleegd op 18 augustus 2018, <https://twitter.com/clarajeffery/status/907997677048045568?lang=en>.

- ³² Corky Siemaszko, 'In the Shadow of Uber's Rise, Taxi Driver Suicides Leave Cabbies Shaken', NBC News, 7 juni 2018, geraadpleegd op 18 augustus 2018, <https://www.nbcnews.com/news/us-news/shadow-uber-s-rise-taxi-driver-suicides-leave-cabbies-shaken-n879281>.
- ³³ TED× Talks, Do You Like Me? Do I? | Leah Pearlman | TEDxBoulder, YouTube, 12:21, 31 oktober 2016, geraadpleegd op 18 augustus 2018, <https://www.youtube.com/watch?v=5nwSjRA3kQA>.
- ³⁴ 'Stanford eCorner, Justin Rosenstein: No Dislike Button on Facebook', YouTube, 1:33, 13 mei 2013, geraadpleegd op 18 augustus 2018, https://www.youtube.com/watch?v=11WbGqALF_I.
- ³⁵ Victor Luckerson, 'The Rise of the Like Economy', The Ringer, 15 februari 2017, geraadpleegd op 18 augustus 2018, <https://www.theringer.com/2017/2/15/16038024/how-the-like-button-took-over-the-internet-ebe778be2459>.
- ³⁶ Andrew Bosworth, 'What's the history of the Awesome Button (that eventually became the Like button) on Facebook?', Quora, 16 oktober 2014, geraadpleegd op 18 augustus 2018, <https://www.quora.com/Whats-the-history-of-the-Awesome-Button-that-eventually-became-the-Like-button-on-Facebook>.
- ³⁷ Will Oremus, 'Who Controls Your Facebook Feed', Slate, 3 januari 2016, geraadpleegd op 18 augustus 2018, http://www.slate.com/articles/technology/cover_story/2016/01/how_facebook_s_news_feed_algorithm_works.html.
- ³⁸ Kathy H. Chan, 'I Like This', Facebook, 9 februari 2009, geraadpleegd op 18 augustus 2018, <https://www.facebook.com/notes/facebook/i-like-this/53024537130>.
- ³⁹ Aaron Souppouris, 'One Billion People Now "Actively Using" Facebook', The Verge, 4 oktober 2012, geraadpleegd op 18 augustus 2018, <https://www.theverge.com/2012/10/4/3453350/facebook-one-billion-monthly-users-announcement>.
- ⁴⁰ Adam Alter, *Irresistible: The Rise of Addictive Technology and the Business of Keeping Us Hooked* (New York: Penguin, 2017), 128.
- ⁴¹ Donald T. Campbell, 'Assessing the Impact of Planned Social Change', *Evaluation and Program Planning* 2, nr. 1 (1979), 67-90.
- ⁴² James Somers, 'The Like Button Ruined the Internet', *The Atlantic*, 21 maart 2017, geraadpleegd op 18 augustus 2018, <https://www.theatlantic.com/technology/archive/2017/03/how-the-like-button->

ruined-the-internet/519795/; M.J. Crockett, 'Modern Outrage Is Making It Harder to Better Society', *The Globe and Mail*, 2 maart 2018, geraadpleegd op 18 augustus 2018, <http://www.theglobeandmail.com/opinion/modern-outrage-is-making-it-harder-to-bettersociety/article38179877>.

- ⁴³ Allen St. John, 'How Facebook Tracks You, Even When You're Not on Facebook', *Consumer Reports*, 11 april 2018, geraadpleegd op 18 augustus 2018, <https://www.consumerreports.org/privacy/how-facebook-tracks-you-even-when-youre-not-on-facebook/>; Alex Kantrowitz, 'Here's How Facebook Tracks You When You're Not on Facebook', *BuzzFeed News*, 11 april 2018, geraadpleegd op 18 augustus 2018, <https://www.buzzfeednews.com/article/alexkantrowitz/heres-how-facebook-tracks-you-when-youre-not-on-facebook#.eIVbWNNav>.
- ⁴⁴ Casey Newton, 'The Person Behind the Like Button Says Software Is Wasting Our Time', *The Verge*, 28 maart 2018, <https://www.theverge.com/2018/3/28/17172404/justin-rosenstein-asana-social-media-facebook-timeline-gantt>.
- ⁴⁵ Paul Lewis, "'Our Minds Can Be Hijacked": The Tech Insiders Who Fear a Smartphone Dystopia', *The Guardian*, 6 oktober 2017, geraadpleegd op 18 augustus 2018, <https://www.theguardian.com/technology/2017/oct/05/smartphone-addiction-silicon-valley-dystopia>.

6. 10X'ERS, SUPERSTERREN EN DE MYTHE VAN MERITOCRATIE

- ¹ Dit gedeelte over Max Levchin is gebaseerd op meerdere bronnen, zoals: Adam Penenberg, *Viral Loop: From Facebook to Twitter, How Today's Smartest Businesses Grow Themselves* (New York: Hyperion 2009), 158-275, Kindle; Sarah Lacy, *Once You're Lucky, Twice You're Good: The Rebirth of Silicon Valley and the Rise of Web 2.0* (New York: Penguin, 2008), 17-41, Kindle; Jessica Livingston, *Founders at Work: Stories of Startups' Early Days* (New York: Apress, 2008), locaties 200-605, Kindle; Krissy Clark, 'What does meritocracy really mean in Silicon Valley?', *Marketplace*, 4 oktober 2013, geraadpleegd op 18 augustus 2018, <https://www.marketplace.org/2013/10/04/wealth-poverty/what-does-meritocracy-really-mean-silicon-valley/>;

- Peter Thiel en Blake Masters, *Zero to One: Notes on Startups, or How to Build the Future* (New York: Crown Publishing Group, 2014).
- ² Emily Chang, *Brotopia: Breaking Up the Boys' Club of Silicon Valley* (New York: Penguin, 2018), 60.
 - ³ Chang, *Brotopia*, 48.
 - ⁴ Jodi Kantor, 'A Brand New World in Which Men Ruled', *The New York Times*, 23 december 2014, geraadpleegd op 18 augustus 2018, <https://www.nytimes.com/interactive/2014/12/23/us/gender-gaps-standford-94.html>.
 - ⁵ H. Sackman, W.J. Erikson, E.E. Grant, 'Exploratory Experimental Studies Comparing Online and Offline Programming Performance', *Communications of the ACM* 11, nr. 1 (januari 1968), 3-11.
 - ⁶ Laurent Bossavit, *The Leprechauns of Software Engineering: How Folklore Turns into Fact and What to Do about It* (Leanpub, 2016), 36-47.
 - ⁷ Butler Lampson, 'A Critique of "An Exploratory Investigation of Programmer Performance Under On-line and Off-line Conditions"', *IEEE Transactions on Human Factors in Electronics* 8, nr. 1 (maart 1967), 48-51.
 - ⁸ In deze blogpost worden meerdere papers genoemd waarin wordt gesteld dat er van oudsher grote verschillen in de prestaties van programmeurs te zien zijn: Steve McConnell, 'Origins of 10X-How Valid Is the Underlying Research?', *Construx*, 9 januari 2011, geraadpleegd op 18 augustus 2018, <https://www.construx.com/blog/the-origins-of-10x-how-valid-is-the-underlying-research>.
 - ⁹ Butler Lampson, 'A Critique of "An Exploratory Investigation of Programmer Performance Under On-Line and Off-Line Conditions"'.
¹⁰ Bossavit, *Leprechauns*, 47.
 - ¹¹ Brooks, *The Mythical Man-Month*, 30.
 - ¹² Brooks, *The Mythical Man-Month*, 25.
 - ¹³ 'The other side of paradise', *The Economist*, 14 januari 2016, online geraadpleegd op 18 augustus 2018, <https://www.economist.com/business/2016/01/14/the-other-side-of-paradise>.
 - ¹⁴ Len Shustek, 'Adobe Photoshop Source Code', *Computer History Museum*, 13 februari 2013, geraadpleegd op 18 augustus 2018, <http://www.computerhistory.org/atcm/adobe-photoshop-source-code>.

- 15 Paul Allen, 'Microsoft's Odd Couple', *Vanity Fair*, mei 2011, online geraadpleegd op 18 augustus 2018, <https://www.vanityfair.com/news/2011/05/paul-allen-201105>.
- 16 'Frequently Asked Question #4. How did LiveJournal get started? Who runs it now?', LiveJournal, voor het laatst geüpdatet op 3 april 2017, geraadpleegd op 18 augustus 2018, <https://www.livejournal.com/support/faq/4.html>.
- 17 John Battelle, 'The Birth of Google', *Wired*, 1 augustus 2005, geraadpleegd op 18 augustus 2018, <https://www.wired.com/2005/08/battelle>.
- 18 Laura Fitzpatrick, 'Brief History of YouTube', *Time*, 31 mei 2010, geraadpleegd op 18 augustus 2018, <http://content.time.com/time/magazine/article/0,9171,1990787,00.html>.
- 19 Alex Hern, 'Snapchat Boss Evan Spiegel on the App That Made Him One of the World's Youngest Billionaires', *The Guardian*, 5 december 2017, <https://www.theguardian.com/technology/2017/dec/05/snapchat-boss-evan-spiegel-on-the-app-that-made-him-one-of-the-worlds-youngest-billionaires>.
- 20 Joshua Davis, 'The Crypto-Currency', *The New Yorker*, 10 oktober 2011, geraadpleegd op 18 augustus 2018, <https://www.newyorker.com/magazine/2011/10/10/the-crypto-currency>.
- 21 Chris Kohler, 'Q&A: Doom's Creator Looks Back on 20 Years of Demonic Mayhem', *Wired*, 10 december 2013, geraadpleegd op 18 augustus 2018, <https://www.wired.com/2013/12/john-carmack-doom>.
- 22 Joel Spolsky, 'Top Five (Wrong) Reasons You Don't Have Testers', Joel on Software (blog), 30 april 2000, geraadpleegd op 18 augustus 2018, <https://www.joelonsoftware.com/2000/04/30/top-five-wrong-reasons-you-dont-have-testers>.
- 23 Mark Guzdial, 'Anyone Can Learn Programming: Teaching > Genetics', Blog@ACM, 14 oktober 2014, geraadpleegd op 18 augustus 2018, <https://cacm.acm.org/blogs/blog-cacm/179347-anyone-can-learn-programming-teaching-genetics/fulltext>.
- 24 Meredith L. Patterson, 'When Nerds Collide', *Medium*, 24 maart 2014, geraadpleegd op 18 augustus 2018, <https://medium.com/@maradydd/when-nerds-collide-31895b01e68c>.
- 25 'Zuckerberg's Letter to Investors', *Sydney Morning Herald*, 2 februari 2012, geraadpleegd op 18 augustus 2018, <https://www.smh.com.au/>

business/Zuckerbergs-letter-to-investors-20120202-1qu9p.html.

- ²⁶ Michael Calore, 'Aug. 25, 1991: Kid from Helsinki Foments Linux Revolution', *Wired*, 25 augustus 2009, geraadpleegd op 18 augustus 2018, <https://www.wired.com/2009/08/0825-torvalds-starts-linux>.
- ²⁷ Dawn Foster, 'Who Contributes to the Linux Kernel?', *The New Stack*, 18 januari 2017, geraadpleegd op 18 august 2018, <https://thenewstack.io/contributes-linux-kernel>.
- ²⁸ Dit verhaal komt uit deze blogpost: Jonathan Solórzano-Hamilton, 'We fired our top talent. Best decision we ever made', freeCodeCamp, 13 oktober 2017, geraadpleegd op 18 augustus 2018, <https://medium.freecodecamp.org/we-fired-our-top-talent-best-decision-we-ever-made-4c0a99728fde>.
- ²⁹ Jake Edge, 'The Programming Talent Myth', LWN, 18 april 2015, geraadpleegd op 18 augustus 2018, <https://lwn.net/Articles/641779>; de originele speech is hier te vinden: PyCon 015, 'Keynote-Jacob Kaplan-Moss-Pycon 2015', YouTube, 35:50, 12 april 2015, geraadpleegd op 18 augustus 2018, <https://www.youtube.com/watch?v=hIJdFxYIEKE>.
- ³⁰ Chang, *Brotopia*, 60-63.
- ³¹ Thiel, *Zero to One*, 122, Kindle.
- ³² Ross Levine en Yona Rubinstein, 'Smart and Illicit: Who Becomes an Entrepreneur and Do They Earn More?', National Bureau of Economic Research, uitgegeven in augustus 2013, gereviseerd in september 2015, geraadpleegd op 18 augustus 2018, <https://www.nber.org/papers/w19276.pdf>
- ³³ Sarah McBride, 'Insight: In Silicon Valley Start-up World, Pedigree Counts', Reuters, 13 september 2013, geraadpleegd op 18 augustus 2018, <https://www.reuters.com/article/us-usa-startup-connections-insight/insight-in-silicon-valley-start-up-world-pedigree-counts-idUSBRE98B15U20130912>.
- ³⁴ Robert H. Frank, Philip J. Cook, *The Winner-take-all Society: Why the Few at the Top Get So Much More Than the Rest of Us* (New York: Virgin Books, 2010).
- ³⁵ Antonio Garcia Martinez, *Start-upmania: geld en gekte in Silicon Valley* (Amsterdam: Q, 2016), 490.
- ³⁶ Johnathan Nightingale, 'Some Garbage I Used to Believe about Equality', *Co-Pour*, 28 november 2016, geraadpleegd op 18 august

- 2018, <https://mfbt.ca/some-garbage-i-used-to-believe-about-equality-e7c771784f26>.
- ³⁷ Klint Finley, 'Diversity in Open Source Is Even Worse Than in Tech Overall', *Wired*, 2 juni 2017, geraadpleegd op 23 juni 2018, <https://www.wired.com/2017/06/diversity-open-source-even-worse-tech-overall>.
- ³⁸ Gregorio Robles, Laura Arjona Reina, Jesús M. González-Barahona en Santiago Dueñas Domínguez, 'Women in Free/Libre/Open Source Software', *Proceedings of the 12th IFIP WG 2.13 International Conference OSS 2016*, Göteborg, Zweden, 30 mei-2 juni 2016, 163-173, geraadpleegd op 7 oktober 2018, <https://flosshub.org/sites/flosshub.org/files/paper-pre.pdf>; Breanden Beneschott, 'Is Open Source Open to Women?', Toptal, geraadpleegd op 7 oktober 2018, <https://www.toptal.com/open-source/is-open-source-open-to-women>.
- ³⁹ Valeria Aurora, 'The dark side of open source conferences', LWN, 1 december 2010, geraadpleegd op 7 oktober 2018, <https://lwn.net/Articles/417952>.
- ⁴⁰ Noam Cohen, 'After Years of Abusive E-mails, the Creator of Linux Steps Aside', *The New Yorker*, 19 september 2018, geraadpleegd op 7 oktober 2018, <https://www.newyorker.com/science/elements/after-years-of-abusive-e-mails-the-creator-of-linux-steps-aside>.
- ⁴¹ Hettie O'Brien, 'The Floating City, Long a Libertarian Dream, Faces Rough Seas', *CityLab*, 27 april 2018, geraadpleegd op 18 augustus 2018, <https://www.citylab.com/design/2018/04/the-unsinkable-dream-of-the-floating-city/559058>.
- ⁴² Peter Thiel, 'The Education of a Libertarian', *Cato Unbound*, 13 april 2009, geraadpleegd op 18 augustus 2018, <https://www.cato-unbound.org/2009/04/13/peter-thiel/education-libertarian>.
- ⁴³ Paul Bradley Carr, 'Travis Shrugged: The creepy, Dangerous Ideology Behind Silicon Valley's Cult of Disruption', *Pando*, 24 oktober 2012, geraadpleegd op 18 augustus 2018, <https://pando.com/2012/10/24/travis-shrugged>.
- ⁴⁴ Fred Kaplan, 'When America First Met the Microchip', *Slate*, 18 juni 2009, geraadpleegd op 18 augustus 2018, http://www.slate.com/articles/arts/books/2009/06/when_america_first_met_the_microchip.html.
- ⁴⁵ 'Funding a Revolution: Government Support for Computing

Research', National Research Council, 1999, geraadpleegd op 18 augustus 2018, <https://www.nap.edu/read/6323/chapter/1>; met name de hoofdstukken 8, 9, 10 en 12.

- ⁴⁶ Katrina Onstad, 'Mr. Robot', *Toronto Life*, 29 januari 2018, geraadpleegd op 18 augustus 2018, <https://torontolife.com/tech/ai-superstars-google-facebook-apple-studied-guy>.
- ⁴⁷ Mariana Mazzucato, *The Entrepreneurial State: Debunking Public vs. Private Sector Myths* (Londen: Anthem Press, 2015), 70.
- ⁴⁸ Peter Ryan, 'Left, Right and Center: Crypto Isn't Just for Libertarians Anymore', *CoinDesk*, 27 september 2018, <https://www.coindesk.com/bitmain-by-the-numbers-an-inside-look-at-a-bitcoin-mining-empire>; Nate Silver, 'There Are Few Libertarians. But Many Americans Have Libertarian Views', *FiveThirtyEight*, 9 april 2015, <https://fivethirtyeight.com/features/there-are-few-libertarians-but-many-americans-have-libertarian-views>; beide geraadpleegd op 7 oktober 2018.
- ⁴⁹ David Broockman, Greg F. Ferenstein en Neil Malhotra, 'The Political Behavior of Wealthy Americans: Evidence from Technology Entrepreneurs', Stanford Graduate School of Business, Working Paper nr. 3581, 9 december 2017, geraadpleegd op 18 augustus 2018, <https://www.gsb.stanford.edu/faculty-research/working-papers/political-behavior-wealthy-americans-evidence-technology>.
- ⁵⁰ Ari Levy, 'Silicon Valley Donated 60 Times More to Clinton Than to Trump', CNBC, 8 november 2016, geraadpleegd op 18 augustus 2018, <https://www.nbcnews.com/storyline/2016-election-day/silicon-valley-donated-60-times-more-clinton-trump-n679156>.
- ⁵¹ Alexis C. Madrigal, 'What Should We Call Silicon Valley's Unique Politics?', *The Atlantic*, 7 september 2017, geraadpleegd op 18 augustus 2018, <https://www.theatlantic.com/technology/archive/2017/09/what-to-call-silicon-valleys-anti-regulation-pro-redistribution-politics/539043>.
- ⁵² Susan Stamberg, 'How Andrew Carnegie Turned His Fortune into a Library Legacy', NPR, 1 augustus 2013, geraadpleegd op 18 augustus 2018, <https://www.npr.org/2013/08/01/207272849/how-andrew-carnegie-turned-his-fortune-into-a-library-legacy>.

7. DE ENIAC-MEISJES VERDWIJNEN

- ¹ Christianne Corbett en Catherine Hill, 'Solving the Equation: The Variables for Women's Success in Engineering and Computing', AAUW (2015), geraadpleegd op 18 augustus 2018, <https://www.aauw.org/research/solving-the-equation>.
- ² Leven en werk van Lovelace heb ik beschreven aan de hand van James Essinger, *Ada's Algorithm: How Lord Byron's Daughter Ada Lovelace Launched the Digital Age* (New York: Melville House, 2014); Betsy Morais, 'Ada Lovelace, the First Tech Visionary', *The New Yorker*, 15 oktober 2013, geraadpleegd op 18 augustus 2018, <https://www.newyorker.com/tech/elements/ada-lovelace-the-first-tech-visionary>; Amy Jollymore, 'Ada Lovelace, An Indirect and Reciprocal Influence', *Forbes*, 15 oktober 2013, geraadpleegd op 18 augustus 2018, <https://www.forbes.com/sites/oreillymedia/2013/10/15/ada-lovelace-an-indirect-and-reciprocal-influence>; Valeria Aurora, 'Deleting Ada Lovelace from the History of Computing', Ada Initiative, 24 augustus 2013, geraadpleegd op 18 augustus 2018, <https://adainitiative.org/2013/08/24/deleting-ada-lovelace-from-the-history-of-computing>.
- ³ Eugene Eric Kim en Betty Alexandra Toole, 'Ada and the First Computer', *Scientific American*, mei 1999, 76-81.
- ⁴ Essinger, *Ada's Algorithm*, 184.
- ⁵ James Gleick, *The Information: A History, a Theory, a Flood* (New York: Pantheon, 2011), 118-119, 124.
- ⁶ Janet Abbate, *Recoding Gender: Women's Changing Participation in Computing* (Cambridge, MA: MIT Press, 2012), Kindle.
- ⁷ 'ENIAC', Computer Hope, geüpdatet op 22 mei 2018, geraadpleegd op 18 augustus 2018, <https://www.computerhope.com/jargon/e/eniac.htm>.
- ⁸ Ensmenger, 'Making Programming Masculine', 121.
- ⁹ Light, 'When Computers Were Women', 459.
- ¹⁰ Abbate, *Recoding Gender*, 24, Kindle.
- ¹¹ Abbate, 32.
- ¹² Abbate, 33.
- ¹³ Abbate, 36-37.
- ¹⁴ Kurt W. Beyer, *Grace Hopper and the Invention of the Information Age* (Cambridge, MA: MIT Press, 2012), Kindle, met name hoofdstuk 7, 'The Education of a Computer'; 'Grace Murray Hopper', Lemelson-

- MIT, geraadpleegd op 18 augustus 2018, <https://lemelson.mit.edu/resources/grace-murray-hopper>.
- ¹⁵ Steve Lohr, 'Jean Sammet, Co-Designer of a Pioneering Computer Language, Dies at 89', *The New York Times*, 4 juni 2017, geraadpleegd op 18 augustus 2018, <https://www.nytimes.com/2017/06/04/technology/obituary-jean-sammet-software-designer-cobol.html>; Jean E. Sammet, 'The Early History of COBOL', in *History of Programming Languages*, red. Richard L. Wexelblat (New York: ACM, 1981), 199-243.
- ¹⁶ Janet Abbate, 'Oral-History: Frances 'Fran' Allen', Engineering and Technology History Wiki, geraadpleegd op 18 augustus 2018, https://ethw.org/Oral-History:Frances_%22Fran%22_Allen.
- ¹⁷ Abbate, *Recoding Gender*, 65.
- ¹⁸ Marie Hicks, 'Meritocracy and Feminization in Conflict: Computerization in the British Government', in *Gender Codes*, 105.
- ¹⁹ Abbate, *Recoding Gender*, 65.
- ²⁰ Abbate, *Recoding Gender*, 62.
- ²¹ Reginald Braithwaite, 'A Woman's Story', braythwayt (blog), 29 maart 2012, geraadpleegd op 18 augustus 2018, <http://braythwayt.com/posterous/2012/03/29/a-womans-story.html>.
- ²² Ensmenger, 'Making Programming Masculine'; de illustraties uit het artikel in *Cosmopolitan* staan in een versie van dit artikel op Ensmengers pagina van de University of Indiana, geraadpleegd op 18 augustus 2018, <http://homes.sice.indiana.edu/nensmeng/files/ensmenger-gender.pdf>.
- ²³ Janet Abbate, 'Oral-History: Elsie Shutt', Engineering and Technology History Wiki, geraadpleegd op 18 augustus 2018, https://ethw.org/Oral-History:Elsie_Shutt.
- ²⁴ Abbate, *Recoding Gender*, 113-144.
- ²⁵ Ensmenger, 'Making Programming Masculine', 128-129.
- ²⁶ Abbate, 'Oral-History: Frances 'Fran' Allen.'
- ²⁷ Steven James Devlin, 'Sex Differences among Computer Programmers, Computer Application Users and General Computer Users at the Secondary School Level: An investigation of Sex Role Self-concept and Attitudes toward Computers' (proefschrift, Temple University, 1991), 2, geraadpleegd op 27 september 2018, <https://dl.acm.org/citation.cfm?id=918494>.

- ²⁸ 'Degrees in computer and information sciences conferred by degree-granting institutions, by level of degree and sex of student: 1970-71 through 2010-11', National Center for Educational Statistics, geraadpleegd op 18 augustus 2018, https://nces.ed.gov/programs/digest/d12/tables/dt12_349.asp.
- ²⁹ De onderzoeksresultaten van Margolis en Fisher staan in hun boek: Jane Margolis en Allan Fisher, *Unlocking the Clubhouse: Women in Computing* (Cambridge, MA: MIT, 2003).
- ³⁰ Lilly Irani, 'A Different Voice: Women Exploring Stanford Computer Science' (Honoursthesis, Stanford, 2003), 46, citeeserx.ist.psu.edu/viewdoc/download?doi=10.1.1.107.1406&rep=rep1&type=pdf.
- ³¹ Margaret Burnett, Scott D. Fleming, Shamsi Iqbal, Gina Venolia, Vidya Rajaram, Umer Farooq, Valentina Grigoreanu en Mary Czerwinski, 'Gender Differences and Programming Environments: Across Programming Populations', in ESEM '10 Handelingen van het ACM-IEEE International Symposium on Empirical Software Engineering and Measurement 2010, geraadpleegd op 18 augustus 2018, <https://www.microsoft.com/en-us/research/wp-content/uploads/2016/02/a28-burnett.pdf>.
- ³² Irani, 'A Different Voice', 61-64.
- ³³ Eric Roberts, 'Conserving the Seed Corn: Reflections on the Academic Hiring Crisis', *ACM SIGCSE Bulletin* (december 1999), geraadpleegd op 18 augustus 2018, https://www.researchgate.net/profile/Eric_Roberts2/publication/220612646_Conse_rving_the_seed_corn_Reflections_on_the_academic_hiring_crisis/links/00b4951cafd2900e86000000/Conserving-the-seed-corn-Reflections-on-the-academic-hiring-crisis.pdf.
- ³⁴ Mark Guzdial, 'NPR When Women Stopped Coding in 1980's: As We Repeat the Same Mistakes', Computing Education Research Blog, 30 oktober 2014, geraadpleegd op 18 augustus 2018, <https://computinged.wordpress.com/2014/10/30/npr-when-women-stopped-coding-in-1980s-are-we-about-to-repeat-the-past>.
- ³⁵ 'Degrees in Computer and Information Sciences', National Center for Educational Statistics.
- ³⁶ Ellen Spertus, 'Why Are There So Few Female Computer Scientists?', MIT Artificial Intelligence Laboratory Technical Report 1315, 1991,

geraadpleegd op 18 augustus 2018, <http://www.spertus.com/ellen/Gender/pap/pap.html>.

- ³⁷ *Barriers to Equality in Academia: Women in Computer Science at M.I.T.*, Massachusetts Institute of Technology, Laboratory for Computer Science, Massachusetts Institute of Technology, Artificial Intelligence Laboratory, M.I.T. (1983), geraadpleegd op 18 augustus 2018, <https://simson.net/ref/1983/barriers.pdf>.
- ³⁸ Dit zijn mijn berekeningen op basis van deze cijfers van het US Bureau of Labor Statistics: ‘Employed Persons by Detailed Occupation, Sex, Race, and Hispanic or Latino Ethnicity’, geraadpleegd op 18 augustus 2018, <https://www.bls.gov/cps/cpsaat11.pdf>.
- ³⁹ ‘Computer Programmers’, Data USA, geraadpleegd op 18 augustus 2018, <https://datausa.io/profile/soc/151131>.
- ⁴⁰ Molla, ‘It’s Not Just Google’.
- ⁴¹ ‘Diversity at Slack’, Slack Blog, geüpdatet op 17 april 2018, geraadpleegd op 18 augustus 2018, <https://slackhq.com/diversity-at-slack-2>.
- ⁴² Kieran Snyder, ‘The Abrasiveness Trap: High-achieving Men and Women Are Described Differently in Reviews’, *Fortune*, 26 augustus 2014, geraadpleegd op 18 augustus 2018, <http://fortune.com/2014/08/26/performance-review-gender-bias>.
- ⁴³ Erin Carson, ‘When Tech Firms Judge on Skills Alone, Women Land More Job Interviews’, *CNET*, 27 augustus 2016, geraadpleegd op 18 augustus 2018, <https://www.cnet.com/news/when-tech-firms-judge-on-skills-alone-women-land-more-job-interviews>.
- ⁴⁴ Tracey Ross, ‘The Unsettling Truth about the Tech Sector’s Meritocracy Myth’, *The Washington Post*, 13 april 2016, geraadpleegd op 18 augustus 2018, <https://www.washingtonpost.com/news/in-theory/wp/2016/04/13/the-unsettling-truth-about-the-tech-sectors-meritocracy-myth>.
- ⁴⁵ Sarah Mei, ‘Why Rails Is Still a Ghetto’, Sarah Mei (blog), 25 april 2009, geraadpleegd op 18 augustus 2018, <http://www.sarahmei.com/blog/2009/04/25/why-rails-is-still-a-ghetto>.
- ⁴⁶ Jun Auza, ‘Why Mark Shuttleworth Owes FOSS-women an Apology’, *TechSource*, 30 september 2009, geraadpleegd op 18 augustus 2018, <http://www.junauza.com/2009/09/why-mark-shuttleworth-owes-foss-women.html>; Chris Ball, ‘On keynotes and apologies’, Blog.printf.net,

- 25 september 2009, geraadpleegd op 19 augustus 2018, <https://blog.printf.net/articles/2009/09/25/on-keynotes-and-apologies>.
- ⁴⁷ Andy Lester, 'Distracting Examples Ruin your Presentation', Andy Lester (blog), 26 juli 2011, geraadpleegd op 19 augustus 2018, <https://petdance.wordpress.com/2011/07/26/distracting-examples-ruin-your-presentation>.
- ⁴⁸ Arianna Simpson, 'Here's What It's Like to Be a Woman at a Bitcoin Meetup', *Business Insider*, 3 februari 2014, geraadpleegd op 19 augustus 2018, <https://www.businessinsider.com/arianna-simpson-on-women-and-bitcoin-2014-2>.
- ⁴⁹ Rhett Jones, 'Lawsuit: VR Company Had a 'Kink Room', Pressured Female Employees to 'Microdose'', *Gizmodo*, 15 mei 2017, geraadpleegd op 19 augustus 2018, <https://gizmodo.com/lawsuit-vr-company-had-a-kink-room-pressured-female-e-1795243868>. De zaak werd uiteindelijk geschikt: Marisa Kendall, 'Silicon Valley virtual reality startup settles 'kink room' lawsuit', *The Mercury News*, 7 september 2017, geraadpleegd op 7 oktober 2018, <https://www.mercurynews.com/2017/09/07/san-francisco-virtual-reality-startup-settles-kink-room-lawsuit>.
- ⁵⁰ Adam Fisher, 'Sex, Beer, and Coding: Inside Facebook's Wild Early Days', *Wired*, 10 juli 2018, geraadpleegd op 19 augustus 2018, <https://www.wired.com/story/sex-beer-and-coding-inside-facebooks-wild-early-days>.
- ⁵¹ Dan Primack, 'Venture Capital's Stunning Lack of Female Decision-makers', *Fortune*, 6 februari 2014, geraadpleegd op 19 augustus 2018, <http://fortune.com/2014/02/06/venture-capitals-stunning-lack-of-female-decision-makers>.
- ⁵² Reed Albergotti, 'Silicon Valley Women Tell of VC's Unwanted Advances', *The Information*, 22 juni 2017, <https://www.theinformation.com/articles/silicon-valley-women-tell-of-vcs-unwanted-advances>; Sara O'Brien, 'Sexual Harassment in Tech: Women Tell Their Stories', *CNN Tech*, <https://money.cnn.com/technology/sexual-harassment-tech>; Katie Benner, 'Women in Tech Speak Frankly on Culture of Harassment', *The New York Times*, 30 juni 2017, <https://www.nytimes.com/2017/06/30/technology/women-entrepreneurs-speak-out-sexual-harassment.html>; alle geraadpleegd op 19 augustus 2018.

- ⁵³ Ellen Pao, *Reset: My Fight for Inclusion and Lasting Change* (New York: Random House, 2017), 78.
- ⁵⁴ Cadran Cowansage, 'Ask A Female Engineer: Thoughts on the Google Memo', Y Combinator (blog), 15 augustus 2017, geraadpleegd op 19 augustus 2018, <https://blog.ycombinator.com/ask-a-female-engineer-thoughts-on-the-google-memo>.
- ⁵⁵ Jordan Pearson, 'How the Magic Leap Lawsuit Illuminates Tech's Gendered Design Bias', *Motherboard*, 16 februari 2017, geraadpleegd op 19 augustus 2018, https://motherboard.vice.com/en_us/article/aeYGje/how-the-magic-leap-lawsuit-illuminates-techs-gendered-design-bias. De zaak werd uiteindelijk geschikt: Adi Robertson, 'Magic Leap settles sex discrimination lawsuit', *The Verge*, 9 mei 2017, geraadpleegd op 7 oktober 2018, <https://www.theverge.com/2017/5/9/15593578/magic-leap-tannen-campbell-sex-discrimination-settlement>.
- ⁵⁶ Heather Gold, 'Video Chat Is Terrible and About to Get Much Worse', 16 oktober 2018, geraadpleegd op 4 januari 2019, <https://medium.com/s/story/video-chat-is-terrible-and-about-to-get-much-worse-174823f3ffb>.
- ⁵⁷ Laurie Penny, 'Laurie Penny: A woman's Opinion Is the Mini-skirt of the Internet', *The Independent*, 4 november 2011, geraadpleegd op 19 augustus 2018, <https://www.independent.co.uk/voices/commentators/laurie-penny-a-womans-opinion-is-the-mini-skirt-of-the-internet-6256946.html>.
- ⁵⁸ Hunter Walk, 'Early Employees: Heather Champ & Flickr', LinkedIn post, 20 maart 2013, geraadpleegd op 19 augustus 2018, <https://www.linkedin.com/pulse/20130320042336-7298-early-employees-heather-champ-flickr>.
- ⁵⁹ Alex Sherman, Christopher Palmeri en Sarah Frier, 'Disney Said to Have Stopped Twitter Chase Partly over Image', *The Boston Globe*, 19 oktober 2016, geraadpleegd op 19 augustus 2018, <https://www.bostonglobe.com/business/2016/10/18/disney-said-have-stopped-twitter-chase-partly-over-image/Op40d0HcrsBOXIjWEgLanL/story.html>.
- ⁶⁰ Dan Primack, 'Ex-Twitter CEO: I'm Sorry', *Axios*, 2 februari 2017, geraadpleegd op 19 augustus 2018, <https://www.axios.com/ex-twitter-ceo-im-sorry-1513300246-b0a495a5-f418-415b-9caa-7a32a7fe8d50.html>.

- ⁶¹ Kate Conger, 'Exclusive: Here's the Full 10-Page Anti-diversity Screed Circulating Internally at Google [Updated]', *Gizmodo*, 5 augustus 2017, geraadpleegd op 19 augustus 2018, <https://gizmodo.com/exclusive-heres-the-full-10-page-anti-diversity-screed-1797564320>.
- ⁶² Simon Baron-Cohen, *The Essential Difference: Male and Female Brains and the Truth about Autism* (New York: Basic Books, 2003).
- ⁶³ Kara Swisher, 'Google Has Fired the Employee Who Penned a Controversial Memo on Women and Tech', *Recode*, 7 augustus 2017, geraadpleegd op 19 augustus 2018, <https://www.recode.net/2017/8/7/16110696/firing-google-ceo-employee-penned-controversial-memo-on-women-has-violated-its-code-of-conduct>.
- ⁶⁴ Yonatan Zunger, 'So, about this Googler's Manifesto', *Medium*, 6 augustus 2017, geraadpleegd op 19 augustus 2018, <https://medium.com/@yonatanzunger/so-about-this-googlers-manifesto-1e3773ed1788>.
- ⁶⁵ Ashley Feinberg, 'Internal Messages Show Some Googlers Supported Fired Engineer's Manifesto', *Wired*, 8 augustus 2017, geraadpleegd op 19 augustus 2018, <https://www.wired.com/story/internal-messages-james-damore-google-memo>.
- ⁶⁶ Holly Brockwell, 'Recruiter Sends Jaw-droppingly Sexist Email to Female Engineer – then Claims It Was a Stunt', *shinyshiny (blog)*, 16 maart 2015, geraadpleegd op 19 augustus 2018, <https://www.shinyshiny.tv/2015/03/recruiter-sends-sexist-email.html>.
- ⁶⁷ Cynthia Lee, 'James Damore Has Sued Google. His Infamous Memo on Women in Tech Is Still Nonsense', *Vox*, 8 januari 2018, geraadpleegd op 19 augustus 2018, <https://www.vox.com/the-big-idea/2017/8/11/16130452/google-memo-women-tech-biology-sexism>.
- ⁶⁸ Angela Saini, *Inferior: How Science Got Women Wrong and the New Research That's Rewriting the Story* (Boston: Beacon Press, 2017); Rosalind C. Barnett en Caryl Rivers, 'We've Studied Gender and STEM for 25 Years. The Science Doesn't Support the Google Memo', *Recode*, 11 augustus 2017, geraadpleegd op 19 augustus 2018, <https://www.recode.net/2017/8/11/16127992/google-engineer-memo-research-science-women-biology-tech-james-damore>; Egan Molteni en Adam Rogers, 'The Actual Science of James Damore's Google Memo', *Wired*, 15 augustus 2017, geraadpleegd op 19 augustus 2018, <https://www.wired.com/story/the-actual-science-of-james-damores-google-memo>.

wired.com/story/the-pernicious-science-of-james-damores-google-memo; Suzanne Sadedin, 'A Scientist's Take on the Biological Claims from the Infamous Google Anti-diversity Manifesto', *Forbes*, 10 augustus 2017, geraadpleegd op 19 augustus 2018, www.forbes.com/sites/quora/2017/08/10/a-scientists-take-on-the-biological-claims-from-the-infamous-google-anti-diversity-manifesto; Tia Ghose, 'Google Manifesto: Does Biology Explain Gender Disparities in Tech?', *LiveScience*, 9 augustus 2017, geraadpleegd op 19 augustus 2018, <https://www.livescience.com/60079-biological-differences-men-and-women.html>.

- ⁶⁹ Roli Varma en Deepak Kapur, 'Decoding Femininity in Computer Science in India', *Communications of the ACM* 58, nr. 5 (mei 2015), 56-62.
- ⁷⁰ Vivian Anette Lagesen, 'A Cyberfeminist Utopia?: Perceptions of Gender and Computer Science among Malaysian Women Computer Science Students', *Science Technology Human Values* 33, nr. 1 (2008), 5-27.
- ⁷¹ Abbate, *Recoding Gender*, 67
- ⁷² Michael Young, 'Down with Meritocracy', *The Guardian*, 28 juni 2001, geraadpleegd op 19 augustus 2018, <https://www.theguardian.com/politics/2001/jun/29/comment>.
- ⁷³ Sarah-Jane Leslie, Andrei Cimpian, Meredith Meyer en Edward Freeland, 'Expectations of Brilliance Underlie Gender Distributions across Academic Disciplines', *Science* 347, nr. 6219 (16 januari 2015), 262-265.
- ⁷⁴ Emilio J. Castilla en Stephen Benard, 'The Paradox of Meritocracy in Organizations', *Administrative Science Quarterly* 55 (2010), 543-576.
- ⁷⁵ Margolis en Fisher, *Unlocking the Clubhouse*, locatie 1620 van 2083, Kindle.
- ⁷⁶ Laura Sydell, 'Colleges Have Increased Women Computer Science Majors: What Can Google Learn?', *NPR All Tech Considered*, 10 augustus 2017, geraadpleegd op 19 augustus 2018, <https://www.npr.org/sections/alltechconsidered/2017/08/10/542638758/colleges-have-increased-women-computer-science-majors-what-can-google-learn>.
- ⁷⁷ Anya Kamenetz, 'A College President on Her School's Worst Year Ever', *nprED*, 2 augustus 2017, geraadpleegd op 19 augustus 2018, <https://www.npr.org/sections/ed/2017/08/02/540603927/a-college->

president-on-her-schools-worst-year-ever.

- ⁷⁸ Linda J. Sax, 'Expanding the Pipeline: Characteristics of Male and Female Prospective Computer Science Majors – Examining Four Decades of Changes', *Computing Research News* 29, nr. 2 (februari 2017), 4-7.
- ⁷⁹ Rushkoff, *Program or be Programmed*, 133.
- ⁸⁰ Susan Fowler, 'Reflecting on One Very, Very Strange Year at Uber', SusanJFowler.com, 19 februari 2017, geraadpleegd op 19 augustus 2018, <https://www.susanjowler.com/blog/2017/2/19/reflecting-on-one-very-strange-year-at-uber>.
- ⁸¹ Will Evans, 'Uber Said It Protects You from Spying. Security Sources Say Otherwise', *Reveal News*, 12 december 2016, geraadpleegd op 19 augustus 2018, <https://www.revealnews.org/article/uber-said-it-protects-you-from-spying-security-sources-say-otherwise>.
- ⁸² Sarah Lacy, 'Uber Executive Said the Company Would Spend 'a Million Dollars' to Shut Me Up', *Time*, 14 november 2017, geraadpleegd op 19 augustus 2018, <http://time.com/5023287/uber-threatened-journalist-sarah-lacy>.
- ⁸³ Mickey Rapkin, 'Uber Cab Confessions', *GQ*, 27 februari 2014, geraadpleegd op 19 augustus 2018, www.gq.com/story/uber-cab-confessions.
- ⁸⁴ Mike Isaac, 'Uber Founder Travis Kalanick Resigns as C.E.O.', *The New York Times*, 21 juni 2017, geraadpleegd op 19 augustus 2018, <https://www.nytimes.com/2017/06/21/technology/uber-ceo-travis-kalanick.html>.
- ⁸⁵ Sage Lazzaro, '6 Women Accuse Prominent Tech VC Justin Caldbeck of Sexual Assault and Harassment', *Observer*, 23 juni 2017, geraadpleegd op 19 augustus 2018, <http://observer.com/2017/06/justin-caldbeck-binary-capital-sexual-assault-harassment>; Becky Peterson, 'Shark Tank' Judge Chris Sacca Apologizes for Helping Make Tech Hostile to Women – after Being Accused of Inappropriately Touching a Female Investor', *Business Insider*, 30 juni 2017, geraadpleegd op 19 augustus 2018, <https://www.businessinsider.com/chris-sacca-apologizes-after-accusation-of-inappropriate-touching-2017-6>; 'Dave McClure Quits 500 Startups over Sexual Harassment Scandal', *Reuters*, 4 juli 2017, geraadpleegd op 19 augustus 2018, <http://fortune.com/2017/07/03/dave-mcclure>

500-startups-quits; Maya Kosoff, 'Silicon Valley's Sexual-harassment Crisis Keeps Getting Worse', *VanityFair*, 12 september 2017, geraadpleegd op 19 augustus 2018, <https://www.vanityfair.com/news/2017/09/silicon-valleys-sexual-harassment-crisis-keeps-getting-worse>. McClure nam ontslag en plaatste een bericht online waarin hij zich verontschuldigde voor zijn gedrag: Kaitlin Menza, 'Dave McClure's Apology for Sexual Harassment Isn't Applause-Worthy – It's the Bare Minimum', *Self*, 7 juli 2017, <https://www.self.com/story/dave-mcclure-apology-sexual-harassment>; Chris Sacca sprak de beschuldigingen tegen en schreef dat 'mijn gedrag er misschien een enkele keer toe geleid kan hebben dat vrouwen zich niet welkom voelden in onze bedrijfstak': Chris Sacca, 'I Have More Work To Do', *Medium*, 30 juni 2017, geraadpleegd op 7 oktober 2018, <https://medium.com/@sacca/i-have-more-work-to-do-c775c5d56ca1>; Justin Caldbeck ontkende aanvankelijk, maar schreef later brieven waarin hij zijn verontschuldigungen aanbood aan de vrouwen die hem van ongewenste intimiteiten hadden beschuldigd: Ellen Huet, 'After Harassment Allegations, Justin Caldbeck Attempts a Comeback. Critics Want Him to Stay Gone', *Bloomberg Businessweek*, 13 november 2017, geraadpleegd op 7 oktober 2018, <https://www.bloomberg.com/news/articles/2017-11-13/after-harassment-allegations-justin-caldbeck-attempts-a-comeback-critics-want-him-to-stay-gone>.

8. HACKERS, CRACKERS EN VRIJHEIDSTRIJDERS

- ¹ Barton Gellman, 'NSA Infiltrates Links to Yahoo, Google Data Centers Worldwide, Snowden Documents Say', *The Washington Post*, 30 oktober 2013, geraadpleegd op 19 augustus 2018, https://www.washingtonpost.com/world/national-security/nsa-infiltrates-links-to-yahoo-google-data-centers-worldwide-snowden-documents-say/2013/10/30/e51d661e-4166-11e3-8b74-d89d714ca4dd_story.html; Barton Gellman, Aaron Blake en Greg Miller, 'Edward Snowden Comes Forward as Source of NSA Leaks', *The Washington Post*, 9 juni 2013, geraadpleegd op 19 augustus 2018, https://www.washingtonpost.com/politics/intelligence-leaders-push-back-on-leakers-media/2013/06/09/fff80160-d122-11e2-a73e-826d299ff459_story.html.

- ² Andy Greenberg, ‘Anonymous’ Barrett Brown Is Free – and Ready To Pick New Fights’, *Wired*, 21 december 2016, geraadpleegd op 19 augustus 2018, <https://www.wired.com/2016/12/anonymous-barrett-brown-free-ready-pick-new-fights>.
- ³ Kim Zetter, ‘Barrett Brown Sentenced to 5 Years in Prison in Connection to Stratfor Hack’, *Wired*, 22 januari 2015, geraadpleegd op 19 augustus 2018, <https://www.wired.com/2015/01/barrett-brown-sentenced-5-years-prison-connection-stratfor-hack>.
- ⁴ Richard Stallman, ‘My Lisp Experiences and the Development of GNU Emacs’, Gnu.org, transcriptie van speech van 28 oktober 2002, voor het laatst geüpdatet op 12 april 2014, geraadpleegd op 19 augustus 2018, <https://www.gnu.org/gnu/rms-lisp.en.html>.
- ⁵ Levy, *Hackers*, 95, Kindle.
- ⁶ Levy, *Hackers*, 436-453, Kindle.
- ⁷ ‘GNU general public license’, Free Software Foundation, versie 3, 29 juni 2007, geplaatst op Gnu.org, geraadpleegd op 19 augustus 2018, <https://www.gnu.org/licenses/gpl.txt>; Heather Meeker, ‘Open Source Licensing: What Every Technologist Should Know’, *Opensource*, 21 september 2017, geraadpleegd op 19 augustus 2018, <https://opensource.com/article/17/9/open-source-licensing>; Gabriella Coleman, ‘CODE IS SPEECH: Legal Tinkering, Expertise, and Protest among Free and Open Source Software Developers’, *Cultural Anthropology* 24, nr. 3 (2009), 420-454, geraadpleegd op 19 augustus 2018, <https://steinhardt.nyu.edu/scmsAdmin/uploads/005/984/Coleman-Code-is-Speech.pdf>.
- ⁸ Elinor Mills, ‘Q&A: Mark Abene, from ‘Phiber Optik’ to Security Guru’, CNET, 29 juni 2009, geraadpleegd op 19 augustus 2018, <https://www.cnet.com/news/q-a-mark-abene-from-phiber-optik-to-security-guru>; Michelle Slatalla en Joshua Quittner, ‘Gang War in Cyberspace’, *Wired*, december 1994, geraadpleegd op 19 augustus 2018, <https://www.wired.com/1994/12/hacker-4>; Abraham Riesman, ‘Twilight of the Phreaks: The Fates of the 10 Best Early Hackers’, *Motherboard*, 10 maart 2012, geraadpleegd op 19 augustus 2018, https://motherboard.vice.com/en_us/article/wnn7by/twilight-of-the-phreaks-the-fates-of-the-10-best-early-hackers.
- ⁹ Julian Dibbell, ‘The Prisoner: Phiber Optik Goes Directly to Jail’, *Village Voice*, 12 januari 1994, geraadpleegd op 19 augustus 2018

- op <http://www.juliandibbell.com/texts/phiber.html>; Trip Gabriel, 'Reprogramming a Convicted Hacker; to His On-Line Friends, Phiber Optik Is a Virtual Hero', 14 januari 1005, *The New York Times*, geraadpleegd op 19 augustus 2018, <https://www.nytimes.com/1995/01/14/nyregion/reprogramming-convicted-hacker-his-line-friends-phiber-optik-virtual-hero.html>; Wired Staff, 'Phiber Optik Goes to Prison', *Wired*, 1 april 1994, geraadpleegd op 19 augustus 2018.
- ¹⁰ Joe Mullin, 'Newegg Trial: Crypto Legend Takes the Stand, Goes for Knockout Patent Punch', *Ars Technica*, 25 november 2013, geraadpleegd op 19 augustus 2018, <https://arstechnica.com/tech-policy/2013/11/newegg-trial-crypto-legend-diffie-takes-the-stand-to-knock-out-patent>.
- ¹¹ Steven Levy, 'Prophet of Privacy', *Wired*, november 1994, geraadpleegd op 19 augustus 2018, <https://www.wired.com/1994/11/diffie>; Steve Fyffe en Tom Abate, 'Stanford Cryptography Pioneers Whitfield Diffie and Martin Hellman Win ACM 2015 A.M. Turing Award', *Stanford News Service*, 1 maart 2016, geraadpleegd op 19 augustus 2018, <https://news.stanford.edu/press-releases/2016/03/01/pr-turing-hellman-diffie-030116>.
- ¹² Thomas Rid, 'The Cypherpunk Revolution', *Christian Science Monitor*, 20 juli 2016, geraadpleegd op 19 augustus 2018.
- ¹³ Gregory Ferenstein, 'How Hackers Beat the NSA in the '90s and How They Can Do It Again', *TechCrunch*, 29 juni 2013, geraadpleegd op 19 augustus 2018, <https://techcrunch.com/2013/06/28/how-hackers-beat-the-nsa-in-the-90s-and-how-they-can-do-it-again>.
- ¹⁴ Dan Froomkin, 'Deciphering Encryption', *The Washington Post*, 8 mei 1998, geraadpleegd op 19 augustus 2018, <https://www.washingtonpost.com/wp-srv/politics/special/encryption/encryption.htm>.
- ¹⁵ John Markoff, 'Judge Rules against U.S. in Encryption Case', *The New York Times*, 19 december 1996, <https://www.nytimes.com/1996/12/19/business/judge-rules-against-us-in-encryption-case.html>; 'Bernstein v. US Department of Justice', Electronic Frontier Foundation, geraadpleegd op 19 augustus 2018, <https://www.eff.org/cases/bernstein-v-us-dept-justice>.
- ¹⁶ John Markoff, 'Data-Secrecy Export Case Dropped by U.S.', *The New*

- York Times*, 12 januari 1996, geraadpleegd op 3 oktober 2018, <https://www.nytimes.com/1996/01/12/business/data-secrecy-export-case-dropped-by-us.html>.
- ¹⁷ Steven Levy, 'Battle of the Clipper Chip', *New York Times Magazine*, 12 juni 1994, geraadpleegd op 19 augustus 2018, <https://www.nytimes.com/1994/06/12/magazine/battle-of-the-clipper-chip.html>.
- ¹⁸ 'The Cyphernomicon', Nakamoto Institute, geraadpleegd op 19 augustus 2018, <https://nakamotoinstitute.org/static/docs/cyphernomicon.txt>.
- ¹⁹ Markoff, 'Judge Rules'; Rid, 'The Cypherpunk Revolution'.
- ²⁰ Levy, 'Battle of the Clipper Chip'.
- ²¹ Sharon Begley, 'Foiling the Clipper Chip', *Newsweek*, 12 juni 1994, geraadpleegd op 19 augustus 2018, <https://www.newsweek.com/foiling-clipper-chip-188912>.
- ²² Gabriella Coleman, *Coding Freedom: The Ethics and Aesthetics of Hacking* (Princeton: Princeton University Press, 2013), 84.
- ²³ 'US v. ElcomSoft & Sklyarov FAQ', Electronic Frontier Foundation, geüpdatet op 19 februari 2002, geraadpleegd op 19 augustus 2018, <https://www EFF.org/pages/us-v-elcomsoft-sklyarov-faq>. De aanklacht tegen Sklyarov werd uiteindelijk ingetrokken: John Leyden, 'Case against Dmitry Sklyarov dropped', *The Register*, 14 december 2001, geraadpleegd op 7 oktober 2018, https://www.theregister.co.uk/2001/12/14/case_against_dmitry_sklyarov_dropped/.
- ²⁴ J.S. Kelly, 'Meet the Kid behind the DVD Hack', *CNN*, 31 januari 2000, geraadpleegd op 19 augustus 2018, <http://www.cnn.com/2000/TECH/computing/01/31/johansen.interview.idg>.
- ²⁵ Declan McCullagh, 'Norway Cracks Down on DVD Hacker', *Wired*, 10 januari 2002, geraadpleegd op 19 augustus 2018, <https://www.wired.com/2002/01/norway-cracks-down-on-dvd-hacker>; 'DVD Lawsuit Questions Legality of Linking', *The New York Times*, 7 januari 2000, geraadpleegd op 19 augustus 2018, <https://www.nytimes.com/2000/01/07/technology/dvd-lawsuit-questions-legality-of-linking.html>; Amy Harmon, 'Free Speech Rights for Computer Code?', *The New York Times*, 31 juli 2000, geraadpleegd op 19 augustus 2018, <https://archive.nytimes.com/www.nytimes.com/library/tech/00/07/biztech/articles/31rite.html>.
- ²⁶ John Leyden, '2600 Withdraws Supreme Court Appeal in DeCSS

- Case', *The Register*, 4 juli 2002, geraadpleegd op 19 augustus 2018, https://www.theregister.co.uk/2002/07/04/2600_withdraws_supreme_court_appeal; 'Teen Cleared in Landmark DVD Case', *CNN*, 7 januari 2003, geraadpleegd op 19 augustus 2018, <http://www.cnn.com/2003/TECH/01/07/dvd.johansen/index.html>; Carl S. Kaplan, 'The Year in Internet Law', *The New York Times*, 28 december 2001, geraadpleegd op 19 augustus 2018, <https://www.nytimes.com/2001/12/28/technology/the-year-in-internet-law.html>.
- ²⁷ Gabriella Coleman, 'From Internet Farming to Weapons of the Geek', *Current Anthropology* 58, nr. S15 (februari 2017), geraadpleegd op 19 augustus 2018, <https://www.journals.uchicago.edu/doi/full/10.1086/688697>.
- ²⁸ Tim Carmody, 'Memory to Myth: Tracing Aaron Swartz through the 21st Century', *The Verge*, 22 januari 2013, geraadpleegd op 19 augustus 2018, <https://www.theverge.com/2013/1/22/3898584/aaron-swartz-profile-memory-to-myth>.
- ²⁹ Justin Peters, 'The Idealist', *Slate*, 13 februari 2013, geraadpleegd op 19 augustus 2018, http://www.slate.com/articles/technology/technology/2013/02/aaron_swartz_he_wanted_to_save_the_world_why_couldn_t_he_save_himself.single.html.
- ³⁰ Coleman, 'From Internet Farming'.
- ³¹ Nick Bilton, *American Kingpin: The Epic Hunt for the Criminal Mastermind behind the Silk Road* (New York: Penguin, 2017), 34.
- ³² Robert Graham, 'How Terrorists Use Encryption', *CTC Sentinel* 9, nr. 6 (juni 2016), geraadpleegd op 19 augustus 2018, <https://etc.usma.edu/how-terrorists-use-encryption>.
- ³³ Andy Greenberg, 'No, Department of Justice, 80 Percent of Tor Traffic Is Not Child Porn', *Wired*, 28 januari 2015, geraadpleegd op 19 augustus 2018, <https://www.wired.com/2015/01/department-justice-80-percent-tor-traffic-child-porn>.
- ³⁴ Andy Greenberg, 'Meet Moxie Marlinspike, The Anarchist Bringing Encryption to All Of Us', *Wired*, augustus 2016, geraadpleegd op 19 augustus 2018, <https://www.wired.com/2016/07/meet-moxie-marlinspike-anarchist-bringing-encryption-us>.
- ³⁵ Moxie Marlinspike, 'We Should All Have Something to Hide', Moxie (blog), 12 juni 2013, geraadpleegd op 19 augustus 2018, <https://moxie.org/blog/we-should-all-have-something-to-hide>.

- ³⁶ Jim Finkle, 'Hackers Scour Voting Machines for Election Bugs', *Reuters*, 28 juli 2017, geraadpleegd op 19 augustus 2018, <https://www.reuters.com/article/us-cyber-conference-election-hacking/hackers-scour-voting-machines-for-election-bugs-idUSKBN1AD1BF>.
- ³⁷ Matt Blaze, Jake Braun, Harri Hursti, Joseph Lorenzo Hall, Margaret MacAlpine en Jeff Moss, 'DEFCON 25 Voting Machine Hacking Village', Defcon.org, september 2017, geraadpleegd op 19 augustus 2018, <https://www.defcon.org/images/defcon-25/DEF%20CON%2025%20voting%20village%20report.pdf>.
- ³⁸ Christian Ternus, 'Infosec's Jerk Problem', Adversarial Thinking (blog), 19 juni 2013, geraadpleegd op 19 augustus 2018, <http://adversari.es/blog/2013/06/19/cant-we-all-just-get-along>.
- ³⁹ James Stevenson, 'The Who, What, Where, When, And Why Of Wcry', *Hacking Insider*, 13 mei 2017, geraadpleegd op 19 augustus 2018, <http://www.hackinginsider.com/2017/05/the-who-what-where-when-and-why-of-wcry>.
- ⁴⁰ 'Cyber Attack Hits 200,000 in at Least 150 Countries', *Reuters*, 14 mei 2017, geraadpleegd op 19 augustus 2018, <https://www.reuters.com/article/us-cyber-attack-europol/cyber-attack-hits-200000-in-at-least-150-countries-europol-idUSKCN18A0FX>; Julia Carrie Wong en Olivia Solon, 'Massive Ransomware Cyber-attack Hits Nearly 100 Countries around the World', *The Guardian*, 17 mei 2017, <https://www.theguardian.com/technology/2017/may/12/global-cyber-attack-ransomware-nsa-uk-nhs>; Thomas P. Bossert, 'It's Official: North Korea Is Behind WannaCry', *The Wall Street Journal*, 18 december 2017, geraadpleegd op 19 augustus 2018, <https://www.wsj.com/articles/its-official-north-korea-is-behind-wannacry-1513642537>.
- ⁴¹ Reeves Wiedeman, 'Gray Hat', *New York*, 19 februari 2018, geraadpleegd op 19 augustus 2018.
- ⁴² Doug Olenick, 'Simple, but Not Cheap, Phishing Kit Found for Sale on Dark Web', *SC Magazine*, 26 april 2018, geraadpleegd op 19 augustus 2018, <https://www.scmagazine.com/simple-but-not-cheap-phishing-kit-found-for-sale-on-dark-web/article/761520>; Kishalaya Kundu, 'New Phishing Kit on Dark Web Lets Anyone Launch Cyber Attacks', *Beebom*, 30 april 2018, geraadpleegd op 19 augustus 2018, <https://beebom.com/new-phishing-kit-dark-web>; Ionut Arghire, 'New Advanced Phishing Kit Targets eCommerce', *SecurityWeek*, 25 april

2018, geraadpleegd op 19 augustus 2018, <https://www.securityweek.com/new-advanced-phishing-kit-targets-ecommerce>.

- ⁴³ ‘Internet Threat Security Report: Volume 23’ (maart 2018), Symantec, geraadpleegd op 19 augustus 2018, <https://www.symantec.com/security-center/threat-report>.
- ⁴⁴ Brian Krebs, ‘Who is Anna-Senpai, the Mirai Worm Author?’, *Krebs On Security*, 17 januari 2017, geraadpleegd op 19 augustus 2018, <https://krebsonsecurity.com/2017/01/who-is-anna-senpai-the-mirai-worm-author>; Brian Krebs, ‘Mirai IoT Botnet Co-Authors Plead Guilty’, *Krebs On Security*, 17 december 2017, geraadpleegd op 19 augustus 2018, <https://krebsonsecurity.com/2017/12/mirai-iot-botnet-co-authors-plead-guilty>; Mark Thiessen, ‘3 Hackers Get Light Sentences after Working with the FBI’, Associated Press, 19 september 2018, geraadpleegd op 2 oktober 2018, <https://apnews.com/b6f03f9a13e04b19afed3375476b4132>; Garrett M. Graff, ‘The Mirai Botnet Architects Are Now Fighting Crime with the FBI’, *Wired*, 18 september 2018, geraadpleegd op 2 oktober 2018, <https://www.wired.com/story/mirai-botnet-creators-fbi-sentencing/>.
- ⁴⁵ Wiedeman, ‘Gray Hat’.
- ⁴⁶ Michael Schwirtz en Joseph Goldstein, ‘Russian Espionage Piggybacks on a Cybercriminal’s Hacking’, *The New York Times*, 12 maart 2017, geraadpleegd op 19 augustus 2018, <https://www.nytimes.com/2017/03/12/world/europe/russia-hacker-evgeniy-bogachev.html>; Garrett M. Graff, ‘Inside The Hunt For Russia’s Most Notorious Hacker’, *Wired*, 21 maart 2017, geraadpleegd op 19 augustus 2018, <https://www.wired.com/2017/03/russian-hacker-spy-botnet>.
- ⁴⁷ Lisa Vaas, ‘DNC Chief Podesta Led to Phishing Link “Thanks to a Typo”’, *Naked Security by Sophos*, 16 december 2016, geraadpleegd op 19 augustus 2018, <https://nakedsecurity.sophos.com/2016/12/16/dnc-chief-podesta-led-to-phishing-link-thanks-to-a-typo>; Eric Lipton, David E. Sanger en Scott Shane, ‘The Perfect Weapon: How Russian Cyberpower Invaded the U.S. Image’, *The New York Times*, 13 december 2016, geraadpleegd op 19 augustus 2018, <https://www.nytimes.com/2016/12/13/us/politics/russia-hack-election-dnc.html>.
- ⁴⁸ Teri Robinson, ‘Defense Dept. Blocks 36M Malicious Emails Daily, Fends off 600 Gbps DDoS Attacks’, *The Cybersecurity Source*, 19 januari 2018, geraadpleegd op 19 augustus 2018, <https://www>.

scmagazine.com/defense-dept-blocks-36m-malicious-emails-daily-fends-off-600-gbps-ddos-attacks/article/738292.

- 49 Masashi Crete-Nishihata, Jakub Dalek, Etienne Maynier en John Scott-Railton, 'Spying on a Budget: Inside a Phishing Operation with Targets in the Tibetan Community', *The Citizen Lab*, 30 januari 2018, geraadpleegd op 19 augustus 2018, <https://citizenlab.ca/2018/01/spying-on-a-budget-inside-a-phishing-operation-with-targets-in-the-tibetan-community>.
- 50 Lily Hay Newman, 'The Leaked NSA Spy Tool That Hacked The World', *Wired*, 7 mei 2018, geraadpleegd op 19 augustus 2018, <https://www.wired.com/story/eternalblue-leaked-nsa-spy-tool-hacked-world>.

9. KOMKOMMERS, SKYNET, EN DE OPKOMST VAN AI

- 1 John Markoff, 'Alphabet Program Beats the European Human Go Champion', *The New York Times*, 27 januari 2016, geraadpleegd op 19 augustus 2018, <https://bits.blogs.nytimes.com/2016/01/27/alphabet-program-beats-the-european-human-go-champion>; Bloomberg News, 'How You Beat One of the Best Go players in the World? Use Google', *The Washington Post*, 14 maart 2016, geraadpleegd op 19 augustus 2018, https://www.washingtonpost.com/national/health-science/how-you-beat-one-of-the-best-go-players-in-the-world-use-google/2016/03/14/1efd1176-e6fc-11e5-b0fd-073d5930a7b7_story.html.
- 2 Alan Levinovitz, 'The Mystery Of Go, The Ancient Game That Computers Still Can't Win', *Wired*, 12 mei 2014, geraadpleegd op 19 augustus 2018, <https://www.wired.com/2014/05/the-world-of-computer-go>; David Silver en Demis Hassabis, 'AlphaGo: Mastering the Ancient Game of Go with Machine Learning', *Google AI Blog*, 27 januari 2016, geraadpleegd op 19 augustus 2018, <https://ai.googleblog.com/2016/01/alphago-mastering-ancient-game-of-go.html>.
- 3 Silver en Hassabis, 'AlphaGo'.
- 4 Cade Metz, 'The Sadness And Beauty Of Watching Google's Ai Play Go', *Wired*, 11 maart 2016, geraadpleegd op 19 augustus 2018, <https://www.wired.com/2016/03/sadness-beauty-watching-googles-ai-play-go>.
- 5 Tom Simonite, 'Google Stakes Its Future on a Piece of Software', *MIT*

Technology Review, 27 juni 2017, geraadpleegd op 19 augustus 2018, <https://www.technologyreview.com/s/608094/google-stakes-its-future-on-a-piece-of-software>.

- ⁶ Amos Zeeberg, 'D.I.Y. Artificial Intelligence Comes to a Japanese Family Farm', *The New Yorker*, 10 augustus 2017, geraadpleegd op 19 augustus 2018, <https://www.newyorker.com/tech/elements/diy-artificial-intelligence-comes-to-a-japanese-family-farm>.
- ⁷ Kaz Sato, 'How a Japanese Cucumber Farmer Is Using Deep Learning and TensorFlow', *Google Cloud Platform blog*, 1 september 2016, geraadpleegd op 19 augustus 2018, <https://cloud.google.com/blog/products/gcp/how-a-japanese-cucumber-farmer-is-using-deep-learning-and-tensorflow>.
- ⁸ Stuart Armstrong, Kaj Sotala en Seán S. Ó hÉigeartaigh, 'The Errors, Insights and Lessons of Famous AI Predictions – and What They Mean for the Future', *Journal of Experimental & Theoretical Artificial Intelligence* 26, Issue 3 (2014): 317-342.
- ⁹ Abhishek Anand, 'The Problem with Chatbots – How to Make Them More Human?', *Chatbots Magazine*, 22 april 2017, geraadpleegd op 19 augustus 2018, <https://chatbotsmagazine.com/the-problem-with-chatbots-how-to-make-them-more-human-d7a24c22f51e>.
- ¹⁰ Clive Thompson, 'What Is I.B.M.'s Watson?', *The New York Times Magazine*, 16 juni 2010, geraadpleegd op 19 augustus 2018, <https://www.nytimes.com/2010/06/20/magazine/20Computer-t.html>.
- ¹¹ Clive Thompson, 'Hit Song Science', *The New York Times Magazine*, 14 december 2003, geraadpleegd op 19 augustus 2018, <https://www.nytimes.com/2003/12/14/magazine/2003-the-3rd-annual-year-in-ideas-hit-song-science.html>.
- ¹² Alex Kantrowitz, 'Meet The Man Who Makes Facebook's Machines Think', *BuzzFeed*, 17 april 2017, geraadpleegd op 19 augustus 2018, <https://www.forbes.com/sites/insights-intelai/2018/07/17/yann-lecun-an-ai-groundbreaker-takes-stock>; 'Yann LeCun: An AI Groundbreaker Takes Stock', *Forbes*, 17 juli 2018, geraadpleegd op 19 augustus 2018, <https://www.forbes.com/sites/insights-intelai/2018/07/17/yann-lecun-an-ai-groundbreaker-takes-stock>.
- ¹³ Steven Levy, *In The Plex: How Google Thinks, Works, and Shapes Our Lives* (New York: Simon & Schuster, 2011), 42.
- ¹⁴ Will Oremus, 'The Optimizer', *Slate*, 23 januari 2013, geraadpleegd

- op 19 augustus 2018, http://www.slate.com/articles/technology/doors/2013/01/jeff_dean_facts_how_a_google_programmer_became_the_chuck_norris_of_the_internet.html.
- 15 Alex Krizhevsky, Ilya Sutskever en Geoffrey E. Hinton, 'ImageNet Classification with Deep Convolutional Neural Networks', *NIPS '12 Proceedings of the 25th International Conference on Neural Information Processing System – Volume 1* (december 2012), 1097-1105, geraadpleegd op 19 augustus 2018 via <https://www.nvidia.cn/content/tesla/pdf/machine-learning/imagenet-classification-with-deep-convolutional-nn.pdf>; Adit Deshpande, 'The 9 Deep Learning Papers You Need To Know About (Understanding CNNs Part 3)', adeshpande3.github.io, 24 augustus 2016, geraadpleegd op 19 augustus 2018, <https://adeshpande3.github.io/The-9-Deep-Learning-Papers-You-Need-To-Know-About.html>.
 - 16 Andrew Ng (@AndrewYNg), 'Pretty much anything', Twitter, 18 oktober 2016, geraadpleegd op 2 oktober 2018, <https://twitter.com/AndrewYNg/status/788548053745569792>.
 - 17 Gideon Lewis-Kraus, 'The Great A.I. Awakening', *The New York Times Magazine*, 14 december 2016, geraadpleegd op 19 augustus 2018, <https://www.nytimes.com/2016/12/14/magazine/the-great-ai-awakening.html>.
 - 18 Steven Levy, 'Inside Facebook's AI Machine', *Wired*, 23 februari 2017, geraadpleegd op 19 augustus 2018, <https://www.wired.com/2017/02/inside-facebooks-ai-machine/>; Yaniv Taigman, Ming Yang, Marc'Aurelio Ranzato en Lior Wolf, 'DeepFace: Closing the Gap to Human-Level Performance in Face Verification', Conference on Computer Vision and Pattern Recognition (CVPR), 24 juni 2014, geraadpleegd op 19 augustus 2018, <https://research.fb.com/publications/deepface-closing-the-gap-to-human-level-performance-in-face-verification>.
 - 19 Andrew J. Hawkins, 'Inside Waymo's Strategy To Grow The Best Brains For Self-driving Cars', *The Verge*, 9 mei 2018, geraadpleegd op 19 augustus 2018, <https://www.theverge.com/2018/5/9/17307156/google-waymo-driverless-cars-deep-learning-neural-net-interview>.
 - 20 Nikolay Laptev, Slawek Smyl en Santhosh Shanmugam, 'Engineering Extreme Event Forecasting at Uber with Recurrent Neural

- Networks', Uber Engineering, 9 juni 2017, geraadpleegd op 19 augustus 2018, <https://eng.uber.com/neural-networks>.
- ²¹ Cade Metz, 'Using AI To Detect Cancer, Not Just Cats', *Wired*, 11 mei 2017, geraadpleegd op 19 augustus 2018, <https://www.wired.com/2017/05/using-ai-detect-cancer-not-just-cats>.
- ²² Anu Hariharan, 'The Hidden Forces Behind Toutiao: China's Content King', Y Combinator (blog), 12 oktober 2017, geraadpleegd op 19 augustus 2018, <https://blog.ycombinator.com/the-hidden-forces-behind-toutiao-chinas-content-king>.
- ²³ Thompson, 'What Is I.B.M.'s Watson?'
- ²⁴ Erik Brynjolfsson en Andrew McAfee, 'The Business Of Artificial Intelligence', *Harvard Business Review* (juli 2017), geraadpleegd op 19 augustus 2018, <https://hbr.org/cover-story/2017/07/the-business-of-artificial-intelligence>.
- ²⁵ Jason Tanz, 'Soon We Won't Program Computers. We'll Train Them Like Dogs', *Wired*, 17 mei 2016, geraadpleegd op 19 augustus 2018, <https://www.wired.com/2016/05/the-end-of-code/>.
- ²⁶ Tanz, 'Soon We Won't Program Computers'.
- ²⁷ 'Why Google "Thought" This Black Woman Was a Gorilla', WNYC, 30 september 2015, geraadpleegd op 19 augustus 2018, <https://www.wnycstudios.org/story/deep-problem-deep-learning/>; dit laatste citaat komt voor in de audio-opname van het interview, niet in de tekst van het verhaal op de website.
- ²⁸ 'Google Apologises for Photos App's Racist Blunder', *BBC News*, 1 juli 2015, geraadpleegd op 19 augustus 2018, <https://www.bbc.com/news/technology-33347866>.
- ²⁹ Danielle Brown, 'Google Diversity Annual Report 2018', Google, geraadpleegd op 19 augustus 2018, <https://diversity.google/annual-report>.
- ³⁰ Joy Buolamwini, 'How I'm Fighting Bias in Algorithms', TEDxBeaconStreet, tijdsduur: 08:43, november 2016, geraadpleegd op 21 augustus 2018, http://www.ted.com/talks/joy_buolamwini_how_i_m_fighting_bias_in_algorithms/transcript.
- ³¹ Tolga Bolukbasi, Kai-Wei Chang, James Zou, Venkatesh Saligrama en Adam Kalai, 'Man is to Computer Programmer as Woman is to Homemaker? Debiasing Word Embeddings', *NIPS '16 Proceedings of the 30th International Conference on Neural Information Processing*

- Systems* (december 2016): 4356-4364, geraadpleegd op 21 augustus 2018 via <https://arxiv.org/pdf/1607.06520.pdf>.
- ³² Byron Spice, 'Questioning the Fairness of Targeting Ads Online', *Carnegie Mellon University News*, 7 juli 2015, geraadpleegd op 21 augustus 2018, <https://www.cmu.edu/news/stories/archives/2015/july/online-ads-research.html>.
- ³³ Carole Cadwalladr, 'Google, Democracy and the Truth about Internet Search', *The Guardian*, 4 december 2016, geraadpleegd op 21 augustus 2018, <https://www.theguardian.com/technology/2016/dec/04/google-democracy-truth-internet-search-facebook>; Samuel Gibbs, 'Google Alters Search Autocomplete to Remove "Are Jews Evil" Suggestion', *The Guardian*, 5 december 2016, geraadpleegd op 21 augustus 2018, <https://www.theguardian.com/technology/2016/dec/05/google-alters-search-autocomplete-remove-are-jews-evil-suggestion>.
- ³⁴ Julia Angwin, Jeff Larson, Surya Mattu en Lauren Kirchner, 'Machine Bias', *ProPublica*, 23 mei 2016, geraadpleegd op 21 augustus 2018, <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing>.
- ³⁵ Cathy O'Neil, *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy* (New York: Broadway Books, 2016), 23-26.
- ³⁶ O'Neil, *Weapons*, 203.
- ³⁷ Kurt Kleiner, 'Lunchtime Leniency: Judges' Rulings Are Harsher When They Are Hungrier', *Scientific American*, 1 september 2011, geraadpleegd op 21 augustus 2018, <https://www.scientificamerican.com/article/lunchtime-leniency>.
- ³⁸ Robyn Speer, 'ConceptNet Numberbatch 17.04: Better, Less-stereotyped Word Vectors', ConceptNet (blog), 24 april 2017, geraadpleegd op 21 augustus 2018, <http://blog.conceptnet.io/posts/2017/conceptnet-numberbatch-17-04-better-less-stereotyped-word-vectors>.
- ³⁹ Tom Simonite, 'When It Comes To Gorillas, Google Photos Remains Blind', *Wired*, 11 januari 2018, geraadpleegd op 21 augustus 2018, <https://www.wired.com/story/when-it-comes-to-gorillas-google-photos-remains-blind>.
- ⁴⁰ Alister, 'Ali Rahimi's talk at NIPS (NIPS 2017 Test-of-time award presentation)', YouTube, tijdsduur: 23:19, 5 december 2017,

geraadpleegd op 21 augustus 2018, <https://www.YouTube.com/watch?v=Qi1Yry33TQE>.

- 41 Oscar Schwartz, 'Why The EU's "Right To An Explanation" Is Big News For AI And Ethics', The Ethics Center, geraadpleegd op 21 augustus 2018, <http://www.ethics.org.au/on-ethics/blog/february-2018/why-eu-right-to-an-explanation-is-big-news-for-ai>.
- 42 Irving John Good, 'Speculations Concerning the First Ultraintelligent Machine', *Advances in Computers* 6 (1966), 33, geraadpleegd op 21 augustus 2018 via <https://exhibits.stanford.edu/feigenbaum/catalog/gz727rg3869>.
- 43 Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies* (Oxford: Oxford University Press, 2014), 53, in PDF gedownload op 1 februari 2019 van <https://www.pdfdrive.com/superintelligence-paths-dangers-strategies-e53173641.html>.
- 44 Bostrom, *Superintelligence*, 78-79.
- 45 Bostrom, *Superintelligence*, 107.
- 46 Raffi Khatchadourian, 'The Doomsday Invention', *The New Yorker*, 23 november 2015, geraadpleegd op 21 augustus 2018, <https://www.newyorker.com/magazine/2015/11/23/doomsday-invention-artificial-intelligence-nick-bostrom>.
- 47 Kevin Hartnett, 'To Build Truly Intelligent Machines, Teach Them Cause and Effect', *Quanta Magazine*, 15 mei 2018, geraadpleegd op 21 augustus 2018, <https://www.quantamagazine.org/to-build-truly-intelligent-machines-teach-them-cause-and-effect-20180515>; Gary Marcus, 'Deep Learning: A Critical Appraisal', arXiv, 2 januari 2018, geraadpleegd op 21 augustus 2018, <https://arxiv.org/abs/1801.00631>.
- 48 Nick Bostrom, *Superintelligence*, 62.
- 49 'Elon Musk Talks Cars – and Humanity's Fate – With Governors', *CNBC*, 16 juli 2017, geraadpleegd op 21 augustus 2018, <https://www.cnn.com/2017/07/16/musk-says-a-i-is-a-fundamental-risk-to-the-existence-of-human-civilization.html>; Maureen Dowd, 'Elon Musk's Billion-Dollar Crusade To Stop The A.I. Apocalypse', *Vanity Fair*, april 2017, geraadpleegd op 21 augustus 2018, <https://www.vanityfair.com/news/2017/03/elon-musk-billion-dollar-crusade-to-stop-ai-space-x>.
- 50 Oren Etzioni, 'No, the Experts Don't Think Superintelligent AI is a Threat to Humanity', *MIT Technology Review*, 20 september 2016,

geraadpleegd op 21 augustus 2018, <https://www.technologyreview.com/s/602410/no-the-experts-dont-think-superintelligent-ai-is-a-threat-to-humanity>.

10. SCHAALGROOTTE, TROLLEN EN BIG TECH

- ¹ Eli Rosenberg, 'Twitter to tell 677,000 Users They Were Had by the Russians. Some Signs Show the Problem Continues', *Washington Post*, 19 januari 2018, geraadpleegd op 21 augustus 2018, <https://www.washingtonpost.com/news/the-switch/wp/2018/01/19/twitter-to-tell-677000-users-they-were-had-by-the-russians-some-signs-show-the-problem-continues>.
- ² Claire Landsbaum, 'Donald Trump's Harassment of a Teenage Girl on Twitter Led to Death and Rape Threats', *The Cut*, 9 december 2016, geraadpleegd op 21 augustus 2018, <https://www.thecut.com/2016/12/trumps-harassment-of-an-18-year-old-girl-on-twitter-led-to-death-threats.html>.
- ³ Franklin Foer, *World Without Mind: The Existential Threat of Big Tech* (New York: Penguin, 2017).
- ⁴ 'Twitter Announces Fourth Quarter and Fiscal Year 2017 Results', *PR Newswire*, 8 februari 2018, <https://www.prnewswire.com/news-releases/twitter-announces-fourth-quarter-and-fiscal-year-2017-results-300595731.html>; 'Facebook Reports Fourth Quarter and Full Year 2017 Results', *PR Newswire*, 31 januari 2018, <https://www.prnewswire.com/news-releases/facebook-reports-fourth-quarter-and-full-year-2017-results-300591468.html>; Seth Fiegerman, 'Google Posts Its First \$100 Billion Year', *CNN Tech*, 1 februari 2018, <https://money.cnn.com/2018/02/01/technology/google-earnings/index.html>; allemaal geraadpleegd op 28 september 2018.
- ⁵ Charlie Warzel, 'How People Inside Facebook Are Reacting To The Company's Election Crisis', *BuzzFeed*, 20 oktober 2017, geraadpleegd op 21 augustus 2018, <https://www.buzzfeednews.com/article/charliewarzel/how-people-inside-facebook-are-reacting-to-the-companys>.
- ⁶ Joseph Milord, 'What Data Does Facebook Collect? The Company Can Store Info About Your Phone Calls', *elite daily*, 28 maart 2018, geraadpleegd op 21 augustus 2018, <https://www.elitedaily.com/p/what-data-does-facebook-collect-the-company-can-store-info-about-your-phone-calls-8631437>.

- ⁷ Paresh Dave, 'YouTube Sharpens How It Recommends Videos Despite Fears of Isolating Users', *Reuters*, 29 november 2017, geraadpleegd op 21 augustus 2018, <https://www.reuters.com/article/us-alphabet-YouTube-content/YouTube-sharpens-how-it-recommends-videos-despite-fears-of-isolating-users-idUSKBN1DT0LL>; Andrew Hutchinson, 'How Twitter's Feed Algorithm Works – As Explained by Twitter', *SocialMediaToday*, 11 mei 2017, geraadpleegd op 21 augustus 2018, <https://www.socialmediatoday.com/social-networks/how-twitters-feed-algorithm-works-explained-twitter>; Roger Montti, 'Facebook Discusses How Feed Algorithm Works', *Search Engine Journal*, 10 april 2018, geraadpleegd op 21 augustus 2018, <https://www.searchenginejournal.com/facebook-news-feed-algorithm/248515>; Shannon Tien, 'How the Facebook Algorithm Works and How to Make it Work for You', *Hootsuite Blog*, 25 april 2018, geraadpleegd op 21 augustus 2018, <https://blog.hootsuite.com/facebook-algorithm/>; Oremus, 'Who Controls Your News Feed'.
- ⁸ Steve Rayson, 'We Analyzed 100 Million Headlines. Here's What We Learned', *Buzzsumo*, 26 juni 2017, geraadpleegd op 21 augustus 2018, <https://buzzsumo.com/blog/most-shared-headlines-study>.
- ⁹ Jackie Mansky, 'The Age-Old Problem of "Fake News"', *Smithsonian*, 7 mei 2018, geraadpleegd op 21 augustus 2018, <https://www.smithsonianmag.com/history/age-old-problem-fake-news-180968945/>.
- ¹⁰ Charlie Warzel en Remy Smid, 'YouTubers Made Hundreds Of Thousands Off Of Bizarre And Disturbing Child Content', *BuzzFeed*, 11 december 2017, geraadpleegd op 21 augustus 2018, <https://www.buzzfeednews.com/article/charliewarzel/YouTubers-made-hundreds-of-thousands-off-of-bizarre-and>.
- ¹¹ Zeynep Tufekci, 'YouTube, the Great Radicalizer', *The New York Times*, 10 maart 2018, geraadpleegd op 21 augustus 2018, <https://www.nytimes.com/2018/03/10/opinion/sunday/YouTube-politics-radical.html>.
- ¹² Jonathan Albright, 'Untrue-Tube: Monetizing Misery and Disinformation', *Medium*, 25 februari 2018, geraadpleegd op 21 augustus 2018, <https://medium.com/@d1gi/untrue-tube-monetizing-misery-and-disinformation-388c4786cc3d>.
- ¹³ Sheera Frenkel, 'She Warned of "Peer-to-Peer Misinformation." Congress Listened', *The New York Times*, 12 november 2017,

- geraadpleegd op 21 augustus 2018, www.nytimes.com/2017/11/12/technology/social-media-disinformation.html.
- ¹⁴ Amanda Robb, 'Anatomy of a Fake News Scandal', *Rolling Stone*, 16 november 2017, geraadpleegd op 21 augustus 2018, <https://www.rollingstone.com/politics/politics-news/anatomy-of-a-fake-news-scandal-125877>; Colleen Shalby, 'How Seth Rich's Death Became an Internet Conspiracy Theory', *Los Angeles Times*, 24 mei 2017, <http://www.latimes.com/business/hollywood/la-fi-ct-seth-rich-conspiracy-20170523-htmlstory.html>.
- ¹⁵ Clive Thompson, 'Social Networks Must Face Up To Their Political Impact', *Wired*, 5 januari 2017, geraadpleegd op 21 augustus 2018, <https://www.wired.com/2017/01/social-networks-must-face-political-impact>.
- ¹⁶ Clive Thompson, 'Online Hate Is Rampant. Here's How To Keep It From Spreading', *Wired*, 2 augustus 2018, geraadpleegd op 21 augustus 2018, <https://www.wired.com/story/covering-online-hate>.
- ¹⁷ Erich Owens en Udi Weinsberg, 'Showing Fewer Hoaxes', Facebook Newsroom, 20 januari 2015, geraadpleegd op 30 september 2018, <https://newsroom.fb.com/news/2015/01/news-feed-fyi-showing-fewer-hoaxes/>; Caroline O'Donovan, 'What Does Facebook's New Tool for Fighting Fake News Mean for Real Publishers?', *NiemanLab*, 21 januari 2015, geraadpleegd op 30 september 2018, <http://www.niemanlab.org/2015/01/what-does-facebooks-new-tool-for-fighting-fake-news-mean-for-real-publishers/>.
- ¹⁸ Warzel, 'How People Inside Facebook Are Reacting'.
- ¹⁹ Siva Vaidhyanathan, *Antisocial Media: How Facebook Disconnects Us and Undermines Democracy* (New York: Oxford University Press, 2018), 187-192 van 6698, Kindle.
- ²⁰ 'Russia Spent \$1.25M Per Month On Ads, Acted Like An Ad Agency: Mueller', *Ad Age*, 16 februari 2018, geraadpleegd op 21 augustus 2018, <http://adage.com/article/digital/russia-spent-1-25m-ads-acted-agency-mueller/312424>.
- ²¹ Dipayan Ghosh en Ben Scott, 'Digital Deceit: The Technologies Behind Precision Propaganda on the Internet', *New America* (beleidsstuk), januari 2018, geraadpleegd op 21 augustus 2018, <https://www.newamerica.org/public-interest-technology/policy-papers/digitaldeceit/>.

- ²² Vaidhyanathan, *Antisocial Media*, 195, Kindle.
- ²³ ‘Don’t Be Evil: Fred Turner on Utopias, Frontiers, and Brogrammers’, *Logic 5* (winter 2017), geraadpleegd op 21 augustus 2018, <https://logicmag.io/03-dont-be-evil/>.
- ²⁴ Taylor Wofford, ‘Is Gamergate About Media Ethics Or Harassing Women? Harassment, The Data Shows’, *Newsweek*, 25 oktober 2014, geraadpleegd op 21 augustus 2018, <https://www.newsweek.com/gamergate-about-media-ethics-or-harassing-women-harassment-data-show-279736>; Brad Glasgow, ‘A Definition of Twitter Harassment’, *Medium*, 2 november 2015, geraadpleegd op 21 augustus 2018, https://medium.com/@Brad_Glasgow/a-definition-of-twitter-harassment-f8acfa9ae3a8; Simon Parkin, ‘Gamergate: A Scandal Erupts in the Video-Game Community’, *The New Yorker*, 17 oktober 2014, geraadpleegd op 21 augustus 2018, <https://www.newyorker.com/tech/elements/gamergate-scandal-erupts-video-game-community>.
- ²⁵ Timothy B. Lee, ‘One Scholar Thinks Online Harassment of Women Is a Civil Rights Issue’, *Vox*, 22 september 2014, geraadpleegd op 21 augustus 2018, <https://www.vox.com/2014/9/22/6367973/online-harassment-of-women-a-civil-rights-issue>; Danielle Keats Citron, *Hate Crimes in Cyberspace* (Cambridge, MA: Harvard University Press, 2014), 22.
- ²⁶ Whitney Phillips, ‘The Oxygen of Amplification’, *Data & Society*, 22 mei 2018, geraadpleegd op 30 september 2018, https://datasociety.net/wp-content/uploads/2018/05/FULLREPORT_Oxygen_of_Amplification_DS.pdf.
- ²⁷ Ian Sherr en Erin Carson, ‘GamerGate to Trump: How Video Game Culture Blew Everything Up’, *CNET*, 27 november 2017, geraadpleegd op 21 augustus 2018, <https://www.cnet.com/news/gamergate-donald-trump-american-nazis-how-video-game-culture-blew-everything-up>; Matt Lees, ‘What Gamergate Should Have Taught Us about the “Alt-right”’, *The Guardian*, 1 december 2016, geraadpleegd op 21 augustus 2018, <https://www.theguardian.com/technology/2016/dec/01/gamergate-alt-right-hate-trump>; Thompson, ‘Online Hate’; Thompson, ‘Social Networks’.
- ²⁸ Danielle Citron en Benjamin Wittes, ‘Follow Buddies and Block Buddies: A Simple Proposal to Improve Civility, Control, and Privacy

- on Twitter', 4 januari 2017, geraadpleegd op 21 augustus 2018, <https://www.lawfareblog.com/follow-buddies-and-block-buddies-simple-proposal-improve-civility-control-and-privacy-twitter>.
- ²⁹ Anna Silman, 'A Timeline of Leslie Jones's Horrific Online Abuse', *The Cut*, 24 augustus 2016, geraadpleegd op 21 augustus 2018, <https://www.thecut.com/2016/08/a-timeline-of-leslie-joness-horrific-online-abuse.html>.
- ³⁰ Matthew Rosenberg, Nicholas Confessore en Carole Cadwalladr, 'How Trump Consultants Exploited the Facebook Data of Millions', *The New York Times*, 17 maart 2018, geraadpleegd op 21 augustus 2018, <https://www.nytimes.com/2018/03/17/us/politics/cambridge-analytica-trump-campaign.html>; Ian Sherr, 'Facebook, Cambridge Analytica and Data Mining: What You Need to Know', *CNET*, 18 april 2018, geraadpleegd op 21 augustus 2018, <https://www.cnet.com/news/facebook-cambridge-analytica-data-mining-and-trump-what-you-need-to-know/>; 'Full Text: Mark Zuckerberg's Wednesday Testimony to Congress on Cambridge Analytica', *Politico*, 9 april 2018, geraadpleegd op 21 augustus 2018, <https://www.politico.com/story/2018/04/09/transcript-mark-Zuckerberg-testimony-to-congress-on-cambridge-analytica-509978>.
- ³¹ Issie Lapowsky, 'YouTube Debuts Plan To Promote And Fund "Authoritative" News', *Wired*, 9 juli 2018, geraadpleegd op 21 augustus 2018, <https://www.wired.com/story/YouTube-debuts-plan-to-promote-fund-authoritative-news/>.
- ³² Michael J. Coren, 'Facebook Will Now Show You More Posts from Friends and Family Than News', *Quartz*, 12 januari 2018, geraadpleegd op 21 augustus 2018, <https://qz.com/1178186/facebook-fb-will-now-show-you-more-posts-from-friends-and-family-than-news-in-an-update-to-its-algorithm/>; Mike Isaac, 'Facebook Overhauls News Feed to Focus on What Friends and Family Share', *The New York Times*, 11 januari 2018, <https://www.nytimes.com/2018/01/11/technology/facebook-news-feed.html>.
- ³³ Craig Timberg en Elizabeth Dwoskin, 'Twitter Is Sweeping Out Fake Accounts Like Never Before, Putting User Growth at Risk', *The Washington Post*, 6 juni 2018, geraadpleegd op 21 augustus 2018, <https://www.washingtonpost.com/technology/2018/07/06/twitter-is-sweeping-out-fake-accounts-like-never-before-putting-user-growth-risk>.

- ³⁴ Del Harvey en David Gasca, ‘Serving Healthy Conversation’, *Twitter blog*, 15 mei 2018, geraadpleegd op 21 augustus 2018, https://blog.twitter.com/official/en_us/topics/product/2018/Serving_Healthy_Conversation.html.
- ³⁵ Austin Carren en Harry McCracken, “ ‘Did We Create This Monster?’ How Twitter Turned Toxic”, *Fast Company*, 4 april 2018, geraadpleegd op 21 augustus 2018, www.fastcompany.com/40547818/did-we-create-this-monster-how-twitter-turned-toxic.
- ³⁶ April Glaser, ‘Want a Terrible Job? Facebook and Google May Be Hiring’, *Slate*, 18 januari 2018, geraadpleegd op 21 augustus 2018, <https://slate.com/technology/2018/01/facebook-and-google-are-building-an-army-of-content-moderators-for-2018.html>.
- ³⁷ Alexis Madrigal, ‘The Basic Grossness of Humans’, *The Atlantic*, 15 december 2017, geraadpleegd op 21 augustus 2018, <https://www.theatlantic.com/technology/archive/2017/12/the-basic-grossness-of-humans/548330>.
- ³⁸ Joseph Cox, ‘Leaked Documents Show Facebook’s Post-Charlottesville Reckoning with American Nazis’, *Motherboard*, 25 mei 2018, geraadpleegd op 21 augustus 2018, https://motherboard.vice.com/en_us/article/mkbbq/facebook-charlottesville-leaked-documents-american-nazis.
- ³⁹ Thompson, ‘Social Networks’.
- ⁴⁰ David Greene, ‘Alex Jones Is Far from the Only Person Tech Companies Are Silencing’, *The Washington Post*, 12 augustus 2018, geraadpleegd op 21 augustus 2018, https://www.washingtonpost.com/opinions/beware-the-digital-censor/2018/08/12/997e28ea-9cd0-11e8-843b-36e177f3081c_story.html.
- ⁴¹ Taylor Hatmaker, ‘Senator Warns Facebook Better Shape Up or Get “Broken Up”’, *TechCrunch*, 7 april 2018, geraadpleegd op 21 augustus 2018, <https://techcrunch.com/2018/04/06/facebook-Zuckerberg-regulation-wyden>.
- ⁴² Max Read, ‘Does Even Mark Zuckerberg Know What Facebook Is?’ *New York*, 2 oktober 2017, geraadpleegd op 21 augustus 2018, <http://nymag.com/selectall/2017/10/does-even-mark-Zuckerberg-know-what-facebook-is.html>.
- ⁴³ danah boyd, ‘Google and Facebook Can’t Just Make Fake News Disappear’, *Wired*, 27 maart 2017, geraadpleegd op 21 augustus 2018,

<https://www.wired.com/2017/03/google-and-facebook-cant-just-make-fake-news-disappear/>.

- ⁴⁴ Scott Shane, Cade Metz en Daisuke Wakabayashi, 'How a Pentagon Contract Became an Identity Crisis for Google', *The New York Times*, 30 mei 2018, <https://www.nytimes.com/2018/05/30/technology/google-project-maven-pentagon.html>.
- ⁴⁵ Lee Fang, 'Leaked Emails Show Google Expected Lucrative Military Drone AI Work to Grow Exponentially', *The Intercept*, 31 mei 2018, geraadpleegd op 21 augustus 2018, <https://theintercept.com/2018/05/31/google-leaked-emails-drone-ai-pentagon-lucrative>.
- ⁴⁶ Scott Shane, Cade Metz en Daisuke Wakabayashi, 'How a Pentagon Contract Became an Identity Crisis for Google'.
- ⁴⁷ Kate Conger, 'Google Plans Not To Renew Its Contract For Project Maven, A Controversial Pentagon Drone AI Imaging Program', *Gizmodo*, 2 juni 2018, geraadpleegd op 21 augustus 2018, <https://www.gizmodo.com.au/2018/06/google-plans-not-to-renew-its-contract-for-project-maven-a-controversial-pentagon-drone-ai-imaging-program>.
- ⁴⁸ Colin Lecher, 'The Employee Letter Denouncing Microsoft's ICE Contract Now Has Over 300 Signatures', *The Verge*, 21 juni 2018, geraadpleegd op 30 september 2018, <https://www.theverge.com/2018/6/21/17488328/microsoft-ice-employees-signatures-protest>.
- ⁴⁹ Olivia Solon, 'Ashamed to Work in Silicon Valley: How Techies Became the New Bankers', *The Guardian*, 8 november 2017, geraadpleegd op 21 augustus 2018, <https://www.theguardian.com/technology/2017/nov/08/ashamed-to-work-in-silicon-valley-how-techies-became-the-new-bankers>.

11. DE SOFTWAREARBEIDER

- ¹ 'Pikeville, KY', Data USA, geraadpleegd op 21 augustus 2018, <https://datausa.io/profile/geo/pikeville-ky>.
- ² Clifford Krauss, 'Coal Production Plummets to Lowest Level in 35 Years', *The New York Times*, 10 juni 2016, geraadpleegd op 21 augustus 2018, <https://www.nytimes.com/2016/06/11/business/energy-environment/coal-production-decline.html>.
- ³ Erica Peterson, 'From Coal To Code: A New Path For Laid-Off Miners In Kentucky', *All Tech Considered*, 6 mei 2016,

geraadpleegd op 21 augustus 2018, <https://www.npr.org/sections/alltechconsidered/2016/05/06/477033781/from-coal-to-code-a-new-path-for-laid-off-miners-in-kentucky>.

- ⁴ Bill Estep, 'Coal piles Up at Power Plant as Cheap Natural Gas Wrecks Eastern Kentucky's Economy', *Lexington Herald-Leader*, 3 augustus 2018, geraadpleegd op 21 augustus 2018, <https://www.kentucky.com/news/state/article215994320.html>.
- ⁵ Lauren Smiley, 'Can You Teach A Coal Miner to Code?', Backchannel-team, *Wired*, 18 november 2015, geraadpleegd op 21 augustus 2018, <https://www.wired.com/2015/11/can-you-teach-a-coal-miner-to-code>.
- ⁶ Anil Dash, 'The Blue Collar Coder', Anil Dash (blog), 5 oktober 2012, geraadpleegd op 21 augustus 2018, https://anildash.com/2012/10/05/the_blue_collar_coder.
- ⁷ 'Computer and Information Technology Occupations', Bureau of Labor Statistics, voor het laatst aangepast op 13 april 2018, geraadpleegd op 21 augustus 2018, <https://www.bls.gov/ooh/computer-and-information-technology/home.htm>.
- ⁸ Vivek Ravisankar, 'Unlocking Trapped Engineers', *TechCrunch*, 12 januari 2016, geraadpleegd op 29 september 2018, <https://techcrunch.com/2016/01/12/unlocking-trapped-engineers/>.
- ⁹ 'Beyond Point and Click: The Expanding Demand for Coding Skills', Burning Glass Technologies, juni 2016, geraadpleegd op 21 augustus 2018, <https://www.burning-glass.com/research-project/coding-skills/>.
- ¹⁰ 'Six-Figure Tech Salaries: Creating the Next Developer Workforce', The App Association (voorheen ACT), geraadpleegd op 21 augustus 2018 via <http://www.arcgis.com/apps/MapJournal/index.html?appid=b1c59eaafd945a68a59724a59dbf7b1>.
- ¹¹ CRA Enrollment Committee Institution Subgroup, 'Generation CS: Computer Science Undergraduate Enrollments Surge Since 2006', Computing Research Association, 2017, geraadpleegd op 21 augustus 2018, <https://cra.org/data/generation-cs/>.
- ¹² Sarah McBride, 'Computer Science Now Top Major for Women at Stanford University', *Reuters*, 9 oktober 2015, geraadpleegd op 21 augustus 2018, <https://www.reuters.com/article/us-women-technology-stanford-idUSKCN0S32F020151009>; Andrew Myers, 'Period of Transition: Stanford Computer Science Rethinks Core Curriculum', *Stanford Engineering*, 14 juni 2012, geraadpleegd op

- 21 augustus 2018, <https://engineering.stanford.edu/news/period-transition-stanford-computer-science-rethinks-core-curriculum>.
- ¹³ Sax, 'Expanding the Pipeline'.
- ¹⁴ Monte Whaley, 'Colorado Colleges Overflowing with Huge Wave of Computer Science Students', *The Denver Post*, 28 november 2017, geraadpleegd op 21 augustus 2018, <https://www.denverpost.com/2017/11/28/colorado-colleges-overflowing-computer-science-students/>.
- ¹⁵ John Markoff, 'Brainlike Computers, Learning From Experience', *The New York Times*, 28 december 2013, geraadpleegd op 21 augustus 2018, <https://www.nytimes.com/2013/12/29/science/brainlike-computers-learning-from-experience.html>.
- ¹⁶ Kif Leswing, 'Google Says Coding School Graduates "Not Quite Prepared" to Work at Google', *Business Insider*, 7 december 2016, geraadpleegd op 21 augustus 2018, <https://www.businessinsider.com/google-says-coding-bootcamp-graduates-need-additional-training-2016-12>.
- ¹⁷ Ceej Silverio (@ceejbot), 'A very tiny percentage of our industry', Twitter, 6 augustus 2017, geraadpleegd op 21 augustus 2018, <https://twitter.com/ceejbot/status/894258853339987968>.
- ¹⁸ Silvia Li Sam, 'Are Coding Bootcamps The Next "Big Thing" in Edtech & Marketing?', Thrive Global, 21 augustus 2017, geraadpleegd op 21 augustus 2018, <https://www.thriveglobal.com/stories/11764-are-coding-bootcamps-the-next-big-thing-in-edtech>; Liz Eggleston, '2016 Coding Bootcamp Market Size Study', Course Report, 22 juni 2016, geraadpleegd op 21 augustus 2018, <https://www.coursereport.com/reports/2016-coding-bootcamp-market-size-research>.
- ¹⁹ Sarah McBride, 'Want a Job in Silicon Valley? Keep Away From Coding Schools', *Bloomberg*, 6 december 2016, geraadpleegd op 21 augustus 2018, <https://www.bloomberg.com/news/features/2016-12-06/want-a-job-in-silicon-valley-keep-away-from-coding-schools>.
- ²⁰ Mitch Pronschinske, 'Bootcamps Won't Make You a Coder. Here's What Will', *TechBeacon*, geraadpleegd op 21 augustus 2018, <https://techbeacon.com/bootcamps-wont-make-you-coder-heres-what-will>; Liz Eggleston, '2016 Course Report Alumni Outcomes & Demographics Study', Course Report, 14 september 2016, geraadpleegd op 21

- augustus 2018, <https://www.coursereport.com/reports/2016-coding-bootcamp-job-placement-demographics-report>; Liz Eggleston, ‘2015 Course Report Alumni Outcomes & Demographics Study’, Course Report, 26 oktober 2015, geraadpleegd op 21 augustus 2018, <https://www.coursereport.com/reports/2015-coding-bootcamp-job-placement-demographics-report>.
- ²¹ ‘Tech’s Strongest Outcomes. Education’s Highest Standards’, Flatiron School, geraadpleegd op 21 augustus 2018, <https://flatironschool.com/outcomes>.
- ²² Steve Lohr, ‘As Coding Boot Camps Close, the Field Faces a Reality Check’, *The New York Times*, 24 augustus 2017, geraadpleegd op 21 augustus 2018, <https://www.nytimes.com/2017/08/24/technology/coding-boot-camps-close.html>.
- ²³ Rip Empson, ‘Handcuffs For Hacker Schools? Why A “Code Of Conduct” For Coding Bootcamps Could Actually Be Good For the Ecosystem’, *TechCrunch*, 6 februari 2014, geraadpleegd op 21 augustus 2018, <https://techcrunch.com/2014/02/05/bootcamp-regulators-why-a-code-of-conduct-for-coding-academies-in-california-could-be-a-good-thing/>; Klint Finley, ‘California Cracks Down on Hacker Boot Camps’, *Wired*, 31 januari 2014, geraadpleegd op 21 augustus 2018, <https://www.wired.com/2014/01/california-hacker-bootcamps>.
- ²⁴ McBride, ‘Want a Job’.
- ²⁵ ‘A.G. Schneiderman Announces \$375,000 Settlement With Flatiron Computer Coding School For Operating Without A License And For Its Employment And Salary Claims’, NY.gov, 13 oktober 2017, geraadpleegd op 21 augustus 2018, <https://ag.ny.gov/press-release/ag-schneiderman-announces-375000-settlement-flatiron-computer-coding-school-operating>.
- ²⁶ Mary Beth Marklein, Jodi Upton en Sandhya Kambhampati, ‘College Default Rates Higher Than Grad Rates’, *USA Today*, 2 juli 2013, geraadpleegd op 27 september 2018, <https://www.usatoday.com/story/news/nation/2013/07/02/college-default-rates-higher-than-grad-rates/2480295/>; ‘2018–2019 Consumer Information Guide’, University of Phoenix, november 2018, geraadpleegd op 15 november 2018, https://www.phoenix.edu/content/dam/altcloud/doc/about_uopx/Consumer-Information-Guide.pdf.

- ²⁷ 'Teaching Technology: Tressie McMillan Cottom on Coding Schools and the Sociology of Social Media', *Logic* 3 (winter 2017), geraadpleegd op 21 augustus 2018, <https://logicmag.io/03-teaching-technology/>.
- ²⁸ Alyssa Mazzina, 'Do Developers Need College Degrees?'; Paul Krill, 'Stack Overflow Survey: Nearly Half of Developers Are Self-taught', *InfoWorld*, 10 april 2015, geraadpleegd op 21 augustus 2018, <https://www.infoworld.com/article/2908474/application-development/stack-overflow-survey-finds-nearly-half-have-no-degree-in-computer-science.html>.
- ²⁹ Quincy Larson, 'We Asked 20,000 People Who They Are and How They're Learning to Code', freeCodeCamp, 4 mei 2017, geraadpleegd op 21 augustus 2018, <https://medium.freecodecamp.org/we-asked-20000-people-who-they-are-and-how-theyre-learning-to-code-fff5d668969>.
- ³⁰ 'Teaching Technology', *Logic*.
- ³¹ 'Employed Persons by Detailed Occupation', Bureau of Labor Statistics.
- ³² Northrop Frye, *The Educated Imagination* (Toronto: Anansi, 2002).
- ³³ David Kalt, 'Why I Was Wrong About Liberal-Arts Majors', *The Wall Street Journal*, 1 juni 2016, geraadpleegd op 21 augustus 2018, <https://blogs.wsj.com/experts/2016/06/01/why-i-was-wrong-about-liberal-arts-majors>.
- ³⁴ Miriam Posner, 'JavaScript Is for Girls', *Logic* 1 (voorjaar 2017), geraadpleegd op 21 augustus 2018, <http://logicmag.1./01-javascript-is-for-girls>.
- ³⁵ Edsger W. Dijkstra, 'How Do We Tell Truths That Might Hurt?', *ACM SIGPLAN Notices* 17, nr. 5 (mei 1982), 13-15.
- ³⁶ Cecily Carver, 'Things I Wish Someone Had Told Me When I Was Learning How to Code', freeCodeCamp, 23 november 2013, geraadpleegd op 21 augustus 2018, <https://medium.freecodecamp.org/things-i-wish-someone-had-told-me-when-i-was-learning-how-to-code-565fc9dcb329>; Nico Koenig, 'CSS Isn't Real Programming – Just Like JavaScript', *Medium*, 22 september 2017, geraadpleegd op 27 september 2018, <https://medium.com/@TheNicoKoenig/css-isnt-real-programming-just-like-javascript-70c8c0fe70b0>.
- ³⁷ Posner, 'Javascript Is For Girls'.

- ³⁸ Valerie Strauss, 'All Students Should Learn to Code. Right? Not So fast', *The Washington Post*, 30 januari 2016, geraadpleegd op 21 augustus 2018, <https://www.washingtonpost.com/news/answer-sheet/wp/2014/05/29/all-students-should-learn-to-code-right-not-so-fast>;
- Jean Dimeo, 'Re-Coding Literacy', *Inside Higher Ed*, 6 september 2017, geraadpleegd op 21 augustus 2018, <https://www.insidehighered.com/digital-learning/article/2017/09/06/professor-writes-everyone-should-code-movement-re-coding>.
- ³⁹ Papert, *Mindstorms*, 6, 45-54.
- ⁴⁰ Anderson Silva, 'Is Scratch Today Like the Logo of the '80s for Teaching Kids to Code?', *opensource.com*, 29 maart 2017, geraadpleegd op 21 augustus 2018, <https://opensource.com/article/17/3/logo-scratch-teach-programming-kids>; Code.org, 'The Hour of Code: An International Movement', *Medium*, 16 februari 2017, <https://medium.com/anybody-can-learn/the-hour-of-code-an-international-movement-66702e388d35>; D. Frank Smith, 'Rise of the Robots: STEM-Fueled Competitions Gaining Traction Nationwide', *EdTech Magazine*, 4 maart 2015, geraadpleegd op 21 augustus 2018, <https://edtechmagazine.com/k12/article/2015/03/rise-robots-stem-fueled-competitions-gaining-traction-nationwide>.
- ⁴¹ Stefani Cox, 'China Is Teaching Kids to Code Much, Much Earlier than the U.S.', *Big Think*, 19 november 2015, geraadpleegd op 21 augustus 2018, <https://bigthink.com/ideafeed/china-is-already-teaching-coding-to-the-next-generation>; Kathy Pretz, 'Computer Science Classes for Kids Becoming Mandatory', *The Institute*, 21 november 2014, geraadpleegd op 21 augustus 2018, <http://theinstitute.ieee.org/career-and-education/education/computer-science-classes-for-kids-becoming-mandatory>.
- ⁴² Jeff Atwood, 'Please Don't Learn to Code', *Coding Horror (blog)*, 15 mei 2012, geraadpleegd op 21 augustus 2018, <https://blog.codinghorror.com/please-dont-learn-to-code/>.
- ⁴³ Clive Thompson, 'The Minecraft Generation', *The New York Times Magazine*, 14 april 2016, geraadpleegd op 21 augustus 2018, <https://www.nytimes.com/2016/04/17/magazine/the-minecraft-generation.html>.
- ⁴⁴ Clive Thompson, 'The Minecraft Generation'.
- ⁴⁵ Clive Thompson, 'The Minecraft Generation'.
- ⁴⁶ Smiley, 'Can You Teach'.