

change
what's heading our way?

1.

Study Finance, "What is production? Meaning, Types, Examples, Theory" in Study Finance, 2020. Viewed on December 19, 2021, <https://studyfinance.com/production/>

2.

P. Swinney, "After the Golden Age: 100 years of change in manufacturing," in Centre for Cities, 16 March 2015, viewed on December 19, 2021, <https://www.centreforcities.org/blog/cities-change-and-the-role-of-manufacturing/>

3.

J. Manyika, J. Sinclair, R. Dobbs, G. Strube, L. Rassey, J. Mischke, J. Remes, C. Rox-burgh, K. George, D. O'Halloran & S. Ramaswamy, "Manufacturing the future: The next era of global growth and innovation," in McKinsey, November 1, 2021, viewed on December 19, 2021, <https://www.mckinsey.com/business-functions/operations/our-insights/the-future-of-manufacturing>

4.

World Economic Forum, "Shaping the Future of Production: Four Contrasting Perspectives in 2030" in World Economic Forum White Paper, March 2021, viewed on December 9, 2021. https://www3.weforum.org/docs/WEF_White_Paper_Shaping_Future_Production.pdf

5.

D. Michaels, "3-D-Printed Bridges Promise Smarter, Greener Transit Links," in The Wall Street Journal, November 2021, viewed on December 8, 2021. <https://www.wsj.com/articles/3-d-printed-bridges-promise-smarter-greener-transit-links-11635947943?mod=foe-summaries>

6.

See note 1.

7.

Retail Insight Network, "Coop Sweden Stores Close Temporarily Due to Ransomware At-tack," in Retail Insight Network, July 2021, viewed on December 9, 2021. <https://www.retail-insight-network.com/news/coop-sweden-ransomware/>

8.

R. Haji et al. "Cybersecurity for Smart Factories" Deloitte Analysis. January 2020. pp. 1–16.

9.

B. Gant, "The Tokyo Olympics are a Cybersecurity Success Story," in Security, August 2021, viewed on December 23, 2021. <https://www.securitymagazine.com/articles/95880-the-tokyo-olympics-are-a-cybersecurity-success-story>

10.

United Nations, "Goal 12: Ensure Sustainable Consumption and Production Patterns," in United Nations Sustainable Development Goals, April 2018, viewed on December 6, 2021. <https://www.un.org/sustainabledevelopment/sustainable-consumption-production/>

11.

Ibid.

12.

Ibid.

13.

United Nations, "Goal 12: Ensure Sustainable Consumption and Production Patterns," in United Nations Sustainable Development Goals, April 2018, viewed on December 6, 2021. <https://www.un.org/sustainabledevelopment/sustainable-consumption-production/>

14.

The European Business Review, "Intelligent Automation: The Catalyst for the Future of Supply Chain," in The European Business Review, August 2021, viewed on December 9, 2021. <https://www.europeanbusinessreview.com/intelligent-automation-the-catalyst-for-the-future-of-supply-chain/#>

15.

A. Dekhne et al., "Automation in Logistics: Big Opportunity, Bigger Uncertainty," in McKinsey & Company, April 2019, viewed on December 9, 2021. <https://www.mckinsey.com/industries/travel-logistics-and-infrastructure/our-insights/automation-in-logistics-big-opportunity-bigger-uncertainty>

16.

Ibid.

17.

KPMG, "Future of Supply Chain," in KPMG International, October 2021, viewed on December 9, 2021. <https://assets.kpmg/content/dam/kpmg/xx/pdf/2019/11/future-of-supply-chain-the-road-to-everywhere.pdf>

18.

Ibid.

19.

S. Hippold, "Gartner Predicts the Future of Supply Chain Technology," in Gartner, February 2021, viewed on December 9, 2021. <https://www.gartner.com/smarterwithgartner/gartner-predicts-the-future-of-supply-chain-technology>

20.

D. Young, "Four Steps to Sustainable Business Model Innovation," in BCG, April 29, 2021, <https://www.bcg.com/publications/2021/four-strategies-for-sustainable-business-model-innovation>

21.

D. Newman, "How Leading Global Companies Are Using Sustainability As A Market Differentiator," in Forbes, July 24, 2021, <https://www.forbes.com/sites/danielnewman/2020/07/24/how-leading-global-companies-are-using-sustainability-as-a-market-differentiator/>

22.

European Commission, "Corporate sustainability reporting." Viewed on December 16, 2021. https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en

23.

D. Newman, "How Leading Global Companies Are Using Sustainability As A Market Differ-entiator," in Forbes, July 24, 2021, <https://www.forbes.com/sites/danielnewman/2020/07/24/how-leading-global-companies-are-using-sustainability-as-a-market-differentiator/>

24.

B. Garner, "5 Sustainable Business Trends To Watch In 2022," in Business Because, October 22, 2021, <https://www.businessbecause.com/news/mba-jobs/7861/sustainable-business-trends?sponsored>

25.

F. Lüdeke-Freund, "Working definitions of 'sustainable business model' & business model for sustainability," June 9, 2014, <https://sustainablebusinessmodel.org/2014/06/09/working-definitions-of-sustainable-business-model-business-model-for-sustainability/>

26.

D. Young, "Four Steps to Sustainable Business Model Innovation," in BCG, April 29, 2021, <https://www.bcg.com/publications/2021/four-strategies-for-sustainable-business-model-innovation>

27.

A. Herve, C. Schmitt. & R. Baldegger, "Internationalization and Digitalization: Applying digital technologies to the internationalization process of small and medium-sized enterprises". Technology Innovation Management Review. Volume 10, issue 7. 2020.

28.

S. Lund, J. Manyika, J. Woetzel, J. Bughin, M. Krishnan, J. Seong, & M. Muir, "Globaliza-tion in transition: The future of trade and value chains," in McKinsey, January 16, 2019, viewed on December 5, 2021, <https://www.mckinsey.com/featured-insights/innovation-and-growth/globalization-in-transition-the-future-of-trade-and-value-chains#part4>

29.

B. Garner, "5 Sustainable Business Trends To Watch In 2022," in Business Because, October 22, 2021, <https://www.businessbecause.com/news/mba-jobs/7861/sustainable-business-trends?sponsored>

30.

O. Wright, "Covid-19: Knowing How Consumer Trends Impact CPGs," in Accenture, August 2020, viewed on December 13, 2021, <https://www.accenture.com/us-en/insights/consumer-goods-services/coronavirus-cpg-consumer-needs>

31.

World Economic Forum, "Vision Towards a Responsible Future of Consumption: Collabora-tive Action Framework for Consumer Industries," in World Economic Forum Community Pa-per, October 2020, viewed on December 13, 2021, https://www3.weforum.org/docs/WEF_Vision_Towards_a_Responsible_Future_of_Consumption_2020.pdf

32.

T. Wernink & C. Strahl, "Fairphone: Sustainability from Inside-Out and Outside-In," in Sus-tainable Value Chain: CSR, Sustainability, Ethics & Governance, D'heur M. (eds), Springer International, Switzerland, November 9, 2014, viewed on December 13, 2021, https://doi.org/10.1007/978-3-319-12142-0_3

33.

OECD, "Making Better Policies for Food Systems," in OECD Publishing, January 11, 2021, viewed on December 14, 2021, <https://doi.org/10.1787/dfb44de-en>

34.

Ibid.

35.

G. Jacobsen & C. Fischer, "The Green New Deal and the Future of Carbon Pricing," in Re-sources for the Future, June 2021, viewed on December 14, 2021. <https://www.rff.org/publications/all-publications/the-green-new-deal-and-the-future-of-carbon-pricing/>

36.

Ibid.

37.

P. Allen Clark, "The Metaverse Has Already arrived. Here's What That Actually Means," in Time, November 2021, viewed on December 14, 2021, <https://time.com/6116826/what-is-the-metaverse/>

38.

M. Bobrowsky, "Big Tech Seeks Its Next Fortune in the Metaverse," in The Wall Street Journal, November 2021, viewed on December 9, 2021, <https://www.wsj.com/articles/big-tech-seeks-its-next-fortune-in-the-metaverse-11636459200>

39.

E. Olcott, "Alibaba Challenged as TikTok Generation Starts Shopping on Short Video Apps," in Financial Times, December 2021, viewed on December 14, 2021, <https://www.ft.com/content/43f58eda-05c0-40c9-bf5c-cafb8f24c0b0>

40.

M. Vautier, "EY Future Consumer Index: Consumers Are Choosing to Live with Less and Re-Evaluating Purchases," in EY, November 2021, viewed on December 14, 2021, https://www.ey.com/en_gl/news/2021/11/ey-future-consumer-index-consumers-are-choosing-to-live-with-less-and-re-evaluating-purchases

41.

Deloitte, "Shifting Sands: Are Consumers Still Embracing Sustainability," in Deloitte, March 2021, viewed on December 14, 2021. <https://www2.deloitte.com/uk/en/pages/consumer-business/articles/sustainable-consumer.html>

42.

Ibid.

43.

F. Caro, A. Guhan Kok & V. Martinez-de-Albeniz, "The Future of Retail Operations," Manu-facturing & Service Operations Management, vol. 22 (1), December 2021, pp.47–58. <https://doi.org/10.1287/msom.2019.0824>

44.

P. Adhi et al., "Omnichannel Shopping in 2030," in McKinsey & Company, April 2021, viewed on December 9, 2021, <https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/omnichannel-shopping-in-2030>

45.

P. Pluijm, "3 Trends Shaping the Future of Retail," in Forbes, July 2021, viewed on December 9, 2021, <https://www.forbes.com/sites/sap/2021/07/13/3-trends-shaping-the-future-of-retail/>

46.

Shopify, "The Future of Ecommerce Report 2021," in Shopify Plus, January 2021, viewed on December 9, 2021, https://enterprise.plus.shopify.com/rs/932-KRM-548/images/Shopify_Future_of_Commerce.pdf

47.

K. Gramling, J. Orschell & J. Chernoff, "How E-Commerce Fits into Retail's Post-Pandemic Future," in Harvard Business Review, viewed on December 9, 2021, <https://hbr.org/2021/05/how-e-commerce-fits-into-retails-post-pandemic-future>

48.

Shopify, "The Future of Ecommerce Report 2021," in Shopify Plus, January 2021, viewed on December 9, 2021, https://enterprise.plus.shopify.com/rs/932-KRM-548/images/Shopify_Future_of_Commerce.pdf

49.

P. Kavilanz, "Online Shopping Can Be Worse for the Environment than Driving to a Store," in CNN Business, viewed on December 9, 2021, <https://edition.cnn.com/2020/02/26/tech/greenhouse-gas-emissions-retail/index.html>

50.

Ibid.

51.

Ibid.

52.

A. Hayes, "Capital Markets," in Investopedia. August 30, 2021, viewed on December 7, 2021, <https://www.investopedia.com/terms/c/capitalmarkets.asp>

53.

PWC Netherlands, "Six key challenges for financial institutions to deal with ESG risks," in PWC Netherlands. Viewed on December 7, 2021, <https://www.pwc.nl/en/insights-and-publications/services-and-industries/financial-sector/six-key-challenges-for-financial-institutions-to-deal-with-ESG-risks.html>

54.

S. Das, "Digital Transformation in Capital and Security Markets," in Wipro. Viewed on December 7, 2021, <https://www.wipro.com/capital-markets/digital-transformation-in-securities-and-capital-markets/>

55.

M. Blake & A. Shah, "6 issues that will define the future of capital markets," in World Eco-nomic Forum. September 8, 2021, viewed on December 7, 2021, <https://www.weforum.org/agenda/2021/09/six-issues-to-define-the-future-of-capital-markets/>

56.

PWC Netherlands, "Six key challenges for financial institutions to deal with ESG risks," in PWC. Viewed on December 7, 2021, <https://www.pwc.nl/en/insights-and-publications/services-and-industries/financial-sector/six-key-challenges-for-financial-institutions-to-deal-with-ESG-risks.html>

57.

Tapestry Firms, "How banks are defining and internalizing sustainability goals," in EY. May 7, 2020, viewed on December 7, 2021, https://www.ey.com/en_us/banking-capital-markets/how-banks-are-defining-and-internalizing-sustainability-goals

58.

European Commission, "Corporate sustainability reporting," in European Commission. Viewed on December 7, 2021, https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en

59.

NYU Stern Center for Sustainable Business, "New Meta-Analysis from NYU Stern Center for Sustainable Business and Rockefeller Asset Management Finds ESG Drives Better Fi-nancial Performance," in NYU Stern. February 10, 2021, viewed on December 7, 2021, <https://www.stern.nyu.edu/experience-stern/faculty-research/new-meta-analysis-nyu-stern-center-sustainable-business-and-rockefeller-asset-management-finds-esg>

60.

S. Malik, "Green Trend Adoption Is Becoming More Essential for The Financial Services In-dustry," in Forbes. June 18, 2021, viewed on December 7, 2021, <https://www.forbes.com/sites/forbestechcouncil/2021/06/18/green-trend-adoption-is-becoming-more-essential-for-the-financial-services-industry/?sh=1b8568913b0>

61.

S. Das, "Digital Transformation in Capital and Security Markets," in Wipro. Viewed on December 7, 2021, <https://www.wipro.com/capital-markets/digital-transformation-in-securities-and-capital-markets/>

62.

McKinsey & Company, "Two Routes to Digital Success in Capital Markets", McKinsey Working Papers on Corporate & Investment Banking, No. 10, October 2015, pp. 1–40.

63.

M. Blake & A. Shah, "6 issues that will define the future of capital markets," in World Eco-nomic Forum. September 8, 2021, viewed on December 7, 2021, <https://www.weforum.org/agenda/2021/09/six-issues-to-define-the-future-of-capital-markets/>

64.

M. Watson & A. Gennarini, "Why digital resilience must be a top priority for banks," in EY. October 12, 2021, viewed on December 7, 2021, https://www.ey.com/en_gl/banking-capital-markets-risk-regulatory-transformation/why-digital-resilience-must-be-a-top-priority-for-banks

65.

M. Blake & A. Shah, "6 issues that will define the future of capital markets," in World Eco-nomic Forum. September 8, 2021, viewed on December 7, 2021, <https://www.weforum.org/agenda/2021/09/six-issues-to-define-the-future-of-capital-markets/>

66.

G. Loftis & T. Groom, "How sustainable finance can help decarbonize the real economy," in EY. November 30, 2021, viewed on December 7, 2021, https://www.ey.com/en_gl/sustainability-financial-services/how-sustainable-finance-can-help-decarbonize-the-real-economy

67.

M. Watson & F. Guerrieri, "How COVID-19 has changed the role of the chief risk officer," in EY. July 5, 2021, viewed on December 7, 2021, https://www.ey.com/en_gl/banking-capital-markets-risk-regulatory-transformation/how-covid-19-has-changed-the-role-of-the-chief-risk-officer

68.

M. Watson and A. Gennarini, "Why digital resilience must be a top priority for banks," in EY. October 12, 2021, viewed on December 7, 2021, https://www.ey.com/en_us/banking-capital-markets/how-banks-are-defining-and-internalizing-sustainability-goals

69.

M. Watson and F. Guerrieri, "How COVID-19 has changed the role of the chief risk officer," in EY. July 5, 2021, viewed on December 7, 2021, https://www.ey.com/en_gl/banking-capital-markets-risk-regulatory-transformation/how-covid-19-has-changed-the-role-of-the-chief-risk-officer

70.

A. Bhalla, "Complete Guide on Cryptocurrency security," in Blockchain Council. Viewed on December 2, 2021, <https://www.blockchain-council.org/cryptocurrency/complete-guide-on-cryptocurrency-security>

71.

D. Spilka, "Blockchain and the unbanked: Changes coming to global finance," in IBM. March 17, 2020, viewed on December 2, 2021, <https://www.ibm.com/blogs/blockchain/2020/03/blockchain-and-the-unbanked-changes-coming-to-global-finance/>

72.

Chainalysis staff, "The 2021 Global Crypto Adoption Index: Worldwide Adoption Jumps Over 880% With P2P Platforms Driving Cryptocurrency Usage in Emerging Markets," in Chainalysis. October 14, 2021, viewed on December 2, 2021, <https://blog.chainalysis.com/reports/2021-global-crypto-adoption-index>

73.

A. Siripurapu, "Cryptocurrencies, Digital Dollars, and the Future of Money," in Council on Foreign Relations. September 24, 2021, viewed on December 2, 2021, <https://www.cfr.org/backgrounder/cryptocurrencies-digital-dollars-and-future-money>

74.

L. Casanova & John Ninia, "Why Emerging Markets Are Early Adopters of Crypto as Legal Tender," in International Banker. November 30, 2021, viewed on December 2, 2021, <https://internationalbanker.com/brokerage/why-emerging-markets-are-early-adopters-of-crypto-as-legal-tender/>

75.

IMF staff, "Central bank digital currencies for cross-border payments," in IMF. July 9, 2021, viewed on December 2, 2021, <https://www.imf.org/en/Publications/Policy-Papers/Issues/2021/07/09/Central-bank-digital-currencies-for-cross-border-payments-461850>

76.

Coindesk staff, "Cryptocurrency Market Will More Than Triple by 2030: Study," in Coindesk. August 25, 2021, viewed on December 2, 2021, <https://www.coindesk.com/markets/2021/08/25/cryptocurrency-market-will-more-than-triple-by-2030-study/>

77.

H. Whippis, "How Ancient Trade Changed the World," in Live Science. February 18, 2008, viewed on December 7, 2021, <https://www.livescience.com/4823-ancient-trade-changed-world.html>

78.

B. McDonald, "Back to Basics: Why Countries Trade," in International Monetary Fund. De-cember 2009, viewed on December 7, 2021, <https://www.imf.org/external/pubs/ft/fandd/2009/12/basics.htm>

79.

T. Stangarone, "Why Has North Korea Struggled to Normalize Trade with China?", in The Diplomat. November 25, 2021, viewed on December 7, 2021, <https://thediplomat.com/2021/11/why-has-north-korea-struggled-to-normalize-trade-with-china/>

80.

United Nations Conference on Trade and Development, "Investment Provisions in Econom-ic Integration Agreements". United Nations, 2006, pp. 1–166.

81.

Ibid.

82.

P. Ko and J. Lee, "Analysis of Taiwan's Mask Collection and Plan Evasion during the COVID-19 Pandemic". International Journal of Environmental Research and Public Health, vol.18, nr. 8, April 2021, pp. 1–20.

83.

P. Antràs, "Conceptual Aspects of Global Value Chains". World Bank Group - Policy Re-search Working Paper, nr. 9114, pp. 1–34.

84.

G. Topham, "How the Suez Canal blockage can seriously dent world trade," in The Guardi-an. March 26, 2021, viewed on December 7, 2021, <https://www.theguardian.com/business/2021/mar/26/how-the-suez-canal-blockage-can-seriously-dent-world-trade>

85.

International Monetary Fund, "World Economic Outlook Database," in IMF. Viewed on De-cember 8, 2021, <https://www.imf.org/en/Publications/Policy-Responses/Global-Value-Chains-Efficiency-and-Risks-in-the-Context-of-COVID-19>

86.

M. Russon, "The cost of the Suez Canal blockage," in BBC News. 29 March 2021, viewed on December 7, 2021, <https://www.bbc.com/news/business-56559073>

87.

Organisation for Economic Cooperation and Development, "Global value chains: Efficiency and risks in the context of COVID-19," in OECD. February 11, 2021, viewed on December 8, 2021, <https://www.oecd.org/coronavirus/policy-responses/global-value-chains-efficiency-and-risks-in-the-context-of-covid-19-67c75fdc/>

88.

F. Youd, "Global shipping container shortage: the story so far," in Ship Technology. April 29, 2021 (updated October 1, 2021), viewed December 8, 2021, <https://www.ship-technology.com/features/global-shipping-container-shortage-the-story-so-far/>

89.

C. Arriola, P. Kowalski, & F. van Tongeren, "The Impact of COVID-19 on Directions and Structure of International Trade". Organisation for Economic Cooperation and Development (OECD) Publishing, nr. 252, pp. 1–39.

90.

J. Kwiatkowski, "Will Robots Reshuffle World Trade Directions?" in IHS Markit. November 8, 2021, viewed on December 8, 2021, <https://ihsmarkit.com/research-analysis/will-robots-reshuffle-world-trade-directions.html>

91.

S. Lund, J. Manyika, J. Woetzel, J. Bughin, M. Krishnan, J. Seong, & M. Muir, "Globaliza-tion in transition: The future of trade and value chains," in McKinsey & Company. January 16, 2019, viewed on December 7, 2021, <https://www.mckinsey.com/featured-insights/innovation-and-growth/globalization-in-transition-the-future-of-trade-and-value-chains>

92.

N. Bonifai, I. Nooruddin, & N. Rudra, "The Hidden Threat to Globalization," in Foreign Af-fairs. December 3, 2021, viewed on December 9, 2021, <https://www.foreignaffairs.com/articles/world/2021-12-03/hidden-threat-globalization>

93.

B. McDonald, "Back to Basics: Why Countries Trade," in International Monetary Fund. De-cember 2009, viewed on December 7, 2021, <https://www.imf.org/external/pubs/ft/fandd/2009/12/basics.htm>

94.

A. Alsamawi et al. "Returns to intangible capital in global value chains: New evidence on trends and policy determinants". OECD Trade Policy Papers, No. 240, 2020. <https://doi.org/10.1787/4cd06f19-en>

95.

C. Baraniuk, "Why is there a chip shortage?" in BBC News. August 27, 2021, viewed on December 9, 2021, <https://www.bbc.com/news/business-58230388>

96.

BBC News, "Trade wars, Trump tariffs and protectionism explained," in BBC News. May 10, 2019, viewed on January 7, 2022, <https://www.bbc.com/news/world-43512098>

97.

D. Irwin, "The rise and fall of import substitution," Peterson Institute for International Eco-nomics, Working Papers, 20–10, July 2020.

98.

The Economics, "How manufacturing might take off in Africa," in The Economist. Novem-ber 6, 2020, viewed on December 9, 2021, <https://www.economist.com/middle-east-and-africa/2020/06/11/how-manufacturing-might-take-off-in-africa>

99.

BBC News, "Trade wars, Trump tariffs and protectionism explained," in BBC News. May 10, 2019, viewed on January 7, 2022, <https://www.bbc.com/news/world-43512098>

100.

A. Reinsch, "Weaponizing Trade," in Center of Strategic & International Studies. December 7, 2021, viewed on December 9, 2021, <https://www.csis.org/analysis/weaponizing-trade>

101.

Ibid.

102.

E. Zefan, "EU plans new trade defence tool to deter economic coercion," in EU Observer. December 9, 2021, viewed on January 7, 2022, <https://euobserver.com/world/153761>

103.

J. Hagei, J. Schwartz & J. Bersin, "Navigating the Future of Work". Deloitte Review, No. 21, July 2017, pp. 1–22.

104.

S. Lund et al., "The Future of Work After COVID-19," in McKinsey Global Institute. Febru-ary 2021, viewed December 8, 2021, <https://www.mckinsey.com/featured-insights/future-of-work/the-future-of-work-after-covid-19>

105.

M. H. Jarrahi, "Artificial Intelligence and the Future of Work: Human-AI Symbiosis in Organ-izational Decision Making". Business Horizons, vol 61, July-August 2018, pp. 577–586.

106.

PricewaterhouseCooper, "Workforce of the Future," in PWC, May 2018, viewed on De-cember 9, 2021. <https://www.pwc.com/gx/en/services/people-organisation/workforce-of-the-future/workforce-of-the-future-the-competing-forces-shaping-2030-pwc.pdf>

107.

S. Lund et al., "The Future of Work After COVID-19," in McKinsey Global Institute. Febru-ary 2021, viewed December 8, 2021. <https://www.mckinsey.com/featured-insights/future-of-work/the-future-of-work-after-covid-19>

108.

OECD, "What is the Future of Work," in OECD, August 2020, viewed on December 12, 2021. <https://www.oecd.org/future-of-work/#ensuring-job-quality>

109.

World Economic Forum, "Preparing for the Future of Work," in World Economic Forum System Initiative on Education, Gender and Work, June 2020, viewed on December 12, 2021. <https://www.weforum.org/projects/future-of-work>

110.

A. Griffin, "The Future of Work is Rooted In Purpose," in Forbes, September 2019, viewed on December 12, 2021. <https://www.forbes.com/sites/alisongriffin/2019/09/16/the-future-of-work-is-rooted-in-purpose>

111.

PricewaterhouseCooper, "Workforce of the Future," in PWC, May 2018, viewed on De-cember 9, 2021. <https://www.pwc.com/gx/en/>

330

conclusion

331

services/people-organisation/workforce-of-the-future/workforce-of-the-future-the-competing-forces-shaping-2030-pwc.pdf

112. D. O'Brien et al., "Purpose is Everything," in Deloitte, October 2019, viewed on December 12, 2021, <https://www2.deloitte.com/us/en/insights/topics/marketing-and-sales-operations/global-marketing-trends/2020/purpose-driven-companies.html>

113. S. Zahidi et al., "Future of Jobs Report 2020," World Economic Forum Chapter 2 "Forecasts for Labour Market Market Evolution 2020-2025," in World Economic Forum, October 2021, viewed on December 12, 2021.

114. Ibid.

115. Ibid.

116. Ibid.

117. Ibid.

118. World Economic Forum, "Preparing for the Future of Work," in World Economic Forum System Initiative on Education, Gender and Work, June 2020, viewed on December 12, 2021, <https://www.weforum.org/projects/future-of-work>

119. United Nations Department of Economic and Social Affairs, Population Division, "World Population Ageing 2019," in United Nations ST/ESA/SET.A/44, 2020, viewed on December 12, 2021.

120. James Manyika et al., "Jobs lost, jobs gained: What the future of work will mean for jobs, skills and wages," in McKinsey Global Institute, November 2017, viewed on December 12, 2021, <https://www.mckinsey.com/featured-insights/future-of-work/jobs-lost-jobs-gained-what-the-future-of-work-will-mean-for-jobs-skills-and-wages>

121. UK Commission for Employment and Skills, "The Future of Work: Jobs and skills in 2030," Evidence Report no. 84, February 2014, pp. 1-198.

122. James Manyika et al., "Jobs lost, jobs gained: What the future of work will mean for jobs, skills and wages," in McKinsey Global Institute, November 2017, viewed on December 12, 2021, <https://www.mckinsey.com/featured-insights/future-of-work/jobs-lost-jobs-gained-what-the-future-of-work-will-mean-for-jobs-skills-and-wages>

123. OECD, "Promoting an Age-Including Workforce: Living, Learning and Earning Longer," OECD Publishing, Paris, December 2021, <https://doi.org/10.1787/59752153-en>

124. T. Koss, "What is the role of the central bank of the future," in EY, June 22, 2021, viewed on December 1, 2021, https://www.ey.com/en_gl/eu-institutions/what-is-the-role-of-the-central-bank-of-the-future

125. The Bank for International Settlements (BIS), "Central bank digital currencies: system design and interoperability," in the BIS, September 2021, viewed on December 1, 2021, https://www.bis.org/publ/othp42_system_design.pdf

126. The BIS, "Central bank digital currencies: motives, economic implications and the research frontier," in the BIS, November 4, 2021, viewed on December 1, 2021, <https://www.bis.org/publ/work976.htm>

127. Coindesk staff, "Goldman Sachs Expects Digital Yuan to Reach 1B Users Within 10 Years," in Coindesk, November 20, 2020, viewed on December 1, 2021, <https://www.coindesk.com/policy/2020/11/19/goldman-sachs-expects-digital-yuan-to-reach-1b-users-within-10-years/>

128. S. Dikau & U. Volz, "Central Banking, Climate Change, and Green Finance," in Asian Development Bank Institute, September 2018, viewed on December 1, 2021, <https://www.adb.org/publications/central-banking-climate-change-and-green-finance>

129. Network of Central Banks and Supervisors for Greening the Financial System (website), viewed on December 1, 2021, <https://www.ngfs.net/en/about-us/membership>

130. G. Boehl, G. Goy & F. Strobel, "The Federal Reserve and quantitative easing: A boost for investment, a burden on inflation," in VoxEU, August 30, 2020, viewed on December 1, 2021, <https://voxeu.org/article/feds-quantitative-easing-boost-investment-burden-inflation>

131. OECD, "Addressing the Tax Challenges of the Digital Economy," in OECD, September 16, 2014, viewed on December 5, 2021, <https://doi.org/10.1787/9789264218789-en>

132. OECD, "International community strikes a ground-breaking tax deal for the digital age," in OECD, October 8, 2021, viewed on December 5, 2021, <https://www.oecd.org/tax/international-community-strikes-a-ground-breaking-tax-deal-for-the-digital-age.htm>

133. OECD, "Tax and fiscal policies after the COVID-19 crisis," in OECD, October 14, 2021, viewed on December 5, 2021, <https://www.oecd.org/coronavirus/policy-responses/tax-and-fiscal-policies-after-the-covid-19-crisis-5a8f24c3/#section-d1e937>

134. KPMG, "Carbon Border Adjustment Mechanism (CBAM): Tax measures in EU Green Deal," in KPMG, Viewed on December 5, 2021, <https://home.kpmg/xx/en/home/insights/2021/06/carbon-border-adjustment-mechanism-cbam.html>

135. OECD, "Green budgeting and tax policy tools to support a green recovery," in OECD, October 9, 2020, viewed on December 5, 2021, <https://www.oecd.org/coronavirus/policy-responses/green-budgeting-and-tax-policy-tools-to-support-a-green-recovery-bd02ea23/>

136. I. Kawachi & L. Berkman, "Social cohesion, social capital, and health," Social Epidemiology, 2015, p. 174-90.

137. C. Botticello, "105 Online Community Stats to Know: The Complete List (2021), in Peerboard, updated on October 25, 2021, viewed on November 29, 2021, <https://peerboard.com/resources/online-community-statistics>

138. Ibid.

139. M. O'Rourke, "The Future is DAO: How Are Online Communities Evolving?" in Cryptonews, October 26, 2021, viewed on December 29, 2021, <https://cryptonews.com/exclusives/the-future-is-dao-how-are-online-communities-evolving.htm>

140. Meta, "Introducing Meta: A Social Technology Company," in Meta, October 28, 2021, viewed on November 29, 2021, <https://about.fb.com/news/2021/10/facebook-company-is-now-meta>

141. G. Panit, V. B. Hoo & N. Sa'ait, "Online, Offline Activities and Attitude of Virtual Communities," Asian Journal of Behavioural Science, Volume 3, Issue 2, June 6, 2021, p. 23-37.

142. E. Ortiz-Ospina & M. Roser, "Marriages and Divorces". Published online at OurWorldInData.org, 2020, [https://ourworldindata.org/marriages-and-divorces-by-age-and-cohort](https://ourworldindata.org/marriages-and-divorces#divorces-by-age-and-cohort)

143. Ibid.

144. M. Chen, E. L. Rizzi & P. S. F. Yip, "Divorce trends in China across time and space: an update", Asian Population Studies, vol. 17, 2021, pp. 121-147.

145. Euromonitor International, 2021, viewed on December 29, 2021, <https://go.euromonitor.com/rs/805-KOK-719/images/wpGCT2019-v0.5.pdf>

146. E. Ortiz-Ospina, "The rise of living alone: how one-person households are becoming increasingly common around the world," published online at OurWorldInData.org, December 10, 2019, viewed on November 30, 2021, <https://ourworldindata.org/living-alone>

147. D. Ivanova & T. Jack, "The Sustainability Implications of Single Occupancy Households," Buildings & Cities, February 9, 2021, <https://www.buildingsandcities.org/insights/commentaries/sustainability-single-households.html>

148. Euromonitor International, 2021, viewed on December 29, 2021, <https://go.euromonitor.com/rs/805-KOK-719/images/wpGCT2019-v0.5.pdf>

149. Ibid. p. 46

150. S. Harkness, "The future for low-income families and social cohesion," The Future of Families to 2030, 2012, viewed on December 29, 2021, https://read.oecd-ilibrary.org/social-issues-migration-health/the-future-of-families-to-2030/the-future-for-low-income-families-and-social-cohesion_9789264168367-4-en#page2

151. Ibid.

152. Z. I. Santini, H. Becher, Jørgensen, M.B. Davidsen, L. Nielsen, C. Minrichsen, K. R. Madsen, C. Meilstrup, A. Koyanagi, S. Stewart-Brown, D. McDavid & V. Koushede, Economics of mental well-being: a prospective study estimating associated health care costs and sickness benefit transfers in Denmark. Eur J Health Econ 22, 1053-1065 (2021). <https://doi.org/10.1007/s10198-021-01305-0>

153. C. Schwarzerler et al., "Economic Resilience Is Built on Societal Well-Being: The Sustainable Economic Development Assessment," in BCG, June 8, 2021, viewed on December 7, 2021, <https://www.bcg.com/publications/2021/prioritizing-societal-well-being-seda-report>

154. WHO, "Mental health," 2021, viewed on November 30, 2021, <https://www.who.int/health-topics/mental-health>

155. WHO, "Online games encourage players to stay mentally and physically healthy at home," November 16, 2021, viewed on November 30, 2021, <https://www.who.int/news/item/16-11-2021-online-games-encourage-players-to-stay-mentally-and-physically-healthy-at-home>

156. Esteban Ortiz-Ospina, "Is there a loneliness epidemic?" in OurWorldInData.org, December 11, 2019, viewed on November 30, 2021, <https://ourworldindata.org/loneliness-epidemic>

157. J. Pirhonen, E. Tiilikainen, S. Pekkarinen, M. Lemivaara, H. Melkas, "Can robots tackle late-life loneliness? Scanning of future opportunities and challenges in assisted living facilities". Futures, vol. 124, December 2020. <https://www.sciencedirect.com/science/article/pii/S0016328720301294>

158. J. F. Helliwell, R. Layard, J. D. Sachs, J. De Neve, L. B. Aknin, S. Wang, World Happiness Report, 2021, viewed on December 1, 2021, <https://worldhappiness.report/ed/2021>

159. Kathleen Reilhan, "7 Lessons Learned from the Happiest Country in the World," in AFAR, March 19, 2021, viewed on December 1, 2021, <https://www.afar.com/magazine/7-lessons-learned-from-the-happiest-country-in-the-world>

160. Ibid.

161. B. Adgate, "The Impact COVID-19 Had on The Entertainment Industry In 2020", in Forbes, April 13, 2021, viewed on December 3, 2021, <https://www.forbes.com/sites/bradadgate/2021/04/13/the-impact-covid-19-had-on-the-entertainment-industry-in-2020>

162. PricewaterhouseCoopers, "2021 Outlook Segment Findings", in PwC, 2021, viewed on December 3, 2021, <http://www.pwc.com/gx/en/industries/tmt/media/outlook/segment-findings.html>

163. B. Adgate, "The Impact COVID-19 Had on The Entertainment Industry In 2020", in Forbes, April 13, 2021, viewed on December 3, 2021, <https://www.forbes.com/sites/bradadgate/2021/04/13/the-impact-covid-19-had-on-the-entertainment-industry-in-2020>

164. Ibid.

165. G. Burtch, D. Cho, Y. Liang, & M. D. Smith, "Will Movie Theaters Survive When Audiences Can Stream New Releases?" in Harvard Business Review, January 15, 2021, viewed on December 5, 2021, <https://hbr.org/2021/01/will-movie-theaters-survive-when-audiences-can-stream-new-releases>

166. B. Adgate, "The Impact COVID-19 Had on The Entertainment Industry In 2020", in Forbes, April 13, 2021, viewed on December 3, 2021, <https://www.forbes.com/sites/bradadgate/2021/04/13/the-impact-covid-19-had-on-the-entertainment-industry-in-2020>

167. G. Burtch, D. Cho, Y. Liang, & M. D. Smith, "Will Movie Theaters Survive When Audiences Can Stream New Releases?" in Harvard Business Review, January 15, 2021, viewed on December 5, 2021, <https://hbr.org/2021/01/will-movie-theaters-survive-when-audiences-can-stream-new-releases>

168. Y. Liang, G. Burtch, D. Cho & M. D. Smith, "Product Features, Physical Distribution Networks, and Effects of Digital Channel Introduction: Evidence from the Korean Movie Market," in Boston University Questrom School of Business Research Paper 3749476 (2021), January 15, 2021, viewed on December 5, 2021, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3749476

169. G. Burtch, D. Cho, Y. Liang, & M. D. Smith, "Will Movie Theaters Survive When Audiences Can Stream New Releases?" in Harvard Business Review, January 15, 2021, viewed on December 8, 2021, <https://hbr.org/2021/01/will-movie-theaters-survive-when-audiences-can-stream-new-releases>

170. PricewaterhouseCoopers, "2021 Outlook Segment Findings", in PwC, 2021, viewed on December 5, 2021, <http://www.pwc.com/gx/en/industries/tmt/media/outlook/segment-findings.html>

171. Ibid.

172. E. Shearer, "More than eight-in-ten Americans get news from digital devices," in Pew Research Center, January 12, 2021, viewed on December 9, 2021, <https://www.pewresearch.org/fact-tank/2021/01/12/more-than-eight-in-ten-americans-get-news-from-digital-devices/>

173. M. Strauss, "Decline in newspaper, magazine sales forcing newsstand retailers to reinvent business," in The Globe and Mail, February 10, 2019, viewed on December 12, 2021, <https://www.theglobeandmail.com/business/article-decline-in-newspaper-magazine-sales-forcing-newsstand-retailers-to/>

174. PricewaterhouseCoopers, "2021 Outlook Segment Findings". in PwC, 2021, viewed on December 6, 2021, <http://www.pwc.com/gx/en/industries/tmt/media/outlook/segment-findings.html>

175. Ibid.

176. Ibid.

177. D. Grosipron, "Midem Music Pulse - Keys to Understand the Future of Live Music Industry," in Music Industry Insights, February 1, 2021, viewed on December 12, 2021, <https://insights.midem.com/artists-creativity/5-key-facts-to-understand-the-future-of-live-music/>

178. PricewaterhouseCoopers, "2021 Outlook Segment Findings", in PwC, 2021, viewed on December 5, 2021, <http://www.pwc.com/gx/en/industries/tmt/media/outlook/segment-findings.html>

179. Ibid.

180. Ibid.

181. Ibid.

182. M. Brenner, "The Future of Social Media," in Marketing Insider Group, October 27, 2021, viewed on December 12, 2021, <https://www.theglobeandmail.com/business/article-decline-in-newspaper-magazine-sales-forcing-newsstand-retailers-to/>

183. Ibid.

184. "State of Social 2019" in Buffer, viewed on December 12, 2021, <https://buffer.com/state-of-social-19/>

185. C. Newton, "Mark Zuckerberg Is Betting Facebook's Future on the Metaverse," in The Verge, July 22, 2021, viewed on December 14, 2021, <https://www.theverge.com/22588022/mark-zuckerberg-facebook-ceo-metaverse-interview>

186. Ibid.

187. Ibid.

188. L. Bridges, "The impact of declining trust in the media," in Ipsos MORI, August 1, 2019, viewed on December 1, 2021, <https://www.ipsos.com/ipsos-mori/en-uk/impact-declining-trust-media>

189. Ibid.

190. Ibid.

191. J. Foley, "14 deepfake examples that terrified and amused the internet," in Creative Bloq, June 1, 2021, viewed on December 14, 2021, <https://www.creativebloq.com/features/deepfake-examples>

192. Ibid.

193. B. Usukhbayar & S. Homer, "Deepfake Videos: The Future of Entertainment," in the future of deepfake videos, March 13, 2020, viewed on December 14, 2021, https://www.researchgate.net/profile/Binderya-Usukhbayar/publication/340862112_Deepfake_Videos_The_Future_of_Entertainment/links/5ee2852ca6fdcc73be737b4a/Deepfake-Videos-The-Future-of-Entertainment.pdf

194. Ibid.

195. "What Is the Future for Fake News?" Maynooth University, viewed on December 9, 2021, <http://www.maynoothuniversity.ie/research/spotlight-research/what-future-fake-news>

196. D. Roman, "The Creator Economy: Disrupting the Workforce of Tomorrow," in WeAreBrain Blog, August 23, 2021, viewed on January 15, 2022, <https://wearebrain.com/blog/marketing/the-creator-economy-disrupting-the-workforce-of-tomorrow/>

197. N. Murthy, "The Continuous Growth And Future Of The Creator Economy," in Forbes, September 8, 2021, viewed on December 9, 2021, <https://www.forbes.com/sites/forbesbusiness-developmentcouncil/2021/08/30/the-continuous-growth-and-future-of-the-creator-economy>

198. Ibid.

199. Ibid.

200. L. Jin, "The Creator Economy Needs a Middle Class," in Harvard Business Review, August 31, 2021, viewed on December 9, 2021, <https://hbr.org/2020/12/the-creator-economy-needs-a-middle-class>

201. D. Roman, "The Creator Economy: Disrupting the Workforce of Tomorrow," in WeAreBrain Blog, August 23, 2021, viewed on December 9, 2021, <https://wearebrain.com/blog/marketing/the-creator-economy-disrupting-the-workforce-of-tomorrow/>

202. L. Jin, "Li Jin on the Future of the Creator Economy," in The Economist, November 17, 2021, viewed on December 10, 2021, <http://www.economist.com/the-world-ahead/2021/11/08/li-jin-on-the-future-of-the-creator-economy>

203. Stocksby, "A Platform Co-Op Created by Artists, United by Respect - About," in Stocksby United, viewed on December 9, 2021, www.stocksby.com/service/about

204. L. Jin, "Li Jin on the Future of the Creator Economy," in The Economist, November 17, 2021, viewed on December 10, 2021, <http://www.economist.com/the-world-ahead/2021/11/08/li-jin-on-the-future-of-the-creator-economy>

205. H. C. Peoples, P. Duda, F. W. Marlowe, "Hunter-Gatherers and the Origins of Religion," in Human Nature, September 27, 2016, viewed on December 14, 2021, <https://pubmed.ncbi.nlm.nih.gov/27154194/>

206. S. Paul-Choudhury, "Tomorrow's Gods: What is the future of religion?" in BBC Future, August 2, 2019, viewed on December 14, 2021, <https://www.bbc.com/future/article/20190801-tomorrows-gods-what-is-the-future-of-religion>

207. Ibid.

208. "The Future of World Religions: Population Growth Projections, 2010-2050," in Pew Research Center, April 2, 2015, viewed on December 14, 2021, <https://www.pewforum.org/2015/04/02/religious-projections-2010-2050/>

209. Ibid.

210. Ibid.

211. Ibid.

212. Ibid.

213. S. Bullivant, M. Farias, J. Lanman & L. Lee, "Atheists and agnostics around the world," in Understanding Unbelief, May 28, 2019, viewed on December 15, 2021, <https://research.kent.ac.uk/understandingunbelief/wp-content/uploads/sites/1816/2019/05/UUReportRome.pdf>

214. S. Paul-Choudhury, "Tomorrow's Gods: What is the future of religion?" in BBC Future, August 2, 2019, viewed on December 14, 2021, <https://www.bbc.com/future/article/20190801-tomorrows-gods-what-is-the-future-of-religion>

215. S. Illing, "The future of QAnon, explained by 8 experts," in Vox, March 3, 2021, viewed on December 15, 2021, <https://www.vox.com/policy-and-politics/22252171/qanon-donald-trump-conspiracy-theories>

216. S. Illing, "The future of QAnon, explained by 8 experts," in Vox, March 3, 2021, viewed on December 15, 2021, <https://www.vox.com/policy-and-politics/22252171/qanon-donald-trump-conspiracy-theories>

217. R. Rodia, "Is it a cult, or a new religious movement?" in Penntoday, August 29, 2019, viewed on December 16, 2021, <https://penntoday.upenn.edu/news/it-cult-or-new-religious-movement>

218. Ibid.

219. Ibid.

220. M. Introvigne, "The future of new religions," in Futures, May 21, 2004, viewed on December 16, 2021, <https://www.sciencedirect.com/science/article/pii/S0016328704000461>

221. K. Barcelo, "Purpose & Culture-Driven Organizations Will Survive the Future, Here's Why," in Delivering happiness, viewed on December 16, 2021, <https://blog.deliveringhappiness.com/karissas-future-of-work>

222. Brightpeople, "Why finding your purpose is so important in the future of work," viewed on December 16, 2021, <https://www.brightpeople.dk/why-finding-your-purpose-is-so-important-in-the-future-of-work/>

223. Ibid.

224. C. D. Ryff, M. E. Lachman, "Midlife in the United States (MIDUS 2): Cognitive Project, 2004-2006," in Inter-university Consortium for Political and Social Research, November 17, 2017, viewed December 16, 2021, <https://www.icpsr.umich.edu/web/NACDA/studies/25281/publications>

225. Brightpeople, "Why finding your purpose is so important in the future of work," viewed on December 16, 2021, <https://www.brightpeople.dk/why-finding-your-purpose-is-so-important-in-the-future-of-work/>

226. Ibid.

227. E. Hahn, "The Toxicity of Beauty Standards" in The Catalyst, November 15, 2019, viewed on December 19, 2021, <https://millardwestcatalyst.com/10919/opinion/the-toxicity-of-beauty-standards/>

228. E. Hahn, "The Toxicity of Beauty Standards" in The Catalyst, November 15, 2019, viewed on December 19, 2021, <https://millardwestcatalyst.com/10919/opinion/the-toxicity-of-beauty-standards/>

229. National Organization for Women, "Get the Facts - Body Image," in Now.org, 2021, viewed on December 18, 2021, <https://now.org/now-foundation/love-your-body/love-your-body-whats-it-all-about/get-the-facts/>

230. E. Hahn, "The Toxicity of Beauty Standards" in The Catalyst, November 15, 2019, viewed on December 19, 2021, <https://millardwestcatalyst.com/10919/opinion/the-toxicity-of-beauty-standards/>

231. Ibid.

232. R. Beighton, "Plus-Size Models Have a Positive Effect on Women's Mental Health, Says Study," in Elle, December 6, 2017, viewed on January 24, 2022, <https://www.elle.com/uk/beauty/body-and-physical-health/news/a36388/plus-sized-models-positive-effect-womens-mental-health/>

233. C. Green, "Forget About Society's Beauty Standards" in Refresh Psychotherapy, 2021, viewed on December 17, 2021, <https://www.refreshtherapy.nyc.com/forget-about-societys-beauty-standards/>

234. S. Andrews, "How Culture Impacts Our Value of Women" in Forbes, April 6, 2020, viewed December 7, 2021, <https://www.forbes.com/sites/forbescoachescouncil/2020/04/06/how-culture-impacts-our-value-of-women>

235. J. Schalkwyk, "Questions about culture, gender equality and development cooperation," in OECD, June 2000, viewed December 11, 2021, <https://www.oecd.org/dac/gender-development/1850708.pdf>

236. Ibid.

237. S. Andrews, "How Culture Impacts Our Value of Women" in Forbes, April 6, 2020, viewed December 7, 2021, <https://www.forbes.com/sites/forbescoachescouncil/2020/04/06/how-culture-impacts-our-value-of-women>

238. K. Watson, "Feminism's Popularity Reaches All Time Highs, Study Shows," in MS Magazine, August 10, 2020, viewed December 12, 2021, <https://msmagazine.com/2020/08/10/feminism-popularity-reaches-all-time-highs-study-shows>

239. M. Clair & J. Denis, "Racism, Sociology of," volume 19, pp. 12721-12723, 2015, viewed December 10, 2021, https://projects.iq.harvard.edu/files/deib-explorer/files/sociology_of_racism.pdf

240. D. R. Jhangiani, D. H. Tarry, & D. C. Stangor, "Reducing discrimination," in Principles of Social Psychology 1st International Edition, September 26, 2014, viewed on December 2, 2021, <https://opentextbc.ca/socialpsychology/chapter/reducing-discrimination/>

241. T. J. S. De Lima, C. R. Pereira, A. R. Rosas Torres, L. E. Cunha de Souza, & I. M. Albuquerque, "Black people are convicted more for being black than for being poor: The role of social norms and cultural prejudice on biased racial judgments," in NCBJ, September 20, 2019, viewed on December 10, 2021, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6754140/>

242. J. Nagumo & N. Shibata, "#BlackLivesMatter shines light on racism in Japan and across Asia," in Nikkei Asia, August 11, 2020, viewed on January 17, 2022, <https://asia.nikkei.com/Spotlight/Asia-Insight/BlackLivesMatter-shines-light-on-racism-in-Japan-and-across-Asia>

243. A. Tikkanen, "Black lives matter," in Encyclopædia Britannica, 2020, viewed on December 1, 2021, <https://www.britannica.com/topic/Black-Lives-Matter>

244. J. Laider, "A key to ending racism: Make it personal, in The Harvard Gazette, February 22, 2021, viewed on December 2, 2021, <https://news.harvard.edu/gazette/story/2021/02/social-psychologist-offers-key-to-ending-racism/>

245. G. Elliot, Felix Holt, The Radical, in Project Gutenberg, 1866, viewed on January 26, 2022, p.58.

246. M. Obama, "Michelle Obama: When

they go low, we go high" in CNN, July 26, 2016, viewed on December 8, 2021, https://www.youtube.com/watch?v=mu_hCTHhzWU.

247. J. Adams & A. Adams, Familiar Letters of John Adams and His Wife Abigail Adams During the Revolution, by John Adams and Abigail Adams and Charles Francis Adams, in project Gutenberg, 2010, viewed on January 26, 2022, p.381.

248. Carnegie Endowment, "Thomas Carothers & Andrew O'Donohue on 'Democracies divided,'" September 23, 2019, viewed on December 8, 2021, <https://www.youtube.com/watch?v=V7naQvsdhMk&t=7s>.

249. J. Abercrombie, Red Country (London: Orbit 2012), p.205.

250. T. Carothers & A. O'Donohue, Democracies Divided: The Global Challenges of Political Polarization (Washington D.C.: Brookings Institutions Press 2019), p. 289.

251. Carothers & O'Donohue, Democracies Divided, p.290–291.

252. Ibid.

253. Siladitya Ray, "The Far-Right Is Flocking to These Alternate Social Media Apps — Not All of Them Are Thrilled," in Forbes, January 14, 2021, viewed on January 26, 2022, <https://www.forbes.com/sites/siladityaray/2021/01/14/the-far-right-is-flocking-to-these-alternate-social-media-apps---not-all-of-them-are-thrilled>.

254. Carothers & O'Donohue, Democracies Divided, p.294.

255. G. Heltzel & K. Laurin, "Polarization in America: Two Possible Futures," in Current Opinion in Behavioural Science 2020/34, viewed on January 26, 2022, p. 179–184, <https://pubmed.ncbi.nlm.nih.gov/32391408/#:~:text=We%20describe%20two%20possible%20futures,apex%20of%20its%20pendulum%20swing>.

256. Heltzel & Laurin, "Polarization in America: Two Possible Futures," p. 180.

257. Ibid.

258. Ibid., p. 181.

259. J. Druckman, "How incivility on partisan media (de)polarizes the electorate," in J Polit 2019/81, viewed on January 26, 2022, p.291–295, <https://www.journals.uchicago.edu/doi/abs/10.1086/6999912>.

260. M. Canovan, The People (Cambridge: Polity Press 2005), p.140.

261. Ibid.

262. Ibid., p.141.

263. M. Kazin, The populist Persuasion: An American History (London: Cornell University Press), p.384–388.

264. Ibid.

265. Ibid.

266. P. Taggart, Populism (Buckingham: Open University Press 2000), p.116.

267. B. Jones, 'Increasing share of Americans favor a single government program to provide health care coverage', in Pew Research Center, September 29, 2020, viewed on January 26, 2022, <https://www.pewresearch.org/fact-tank/2020/09/29/increasing-share-of-americans-favor-a-single-government-program-to-provide-health-care-coverage/>.

268. J. Jones, "U.S. Support for Legal Marijuana Steady in Past Year," in Gallup, October 23, 2019, viewed on December 17, 2021, <https://news.gallup.com/poll/267698/support-legal-marijuana-steady-past-year.aspx>.

269. F. Adam, "The Future of Populism in a Comparative European and Global Context," in Comparative Sociology

2019/18, viewed on January 10, 2022, p. 701, https://brill.com/view/journals/coso/18/5-6/article-p687_5.xml?language=en.

270. C. King, "The Future of Populism (chapter 9.5), in Political Ideologies and Worldviews: An Introduction (Kwantlen Polytechnic University: Surrey), p. 158, <https://kpu.pressbooks.pub/political-ideologies/>.

271. D. Levithan, Two boys kissing, (Knopf Books: 2013), p. 24.

272. H. Rosling, Factfulness: Ten Reasons we're wrong about the world - and why things are better than you think (London: Sceptre 2019), p. 105.

273. Ibid., p.107.

274. D. Kahneman, Thinking Fast and Slow (New York: Farrar, Straus and Giroux 2011), p. 122.

275. Ibid., p.123.

276. Ibid., p.122.

277. Rosling, Factfulness, p.122.

278. M. Light et al, "Comparing crime rates between undocumented immigrants, legal immigrants, and native-born US citizens in Texas," in Proceedings of the National Academy of Sciences 2020/117 (51), viewed on January 10, 2022, p. 32345, <https://www.pnas.org/content/117/51/32340>.

279. M. Sanchez-Mazas and L. Licata, "Xenophobia: social psychological aspects," in International encyclopedia of the Social & Behavioral Sciences 2015/2, viewed on January 1, 2022, p.804–805, <https://www.semanticscholar.org/paper/Xenophobia%3A-Social-psychological-aspects-Cutanda-Licata/2be7233ac8997c32a833529a8c9eb28a9b48ca26>.

280. G. Bernhard, "Why Xenophobia works," in Psychology Today, December 21, 2018, viewed on January 15, 2022, <https://www.psychologytoday.com/us/blog/evolution-in-daily-life/201812/why-xenophobia-works>.

281. C. Hedges, "What Every Person Should Know About War," in The New York Times, July 6, 2003, viewed on December 8, 2021, <https://www.nytimes.com/2003/07/06/books/chapters/what-every-person-should-know-about-war.html>.

282. D. Deudney, "Geopolitics," in Britannica, viewed on December 8, 2021, <https://www.britannica.com/topic/geopolitics>.

283. J. Rudy, "National Security versus Human Security," in GPPAC, January 21, 2018, viewed on December 8, 2021, <https://gppac.net/national-security-versus-human-security>.

284. Peter G. Peterson Foundation, "U.S. Defense Spending Compared to Other Countries," in Peter G. Peterson Foundation. July 9, 2021, viewed on December 8, 2021, https://www.pgpf.org/chart-archive/0053_defense-comparison.

285. Stockholm International Peace Research Institute, "World military spending rises to almost \$2 trillion in 2020," in Stockholm International Peace Research Institute. April 26, 2021, viewed on December 8, 2021, <https://www.sipri.org/media/press-release/2021/world-military-spending-rises-almost-2-trillion-2020>.

286. M. Funaiole & B. Hart, "Understanding China's 2021 Defense Budget," in Center for Strategic & International Studies, March 5, 2021, viewed on December 8, 2021, <https://www.csis.org/analysis/understanding-chinas-2021-defense-budget>.

287. Stockholm International Peace Research Institute, "World military spending rises to almost \$2 trillion in 2020," in Stockholm International Peace Research Institute, April 26, 2021, viewed on December 8, 2021, <https://www.sipri.org/media/press-release/2021/world-military-spending-rises-almost-2-trillion-2020>.

288. F. Morgan and R. Cohen, "Military Trends and the Future of Warfare," in RAND Corporation, May 11, 2020, viewed on December 29, 2021, https://www.rand.org/pubs/research_reports/RR2849z3.html.

289. R. Cohen, E. Han, and A. Rhoades, "Geopolitical Trends and the Future of Warfare," in RAND Corporation, May 11, 2020, viewed on December 29, 2021, https://www.rand.org/pubs/research_reports/RR2849z2.html.

290. Stockholm International Peace Research Institute, "World military spending rises to almost \$2 trillion in 2020," in Stockholm International Peace Research Institute, April 26, 2021, viewed on December 8, 2021, <https://www.sipri.org/media/press-release/2021/world-military-spending-rises-almost-2-trillion-2020>.

291. E. Knickmeyer, "Study says nearly half of defense spending for 9/11 wars went to private contractors," in PBS, September 13, 2021, viewed on December 8, 2021, <https://www.pbs.org/newshour/politics/study-says-nearly-half-of-defense-spending-for-9-11-wars-went-to-private-contractors>.

292. A. Horton & A. Gregg, "Use of military contractors shrouds true costs of war. Washington wants it that way, study says," in The Washington Post, June 30, 2020, viewed on December 8, 2021, <https://www.washingtonpost.com/national-security/2020/06/30/military-contractor-study/>.

293. E. Knickmeyer, "Study says nearly half of defense spending for 9/11 wars went to private contractors," in PBS, September 13, 2021, viewed on December 8, 2021, <https://www.pbs.org/newshour/politics/study-says-nearly-half-of-defense-spending-for-9-11-wars-went-to-private-contractors>.

294. A. Horton and A. Gregg, "Use of military contractors shrouds true costs of war. Washington wants it that way, study says," in The Washington Post. June 30, 2020, viewed on December 8, 2021, <https://www.washingtonpost.com/national-security/2020/06/30/military-contractor-study/>.

295. W Palka, "The Awakening of Private Military Companies," Warsaw Institute, August 2020, pp. 1–15.

296. Ibid.

297. M. Kaldor, "Peacemaking in an Era of New Wars," in Carnegie Europe, October 14, 2019, viewed on December 8, 2021, <https://carnegieeurope.eu/2019/10/14/peacemaking-in-era-of-new-wars-pub-80033>.

298. M. Albuquerque, "New Wars and New Practices in Contemporary Armed Conflicts," in E-International Relations, May 26, 2020, viewed on December 8, 2021, <https://www.e-ir.info/2020/05/26/new-wars-and-new-practices-in-contemporary-armed-conflicts/>.

299. A. Moseley, "Just War Theory," in Internet Encyclopedia of Philosophy, viewed on December 8, 2021, <https://iep.utm.edu/justwar/>.

300. J. Horgan, "We Need a New Just-War Theory, Which Aims to End War Forever," in Scientific American, April

24, 2013, viewed on December 8, 2021, <https://blogs.scientificamerican.com/cross-check/we-need-a-new-just-war-theory-which-aims-to-end-war-forever/>.

301. A. Moseley, "Just War Theory," in Internet Encyclopedia of Philosophy, viewed on December 8, 2021, <https://iep.utm.edu/justwar/>.

302. S. Coll & A. Entous, "The Secret History of the U.S. Diplomatic Failure in Afghanistan," in The New Yorker, December 10, 2021, viewed on December 10, 2021, <https://www.newyorker.com/magazine/2021/12/20/the-secret-history-of-the-us-diplomatic-failure-in-afghanistan>.

303. J. Horgan, "We Need a New Just-War Theory, Which Aims to End War Forever," in Scientific American. April 24, 2013, viewed on December 8, 2021, <https://blogs.scientificamerican.com/cross-check/we-need-a-new-just-war-theory-which-aims-to-end-war-forever/>.

304. T. Glazebrook, "Are drone strikes ever ethical?" in The New Statesman, November 3, 2019 (updated September 9, 2021), viewed on December 10, 2021, <https://www.newstatesman.com/world/2019/11/are-drone-strikes-ever-ethical>.

305. K. Hamilton, "I 3D-Printed a Glock to See How Far Homemade Guns Have Come," in Vice News. August 25, 2021, viewed on December 20, 2021, <https://www.vice.com/en/article/bvzak4/ghost-gun-glock-3d-printing>.

306. M. Madej, 'introduction', Western Military Interventions After The Cold War Evaluating the Wars of the West, M. Madej (Ed), Routledge, London, 2019, p. 3.

307. Y. Harari, Homo Deus, Signal Books, Canada, 2015, p. 21.

308. P. Poast, "This land is no longer your land: a primer on territorial disputes", in War on the rocks, 3 December 2021, viewed on 8 March 2022, <https://warontherocks.com/2021/12/this-land-is-no-longer-your-land-a-primer-on-territorial-disputes/>.

309. T. de Waal, 'Unfinished Business in the Armenia-Azerbaijan Conflict', in War on the rocks, 11 February 2021, viewed on 8 March 2022, <https://carnegieeurope.eu/2021/02/11/unfinished-business-in-armenia-azerbaijan-conflict-pub-83844>.

310. New York Times, 'Maps: Tracking the Russian invasion of Ukraine', 7 March 2022, viewed on 8 March 2022, <https://www.nytimes.com/interactive/2022/world/europe/ukraine-maps.html>.

311. M. Kofman, 'The august war, ten years on: a retrospective on the russo-georgian war', in War on the rocks, 17 August 2017, viewed on 8 March 2022, <https://warontherocks.com/2018/08/the-august-war-ten-years-on-a-retrospective-on-the-russo-georgian-war/>.

312. A. Cohen, 'As Russia Closes In On Crimea's Energy Resources, What Is Next For Ukraine?', in Forbes, 28 February 2019, viewed on 8 March 2022, <https://www.forbes.com/sites/arielcohen/2019/02/28/as-russia-closes-in-on-crimeas-energy-resources-what-is-next-for-ukraine/?sh=2580207629cd>.

313. Y. Harari, Homo Deus, Signal Books, Canada, 2015, p. 21–22.

314. A. Toupchinejad, 'China's Hybrid War On Taiwan: Fighter Jets To Fruit Politics', in NATO Association, 13 October 2021, viewed on 8 March 2022, <https://natoassociation.ca/chinas-hybrid-war-on-taiwan-fighter-jets-to-fruit-politics/>.

315. A. Toupchinejad, 'China's Hybrid War On Taiwan: Fighter Jets To Fruit Politics', in NATO Association, 13 October 2021, viewed on 8 March 2022, <https://natoassociation.ca/chinas-hybrid-war-on-taiwan-fighter-jets-to-fruit-politics/>.

316. Ibid.

317. J. Marcus, 'Combat drones: We are in a new era of warfare - here's why', in BBC, 4 February 2022, viewed on 8 March 2022, <https://www.bbc.com/news/world-60047328>.

318. Ibid.

319. Ibid.

320. L. Hofman, 'Drones have changed warfare. This is what life is like as a constant human target', in The Correspondent, 18 November 2020, viewed on 8 March 2022, <https://thecorrespondent.com/805/drones-have-changed-warfare-this-is-what-life-is-like-as-a-constant-human-target/106499031870-6e6fac5e>.

321. Ibid.

322. Ibid.

323. R. Mignot-Mahdavi, Drone Programs, The Individualization of war and the ad bellum principle of proportionality, in Lieber Series Vol. 4, Oxford University Press, 2020, p. 29.

324. P. Singer, 'Stuxnet And Its Hidden Lessons On The Ethics Of Cyberweapons', in CaseWestern Reserve Journal of International Law 47, 2015/1, viewed on 16 March 2022, p. 79. <https://scholarlycommons.law.case.edu/cgi/viewcontent.cgi?article=1009&context=jil>.

325. Ibid.

326. Ibid., p. 84.

327. C. Kahl, 'An Israeli Attack Against Iran Would Backfire— Just Like Israel's 1981 Strike on Iraq', in Washington Post, 2 March 2012, viewed on 16 March 2022. https://www.washingtonpost.com/opinions/an-israeli-attack-against-iran-would-backfire-just-like-israels-1981-strike-on-iraq/2012/02/28/gIaQATOMFnR_story.html

328. P. Singer and A. Friedman, Cybersecurity and Cyberwar: What Everyone Needs to Know' (New York: Oxford University Press 2014) p.247.

329. Ibid.

330. Ibid.

331. Britannica, T. Editors of Encyclopaedia, 'Moore's law', in Encyclopedia Britannica, 26 December 2019, viewed on 16 March 2022. <https://www.britannica.com/technology/Moores-law>.

332. Ibid.

333. D. Rotman, 'We're not prepared for the end of Moore's Law', in MIT Technology Review, 24 February 2020, viewed on 16 March 2022. <https://www.technologyreview.com/2020/02/24/905789/were-not-prepared-for-the-end-of-moores-law/>.

334. Ibid.

335. E. van Wie Davis, Shadow Warfare: Cyberwar Policy in the United States, Russia, and China, in Security and Professional Intelligence Education Series (SPIES) (London: Rowman & Littlefield 2021) p. 106.

336. Ibid., p. 107.

337. Ibid., p. 108.

338. Z. Abbany, 'Ukraine: Cyberwar creates chaos, 'it won't win the war'', in DW, 3 March 2022, viewed on 16 March 2022. <https://www.dw.com/en/ukraine-cyberwar-creates-chaos-it-wont-win-the-war/a-609999197>.

339. Ibid.

340. S. Dasgupta, 'The Future of Cyberwarfare', in Security Boulevard,

11 March 2021, viewed on 16 March 2022. <https://securityboulevard.com/2021/03/hack/>.

341. Ibid.

342. Ibid.

343. Ibid.

344. M. Keating, "How do resources create conflict?" in World Economic Forum, August 11, 2015, viewed on December 8, 2021, <https://www.weforum.org/agenda/2015/08/how-do-resources-create-conflict/>.

345. V. Beiser, "Why the world is running out of sand," in BBC Future, November 18, 2019, viewed on December 8, 2021, <https://www.bbc.com/future/article/20191108-why-the-world-is-running-out-of-sand>.

346. A. Torres, J. Liu, J. Brandt, & K. Lear, "The World is Facing a Global Sand Crisis," in The Conversation, September 8, 2021, viewed on December 8, 2021, <https://theconversation.com/the-world-is-facing-a-global-sand-crisis-83557>.

347. A. Niranjan, "Sand crisis: Mafias thrive as shortages loom," in DW, March 15, 2021, viewed on December 8, 2021, <https://www.dw.com/en/sand-crisis-shortage-supply-mafia/a-56714226>.

348. A. Torres, J. Liu, J. Brandt, & K. Lear, "The World is Facing a Global Sand Crisis," in The Conversation, September 8, 2017, viewed on December 8, 2021, <https://theconversation.com/the-world-is-facing-a-global-sand-crisis-83557>.

349. BBC News, "Cambodia bans sand exports permanently," in BBC News, July 13, 2017, viewed on December 8, 2021, <https://www.bbc.com/news/business-40590695>.

350. D. Moss, "What if Singapore runs out of sand?," in New Straits Times, November 15, 2020, viewed on December 8, 2021, <https://www.nst.com.my/opinion/columnists/2020/11/641338/what-if-singapore-runs-out-sand>.

351. BBC News, "Cambodia bans sand exports permanently," in BBC News, July 13, 2017, viewed on December 8, 2021, <https://www.bbc.com/news/business-40590695>.

352. A. Niranjan, "Sand crisis: Mafias thrive as shortages loom," in DW, March 15, 2021, viewed on December 8, 2021, <https://www.dw.com/en/sand-crisis-shortage-supply-mafia/a-56714226>.

353. P. Mahadevan, "Sand Mafias in India — Disorganized crime in a growing economy," Global Initiative Against Transnational Organised Crime, July 2019, pp.1–22.

354. H. Zhang and G. Donnellon-May, "China's Hydropower Plan on the Brahmaputra," in The Diplomat, September 1, 2021, viewed on December 10, 2021, <https://thediplomat.com/2021/09/chinas-hydropower-plan-on-the-brahmaputra/>.

355. E. Solomon, "Why water is a growing faultline between Turkey and Iraq," in Financial Times, July 4, 2018, viewed on December 10, 2021, <https://www.ft.com/content/82ca2e3c-6369-11e8-90c2-9563a0613e56>.

356. Al Jazeera, "Ethiopia's massive Nile dam explained," in Al Jazeera, July 8, 2021, viewed on December 8, 2021, <https://www.aljazeera.com/news/2021/7/8/explainer-ethiopias-massive-nile-dam>.

357. J. Rudy, "National Security versus Human Security," in GPPAC, January 21, 2018, viewed on December 8, 2021, <https://gppac.net/national-security-versus-human-security>.

358. B. Rooney, G. Johnson, and M. Priebe, "How Does Defense Spending Affect Economic Growth?" in

RAND Corporation, 2021, viewed on December 8, 2021, https://www.rand.org/pubs/research_reports/RR4739-2.html.

359. GPPAC, "Human Security," in GPPAC, viewed on December 8, 2021, <https://gppac.net/what-we-do/human-security>.

360. E. Remacle, "Approaches to Human Security: Japan, Canada, and Europe in Comparative Perspective," The Journal of Social Science, vol. 66, 2008, pp.5–34.

361. A. Steiner, "25th Anniversary of the Human Security concept," in United Nations Development Programme, February 28, 2019, viewed on December 20, 2021, <https://www.undp.org/speeches/25th-anniversary-human-security-concept>.

362. X. Yan, "From a Unipolar to a Bipolar Superpower System: The Future of the Global Power Dynamic," in Carnegie Endowment for International Peace, December 30, 2011, viewed on December 8, 2021, <https://carnegieendowment.org/2011/12/30/from-unipolar-to-bipolar-superpower-system-future-of-global-power-dynamic-pub-47688>.

363. W. Tao, "International Order Won't Be Bipolar," in China-US Focus, January 21, 2020, viewed on December 8, 2021, <https://www.chinausfocus.com/foreign-policy/international-order-wont-be-bipolar>.

364. F. Arif, "Transition of Balance of Power from Unipolar to Multipolar World Order," in Modern Diplomacy, September 19, 2020, viewed on December 8, 2021, <https://modern diplomacy.eu/2020/09/19/transition-of-balance-of-power-from-unipolar-to-multipolar-world-order/>.

365. Ibid.

366. Union of International Associations, "How many international organizations are there?" in Union of International Associations, viewed on January 17, 2022, <https://uia.org/faq/intorgs1>.

367. United Nations, "About Us," in United Nations, viewed on December 27, 2021, <https://www.un.org/en/about-us>.

368. United Nations, "UN System," in United Nations, viewed on December 27, 2021, <https://www.un.org/en/about-us/un-system>.

369. CFR Staff, "The UN Security Council," in Council of Foreign Relations, August 12, 2021, viewed on December 27, 2021, <https://www.cfr.org/background/un-security-council>.

370. R. Barber, "Syria: What the UN can do, and must do," in The Interpreter, March 3, 2020, viewed on January 8, 2022, <https://www.lowyinstitute.org/the-interpreter/syria-what-un-can-do-and-must-do>.

371. J. Thibault, "The UN Security Council isn't working. Will it ever be completely reformed?" in The Conversation, June 21, 2020, viewed on December 27, 2021, <https://theconversation.com/the-un-security-council-isnt-working-will-it-ever-be-completely-reformed-141109>.

372. United Nations, "UN System," in United Nations, viewed on December 27, 2021, <https://www.un.org/en/about-us/un-system>.

373. United Nations, "The 17 Goals," in United Nations, viewed on December 27, 2021, <https://sdgs.un.org/goals>.

374. L. Saccani & I. van Lammeren, "How reliable and valid are the SDG Progress Reports?" in Radboud Centrum Sociale Wetenschappen, viewed on December 27, 2021, <https://rcsw.nl/beroepsopleidingen/amid/blog/how-reliable-and-valid-are-the-sdg-progress-reports?language=nl>.

375. United Nations Framework Convention on Climate Change, "Conference of the Parties (COP)," in United Nations Climate Change, viewed on December 27, 2021, <https://unfccc.int/process/bodies/supreme-bodies/conference-of-the-parties-cop>.

376. United Nations Global Compact, "Our Mission," in United Nations Global Compact, viewed on December 27, 2021, <https://www.unglobalcompact.org/what-is-gc/mission>.

377. J. McBride & A. Siripurapu, "What's Next for the WTO?" in Council on Foreign Affairs, December 13, 2021, viewed on December 27, 2021, <https://www.cfr.org/background/un-whats-next-wto>.

378. B. Pakpahan, "Deadlock in the WTO: What is next?" in World Trade Organization, viewed on December 27, 2021, https://www.wto.org/english/forums_e/public_forum12_e/art_pf12_e/art19.htm.

379. B. Baschuk, "U.S. Says WTO's Appellate Body Is Invalid, Balks at Compliance," in Bloomberg, April 22, 2020, viewed on December 27, 2021, <https://www.bloomberg.com/news/articles/2020-04-22/u-s-says-wto-s-appellate-body-is-invalid-balks-at-compliance>.

380. S. Aarup, "All talk and no walk": America ain't back at the WTO," in Politico, November 23, 2021, viewed on December 27, 2021, <https://www.politico.eu/article/united-states-world-trade-organization-joe-biden/>.

381. United Nations Industrial Development Organization, "Cooperation with BRICS," in United Nations Industrial Development Organization, viewed on December 27, 2021, <https://www.unido.org/our-focus/cross-cutting-services/partnerships-prosperity/cooperation-brics>.

382. BRICS India 2021, "Evolution of BRICS," in BRICS India 2021, viewed on December 27, 2021, <https://brics2021.gov.in/about-brics>.

383. United Nations Industrial Development Organization, "Cooperation with BRICS," in United Nations Industrial Development Organization, viewed on December 27, 2021, <https://www.unido.org/our-focus/cross-cutting-services/partnerships-prosperity/cooperation-brics>.

384. N. Kapoor, "BRICS and its future: The challenges of multilateralism," in Observer Research Foundation, May 13, 2020, viewed on January 17, 2022, <https://www.orfonline.org/expert-speak/brics-future-challenges-multilateralism-66053/>.

385. D Sacks, "Countries in China's Belt and Road Initiative: Who's In And Who's Out," in Council on Foreign Relations, March 24, 2021, viewed on December 27, 2021, <https://www.cfr.org/blog/countries-chinas-belt-and-road-initiative-whos-and-whos-out>.

386. D. Sacks, "Countries in China's Belt and Road Initiative: Who's In And Who's Out," in Council on Foreign Relations, March 24, 2021, viewed on December 27, 2021, <https://www.cfr.org/blog/countries-chinas-belt-and-road-initiative-whos-and-whos-out>.

387. S. Lau, P. Tamma, & J. Posaner, "EU makes late bid to rival China on the Silk Road," in Politico. November 30,

2021, viewed on December 27, 2021, <https://www.politico.eu/article/eu-makes-late-bid-to-rival-china-on-the-silk-road/>.

388. V. Ni and H. Davidson, “More cautious’ China shifts Africa approach from debt to vaccine diplomacy,” in *The Guardian*, December 8, 2021, viewed on December 27, 2021, <https://www.theguardian.com/world/2021/dec/08/more-cautious-china-shifts-africa-approach-from-debt-to-vaccine-diplomacy>.

389. World Health Organization, “No one is safe from COVID-19 until everyone is safe,” in *World Health Organization*, July 20, 2021, viewed on December 27, 2021, <https://www.who.int/news-room/photo-story/photo-story-detail/No-one-is-safe-from-COVID19-until-everyone-is-safe>.

390. OECD, “Global challenges require global solutions,” in *OECD*, viewed on December 27, 2021, <https://www.oecd.org/sti/science-technology-innovation-outlook/crisis-and-opportunity/globalchallengesrequireglobal-solutions.htm>.

391. The Council on Foreign Relation, “Territorial Disputes in the South China Sea,” in the Council on Foreign Relations, viewed on December 7, 2021, <https://www.cfr.org/global-conflict-tracker/conflict/territorial-disputes-south-china-sea>.

392. D. Hutt, “How Mekong River is turning into a new flashpoint in Indo-Pacific,” in *Deutsche Welle*, December 8, 2021, viewed on December 9, 2021, <https://www.dw.com/en/how-mekong-river-is-turning-into-a-new-flashpoint-in-indo-pacific/a-58842727>.

393. L. Maizland, “Why China-Taiwan Relations Are So Tense,” in *Council on Foreign Relations*, May 10, 2021, viewed on December 7, 2021, <https://www.cfr.org/backgrounder/china-taiwan-relations-tension-us-policy>.

394. A. Tellis, “Hustling in the Himalayas: The Sino-Indian Border Confrontation,” in *Carnegie Endowment for International Peace*, June 4, 2020, viewed on December 7, 2021, <https://carnegieendowment.org/2020/06/04/hustling-in-himalayas-sino-indian-border-confrontation-pub-81979>.

395. The International Institute for Democracy and Electoral Assistance, “The State of Democracy in Asia and the Pacific in 2021,” in the International Institute for Democracy and Electoral Assistance, viewed on December 7, 2021, <https://www.idea.int/gsod/sites/default/files/2021-11/state-of-democracy-in-asia-and-the-pacific-2021.pdf>.

396. R. Guest, “The aftermath of the pandemic will make politics more turbulent,” in *The Economist*, November 8, 2021, viewed on December 7, 2021, <https://www.economist.com/the-world-ahead/2021/11/08/the-aftermath-of-the-pandemic-will-make-politics-more-turbulent>.

397. J. Kurlantzick, “Is COVID-19 Shaking Up Politics in Southeast Asia?” in *Council on Foreign Relations*, October 6, 2021, viewed on December 7, 2021, <https://www.cfr.org/article/covid-19-shaking-politics-southeast-asia>.

398. A. Sinpeng, “Digital media, political authoritarianism, and Internet controls in Southeast Asia,” November 25, 2019, viewed on December 7, 2021, doi:10.1177/0163443719884052.

399. K. Lee, “The #MilkTeaAlliance in Southeast Asia: Digital Revolution and Repression in Myanmar and Thailand,” in *Center for Strategic and International Studies*, April 1, 2021, viewed on December 7, 2021, <https://www.csis.org/blogs/new-perspectives-asia/milkteaalliance-southeast-asia-digital-revolution-and-repression-myanmar>.

400. L. Boxell & M. Gentzkow & Jesse M. Shapiro, “Cross-Country Trends in Affective Polarization,” *NBER Working Papers* 26669, in *National Bureau of Economic Research*, Inc. January 2020, viewed on December 6, 2021, <https://www.nber.org/papers/w26669>.

401. G. Lopez, “How political polarization broke America’s vaccine campaign,” in *Vox*, July 6, 2021, viewed on December 6, 2021, <https://www.vox.com/2021/7/6/22554198/political-polarization-vaccine-covid-19-coronavirus>.

402. F. Fukuyama, “Francis Fukuyama on the end of American hegemony,” in *The Economist*, August 18, 2021, viewed on December 6, 2021, <https://www.economist.com/by-invitation/2021/08/18/francis-fukuyama-on-the-end-of-american-hegemony>.

403. P. Saiani, E. Ivaldi, A. Ciacci & L.Stefano, “Broken Trust. Confidence Gaps and Distrust in Latin America,” in *Soc Indic Res*, September 10, 2021, viewed on December 6, 2021, <https://doi.org/10.1007/s11205-021-02796-3>.

404. National Democratic Institute, “Democratic Challenges and Opportunities in Latin America,” in *National Democratic Institute*, March 24, 2021, viewed on December 6, 2021, <https://www.ndi.org/publications/democratic-challenges-and-opportunities-latin-america>.

405. UNICEF, “MENA Generation 2030,” in *UNICEF*, April 2019, viewed on December 6, 2021, <https://data.unicef.org/resources/middle-east-north-africa-generation-2030/>.

406. S. Mabon, “The Middle East in 2050: Precarious Politics and the Future of the State,” in the *Sectarianism, Proxies and De-Sectarianization Project*, June 1, 2021, viewed on December 6, 2021, <https://www.sepad.org.uk/announcement/the-middle-east-in-2050-precarius-politics-and-the-future-of-the-state>.

407. L. Scazzieri, “Europe and the Transition to a Post-American Middle East,” in the *Centre for European Reform*, November 5, 2021, viewed on December 6, 2021, <https://www.cer.eu/insights/europe-and-transition-post-american-middle-east>.

408. T. Yousef, “The Middle East and North Africa over the next decade: Key challenges and policy options,” in *Brookings Institution*, March 3, 2020, viewed on December 6, 2021, <https://www.brookings.edu/opinions/the-middle-east-and-north-africa-over-the-next-decade-key-challenges-and-policy-options/>.

409. Transparency International, “People See Low Political Integrity Throughout the European Union,” in *Transparency International*, September 28, 2021, viewed on December 6, 2021, <https://www.transparency.org/en/news/low-political-integrity-throughout-the-european-union-gcb-eu-2021>.

410. S. Fleming & M. Peel, “EU identity crisis: Poland, Hungary and the fight over Brussels’ values,” in *Financial Times*, December 4, 2020 viewed on December 6, 2021, <https://www.ft.com/content/bfa58276-1868-401f-9891-ccd363dc68dc>.

411. International Institute for Democracy and Electoral Assistance, “Europe Report,” in *International Institute for Democracy and Electoral Assistance*, viewed on December 6, 2021, <https://www.idea.int/gsod/europe-report>.

412. M. Kuo, “Global Gateway: The EU Alternative to China’s BRI,” September 8, 2021, viewed on December 6, 2021, <https://thediplomat.com/2021/09/global-gateway-the-eu-alternative-to-chinas-bri/>.

413. A. Gabuev, “As Russia and China Draw Closer, Europe Watches With Foreboding,” in *Carnegie Moscow Center*, March 19, 2021, viewed on December 6, 2021, <https://carnegiemoscow.org/commentary/84135>.

414. Economist Intelligence, “Africa: what to watch in 2022,” in *Economist Intelligence*, October 6, 2021, viewed on December 6, 2021, <https://www.eiu.com/n/africa-what-to-watch-in-2022>.

415. Statista, “Population of Africa in 2020, by age group,” in *Statista*, July 1, 2020, viewed on December 6, 2021, <https://www.statista.com/statistics/1226211/population-of-africa-by-age-group/>.

416. International Institute for Democracy and Electoral Assistance, “Africa & The Middle East Report,” in *The International Institute for Democracy and Electoral Assistance*, viewed on December 6, 2021, <https://www.idea.int/gsod/africa-middle-east-report>.

417. R. Harding, “Urbanites across Africa are more likely to be unhappy with their government. Here’s why,” in *The Conversation*, May 24, 2020, viewed on December 6, 2021, <https://theconversation.com/urbanites-across-africa-are-more-likely-to-be-unhappy-with-their-government-heres-why-139126>.

418. J. Campbell & N. Quinn, “What’s Happening to Democracy in Africa?” in *Council on Foreign Relations*, May 26, 2021, viewed on December 6, 2021, <https://www.cfr.org/article/whats-happening-democracy-africa>.

419. M. Canning et al., “Creating the government of the future,” in *Deloitte Insights*, November 25, 2020, viewed on December 27, 2021, <https://www2.deloitte.com/us/en/insights/industry/public-sector/government-of-the-future-evolution-change.html>.

420. KPMG staff, “Modernizing government: Global trends,” in *KPMG*, April 2020, viewed on December 27, 2021, <https://assets.kpmg/content/dam/kpmg/xx/pdf/2021/04/modernizing-government-global-trends.pdf>.

421. N. Abillama et al., “Unlocking the Value of AI-Powered Government,” in *BCG*, July 21, 2021, viewed on December 27, 2021, <https://www.bcg.com/publications/2021/unlocking-value-ai-in-government>.

422. BCG staff, “AI Brings Science to the Art of Policymaking,” in *BCG*, April 5, 2021, viewed on January 4, 2021, <https://www.bcg.com/publications/2021/how-artificial-intelligence-can-shape-policy-making>.

423. OECD staff, “Open Government,” in *OECD*, viewed on December 27, 2021, <https://www.oecd.org/gov/open-government/>.

424. S. Fleming & M. Peel, “EU identity crisis: Poland, Hungary and the fight over Brussels’ values,” in *Financial Times*, December 4, 2020 viewed on December 6, 2021, <https://www.opengovpartnership.org/our-members/>.

425. The Civic Tech Field Guide (website), viewed on December 27, 2021, <https://civictechguide.org/>.

426. S. Feldstein, “The Global Expansion of AI Surveillance,” in *The Carnegie Endowment for International Peace*, September 17, 2019, viewed on December 27, 2021, <https://carnegieendowment.org/2019/09/17/global-expansion-of-ai-surveillance-pub-79847>.

427. J. Anderson & L. Rainie, “Many Tech Experts Say Digital Disruption Will Hurt Democracy,” in *Pew Research Center*, February 21, 2020, viewed on December 27, 2021, <https://www.pewresearch.org/internet/2020/02/21/many-tech-experts-say-digital-disruption-will-hurt-democracy/>.

428. A. Shahbaz, “The Rise of Digital Authoritarianism,” in *Freedom House*, viewed on December 27, 2021, <https://freedomhouse.org/report/freedom-net/2018/rise-digital-authoritarianism>.

429. Z. Tufekci, “Engineering the public: Big data, surveillance and computational politics,” in *First Monday*, 19(7), 2014, <https://doi.org/10.5210/fm.v19i7.4901>.

430. J. Anderson & L. Rainie, “Many Tech Experts Say Digital Disruption Will Hurt Democracy,” in *Pew Research Center*, February 21, 2020, viewed on December 27, 2021, <https://www.pewresearch.org/internet/2020/02/21/many-tech-experts-say-digital-disruption-will-hurt-democracy/>.

431. L. Phillips-Alvarez, “10 Facts About Social Activism,” in *Borgen Project*, October 1, 2019, viewed on January 24, 2022, <https://borgenproject.org/10-facts-about-social-activism/>.

432. D. Fisher & S. Nasrin, “Climate Activism and Its Effects,” *WIREs Climate Change*, vol. 12, issue 1, viewed on October 18, 2020, <https://wires.onlinelibrary.wiley.com/doi/abs/10.1002/wcc.683>.

433. Amfori, “Trends: Climate activism and green politics on the rise” in *Amfori*, March 9, 2020, viewed on December 11, 2021, <https://www.amfori.org/news/trends-climate-activism-and-green-politics-rise>.

434. S. Sauer, “Why aren’t politicians doing more on climate change? Maybe because they’re so old,” in *Vox*, July 14, 2017, viewed on December 10, 2021, <https://www.vox.com/first-person/2017/7/14/15959968/climate-change-teenager>.

435. Wikimedia Foundation, “Politics of climate change” in *Wikipedia*, December 2021, viewed on December 10, 2021, https://en.wikipedia.org/wiki/Politics_of_climate_change.

436. O. Kestlin, H. Lock & P. Gralki, “12 Important Moments in the History of Climate Action: In Photos,” in *Global Citizen*, June 5, 2020, viewed on December 29, 2021, <https://www.globalcitizen.org/en/content/important-moments-climate-history-in-photos/>.

437. NASA, “The Effects of Climate Change” in *NASA*, 2021, viewed on December 29, 2021, <https://climate.nasa.gov/effects/>.

438. Client Earth, “Fossil fuels and climate change: The Facts,” in *ClientEarth*, 2021, viewed on December 11, 2021, <https://www.clientearth.org/latest/latest-updates/stories/fossil-fuels-and-climate-change-the-facts/>.

439. Wikimedia Foundation, “Politics of climate change,” in *Wikipedia*, December 2021, viewed on December 10, 2021, https://en.wikipedia.org/wiki/Politics_of_climate_change.

440. December 10, 2021, https://en.wikipedia.org/wiki/Politics_of_climate_change.

441. Canada, G. A, “Climate change in developing countries,” in *GAC*, June 23, 2020, viewed on December 9, 2021, https://www.international.gc.ca/world-monde/issues_developpement-enjeux_developpement/environnement_protection-protection_environnement/climate-climatiques.aspx?lang=eng.

442. Cable News Network, “LGBTQ Rights Milestones Fast Facts,” in *CNN*, October 31, 2021, viewed on December 9, 2021, <https://edition.cnn.com/2015/06/19/us/lgbt-rights-milestones-fast-facts/index.html>.

443. B. Morris, “History of Lesbian, Gay, Bisexual and Transgender Social Movements,” in *American Psychological Association*, 2009, viewed on December 9, 2021, <https://www.apa.org/pi/lgbt/resources/history>.

444. N. Cheng, M. Henry & S. Kim, “The Resilience of East Asia’s LGBTQ Community,” in *The Diplomat*, September 24, 2021, viewed on December 29, 2021, <https://thediplomat.com/2021/09/the-resilience-of-east-asias-lgbtq-community/>.

445. HRC, “Sexual assault and the LGBTQ community,” in *HRC*, 2021, viewed on December 10, 2021, <https://www.hrc.org/resources/sexual-assault-and-the-lgbt-community>.

446. N. Toye, “Inclusion in Activism,” in *SAME*, 2021, viewed on December 8, 2021, <https://www.same-network.org/inclusion-activism>.

447. United Nations, “Political inclusion: United nations educational, Scientific and Cultural Organization,” in *United Nations Educational, Scientific and Cultural Organization*, 2021, viewed on December 10, 2021 <http://www.unesco.org/new/en/social-and-human-sciences/themes/urban-development/migrants-inclusion-in-cities/good-practices/political-inclusion/>.

448. Indivisible, “How to be inclusive: An introduction,” in *Indivisible*, July 23, 2020, viewed on December 2, 2021, <https://indivisible.org/resource/how-be-inclusive-introduction>.

449. S. Turper, & K. Aarts, “Political Trust and sophistication: Taking measurement seriously,” in *Social indicators research*, 2017, viewed December 6, 2021, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5250644/>.

450. Crome Associates, “The importance of trust in teams,” in *Crowe Associates*, April 11, 2019, viewed on December 4, 2021, <http://www.crowe-associates.co.uk/teams-and-groups-the-importance-of-trust-in-teams/>.

451. OECD, “Trust in government,” in *OECD iLibrary*, December 10, 2013, viewed on December 5, 2021, https://www.oecd-ilibrary.org/governance/government-at-a-glance-2013/trust-in-government-policy-effectiveness-and-the-governance-agenda_gov_glance-2013-6-en.

452. R. Cohen, “Breaking down public trust,” in *Ford School*, June 10, 2021, viewed on December 6, 2021, <https://fordschool.umich.edu/news/2021/rebuilding-trust-in-government-democracy>.

453. J. Aguilera, “An Epidemic of Misinformation. New Report Finds Trust in Social Institutions Diminished Further in 2020,” in *Time*, January 13, 2021, viewed on December 7, 2021, <https://time.com/5929252/edelman-trust-barometer-2021/>.

454. R. Watters, “Digital Activism: The Good, the Bad, the Future,” in *HAD*, June 18, 2020, viewed on January 2, 2022, <https://had-int.org/blog/digital-activism-the-good-the-bad-the-future/>.

455. M. Peters, “A Brief History of Online Activism,” in *Mashable*, August 15, 2011, viewed on January 2, 2022, <https://mashable.com/archive/online-activism>.

456. B. Williams, “The Future of Activism,” in *Fluxtrends*, 2021, viewed on January 2, 2022, <https://www.fluxtrends.com/the-future-of-activism/>.

457. C. Jones-David, “Julius Jones is innocent. Don’t let him be executed by the state of Oklahoma,” viewed on March 20, 2022, <https://www.change.org/p/julius-jones-is-innocent-don-t-let-him-be-executed-by-the-state-of-oklahoma>.

458. K. Andresen, “Overtun ban on gay scouts,” viewed on March 20, 2022, <https://www.change.org/p/overtun-ban-on-gay-scouts>.

459. R. Fisher, “The subtle ways that ‘clicktivism’ shapes the world,” in *BBC*, September 16, 2020, viewed on January 3, 2022, <https://www.bbc.com/future/article/20200915-the-subtle-ways-that-clicktivism-shapes-the-world>.

460. B. Laker, “This Is What Leadership Will Be In 2030,” *Forbes*, August 5, 2020, viewed on January 10, 2022, <https://www.forbes.com/sites/benjaminlaker/2020/08/05/this-is-what-leadership-will-be-in-2030>.

461. J. Morgan, *The Future Leader: 9 Skills and Mindsets to Succeed in the Next Decade*, Wiley Publishers, 2020.

462. J. Morgan, *The Future Leader: 9 Skills and Mindsets to Succeed in the Next Decade*, Wiley Publishers, 2020.

463. Ibid., p. 113.

464. Ibid.

465. E. Herrington, “What is Purpose-Driven Leadership?,” *sidecar*, March 5, 2021, viewed on January 14, 2022, <https://www.sidecarglobal.com/organizational-culture/what-is-purpose-driven-leadership/>.

466. D. Seidman, “We need moral leadership in the future of work,” *World Economic Forum*, August 27, 2019, viewed on January 12, 2022, <https://www.weforum.org/agenda/2019/08/moral-leadership-future-of-work-lrn/>.

467. Jacob Morgan, *The Future Leader: 9 Skills and Mindsets to Succeed in the Next Decade*, Wiley Publishers, 2020.

468. X. Zhou, S. F. Rasool, J. Yang & M. Z. Asghar, “Exploring the Relationship between Despotic Leadership and Job Satisfaction: The Role of Self Efficacy and Leader-Member Exchange,” *International Journal of Environmental Research and Public Health*, May 17, 2021, p. 5307.

469. H. Kakkar & N. Sivanathan, “Why We Prefer Dominant Leaders in Uncertain Times,” *Harvard Business Review*, August 11, 2017, viewed on January 14, 2022, <https://hbr.org/2017/08/why-we-prefer-dominant-leaders-in-uncertain-times>.

470. Scheider Electric, “Schneider Electric ranked world’s most sustainable company by Corporate Knights,” January 25, 20221, viewed on January 13, 2022, <https://www.se.com/ww/en/about-us/newsroom/news/press-releases/schneider-electric-ranked-world%E2%80%99s-most-sustainable-company-by-corporate-knights-2021/>.

471. J. Johnson, “10 Steve Jobs Quotes Every Business Owner Needs to Hear,” *CO*, January 10, 2020, viewed on March 20, 2022, <https://www.uschamber.com/co/authors/jamie-johnson>.

472. D. Kraemer, “Greta Thunberg: Who is the climate campaigner and what are her aims?” in *BBC News*, November 5, 2021, viewed on January 17, 2022, <https://www.bbc.com/news/world-europe-49918719>.

473. PWC, “Leaders of the future in government Value-based, authentic & in-real time,” *PwC Middle East Public Sector Institute*, 2010, pp. 1–17.

474. UN Women, “Facts and figures: Women’s leadership and political participation,” in *UN Women*, viewed on 16 January 2022, <https://www.unwomen.org/en/what-we-do/leadership-and-political-participation/facts-and-figures>.

475. A. Reynolds, “Representation and Rights: The Impact of LGBT Legislators in Comparative Perspective,” *American Political Science Review*, 2013, 107(2): pp. 259–274, doi:10.1017/S0003055413000051.

476. T. Fitzsimons, “LGBTQ political representation jumped 21 percent in past year, data shows,” in *NBC News*, July 17, 2020, viewed on January 17, 2022, <https://www.nbcnews.com/feature/nbc-out/lgbtq-political-representation-jumped-21-percent-past-year-data-shows-n1234045>.

477. United Nations, “Youth in Action,” in *United Nations Climate Action*, viewed on January 17, 2022, <https://www.un.org/en/climatechange/youth-in-action>.

478. UK COP26, “A chance for young people to propose ideas and concrete actions to address climate change,” in *UK COP26*, viewed on January 17, 2022, <https://ukcop26.org/pre-cop/youth4climate-2021/>.

479. M. Rooduijn, “Why is populism suddenly all the rage?” in *The Guardian*, November 20, 2018, viewed on January 17, 2022, <https://www.theguardian.com/world/political-science/2018/nov/20/why-is-populism-suddenly-so-sexy-the-reasons-are-many>.

480. Foreign Policy, “10 Ideas to Fix Democracy,” in *Foreign Policy*, January 7, 2022, viewed on January 17, 2022, <https://foreignpolicy.com/2022/01/07/10-ideas-fix-democracy/>.

481. L. Warner & K. Grint, “American Indian Ways of Leading and Knowing”, *Leadership*, 2006, 2(2): pp. 225–244, doi:10.1177/17427150060602936.

482. PWC, “Leaders of the future in government: Value-based, authentic & in-real time,” *PwC Middle East Public Sector Institute*, 2010, pp. 1–17, <https://www.pwc.com/ml/en/meps/leaders-of-the-future.pdf>.

483. The Oxford Scientist, “Staying on Earth or moving to Mars: The cosmic debate,” in *The Oxford Scientist*, 2019, viewed on January 7, 2022, <https://oxsci.org/staying-on-earth-or-moving-to-mars-the-cosmic-debate/>.

484. O. Milman, A. Witherspoon, R. Liu, & A. Chang, “The climate disaster is here,” in *The Guardian*, October 14, 2021, viewed on December 12, 2021, <https://www.theguardian.com/environment/ng-interactive/2021/oct/14/climate-change-happening-now-stats-graphs-maps-cop26>.

485. Ibid.

486. United Nations, “Food,” in *United Nations*, 2021, viewed on December 12, 2021, <https://www.un.org/en/global-issues/food>.

487. The World Bank, “World Development Indicators,” in *The World Bank*, 2020, viewed on December 16, 2021, <https://datatopics.worldbank.org/world-development-indicators/>.

488. United Nations, “Food,” in *United Nations*, 2021, viewed on December 12, 2021, <https://www.un.org/en/global-issues/food>.

489. C. Chen, A. Chaudhary & A. Mathys, “Natural and environmental losses embedded in global food waste,” in *Resources, Conservation and Recycling*, Volume 160, September 2020.

490. O. Mulhern, “Food Waste Statistics Updated,” in *Earth.org*, November 15, 2021, viewed on December 12, 2021, https://earth.org/data_visualization/an-update-to-food-waste-statistics/.

491. Ibid.

492. World Resource Institute, “Creating a Sustainable Food Future,” in *World Resources Report*, July 19, 2019, https://agritrop.cirad.fr/593176/1/WRR_Food_Full_Report_Q.pdf.

493. Ibid.

494. M. De Clercq, A. Vats, & A. Biel, “Agriculture 4.0: The Future of Farming Technology,” *February 2018*, viewed on December 12, 2021, <https://skyfarms.io/wp-content/uploads/2020/08/84-OliverWyman-World-Government-Report-Agriculture-4.0.pdf>.

495. TNO, “Enabling the future of 3D-printed food,” in *TNO*, viewed on December 28, 2021, <https://www.tno.nl/en/focus-areas/industry/roadmaps/flexible-free-form-products/enabling-the-future-of-3d-printed-food/>.

496. BIS Research Global 3D Food Printing Market: Analysis and forecasts 2018–2023, viewed on December 5, 2021, <https://bisresearch.com/industry-report/global-3d-food-printing-market-2023.html>.

497. S. Jayaprakash, J. Paasi, K. Pennanen, I. F. Ituarte, M. Lille, J. Partanen & N. Sozer, “Techno-Economic Prospects and Desirability of 3D Food Printing: Perspectives of Industrial Experts, Researchers and Consumers,” *Foods*, Volume 9 (Issue 12), December 9, 2020.

498. S. Chrikri & J. Hocquette, “The Myth of Cultured Meat: A Review,” in *Discoverability*, February 7, 2020.

499. Ibid.

500. TNO, “Enabling the future of 3D-printed food,” in *TNO*, viewed on December 28, 2021, <https://www.tno.nl/en/focus-areas/industry/roadmaps/flexible-free-form-products/enabling-the-future-of-3d-printed-food/>.

501. Ibid.

502. R., “If we want to save the planet, the future of food is insects,” in *The Guardian*, May 8, 2021, viewed on December 12, 2021, <https://www.theguardian.com/food/2021/may/08/if-we-want-to-save-the-planet-the-future-of-food-is-insects>.

503. Ibid.

504. B. Kateman, “Is The Future Of Farming Indoors?,” in *Forbes*, July 14, 2021, viewed on December 7, 2021, <https://www.forbes.com/sites/briankateman/2020/07/14/is-the-future-of-farming-indoors>.

505. Square Roots, “Our mission: To responsibly bring our locally grown food to people in cities around the world, all year round,” in *Square*

Roots, viewed on December 28, 2021, https://squarerootsgrow.com/about_us/

508. Ibid.

509. Dutch Greenhouses, "The Dutch Approach to Greenhouses," in Dutch Greenhouses, 2021, viewed on December 9, 2021, <https://www.dutchgreenhouses.com>

510. B. Kateman, "Is the Future of Farming Indoors?" in Forbes, 14 July 2021, viewed on December 7, 2021, <https://www.forbes.com/sites/briankateman/2020/07/14/is-the-future-of-farming-indoors>

511. Bloomberg News, "Can Indoor Farms Reach Skyscraper Height?" in Bloomberg, December 14, 2021, viewed on December 29, 2021, <https://www.bloomberg.com/news/features/2021-12-13/farmscraper-design-takes-vertical-farms-to-new-heights>

512. C. He, Z. Liu, J. Wu, X. Pan, Z. Fang, J. Li & B. A. Bryan, "Future global urban water scarcity and potential solutions," in Nature Communications, vol. 12, August 2021.

513. M. Cipullo, "Solutions to Water Scarcity," in SOLARIMPULSE, August 30, 2021, viewed on December 10, 2021, <https://solarimpulse.com/news/solutions-to-water-scarcity>

514. PBL Netherlands Environmental Assessment Agency, "Setting the scene," in themasites, 2019, viewed on December 8, 2021, <https://themasites.pbl.nl/future-water-challenges/setting-the-scene/>

515. PBL Netherlands Environmental Assessment Agency, "Ecological quality of aquatic ecosystems," in themasites, 2019, viewed on December 8, 2021, <https://themasites.pbl.nl/future-water-challenges/ecological-quality-of-aquatic-ecosystems/>

516. C. He, Z. Liu, J. Wu, X. Pan, Z. Fang, J. Li & B. A. Bryan, "Future global urban water scarcity and potential solutions," in Nature Communications, vol. 12, August 2021.

517. PBL Netherlands Environmental Assessment Agency, "Setting the scene," in themasites, 2019, viewed on December 8, 2021, <https://themasites.pbl.nl/future-water-challenges/setting-the-scene/>

518. H. Ritchie and M. Roser, "Clean Water and Sanitation," in OurWorldInData.org, 2021, viewed on December 12, 2021, <https://ourworldindata.org/water-access>.

519. PBL Netherlands Environmental Assessment Agency, "Water pollution and human health," in themasites, 2019, viewed on December 8, 2021, <https://themasites.pbl.nl/future-water-challenges/water-pollution-and-human-health/>

520. M. Cipullo, "Solutions to Water Scarcity," in SOLARIMPULSE, August 30, 2021, viewed on December 10, 2021, <https://solarimpulse.com/news/solutions-to-water-scarcity>

521. Ibid., p. 122, "Solutions to Water Scarcity," in SOLARIMPULSE, August 30, 2021, viewed on December 10, 2021, <https://solarimpulse.com/news/solutions-to-water-scarcity>

522. PBL Netherlands Environmental Assessment Agency, "Flooding," in themasites, 2019, viewed on December 8, 2021, <https://themasites.pbl.nl/future-water-challenges/flooding/>

523. PBL Netherlands Environmental Assessment Agency, "Flooding," in themasites, 2019, viewed on December 8, 2021, <https://themasites.pbl.nl/future-water-challenges/flooding/>

524. Ibid.

525. Ibid.

526. D. A. Ortiz, "The underground cathedral protecting Tokyo from floods," in BBC, November 29, 2018, viewed on December 12, 2021, <https://www.bbc.com/future/article/20181129-the-underground-cathedral-protecting-tokyo-from-floods>

527. J. Buckley, "The flood barriers that might save Venice," in CNN, updated on December 29, 2021, viewed on December 29, 2021, <https://edition.cnn.com/travel/article/mose-venice-flood-barriers/index.html>

528. J.D. Sachs, The Age of Sustainable Development, Columbia University Press, New York, 2015.

529. Department of Economic and Social Affairs, "Energy," in United Nations, viewed on December 5, 2021, <https://sdgs.un.org/topics/energy>

530. Deloitte, "Renewable Energy Industry outlook 2022," in Deloitte, November 2021, viewed on December 18, 2021, <https://www2.deloitte.com/nl/nl/pages/energy-resources-industrials/articles/renewable-energy-industry-outlook.html>

531. Environmental and Energy Study Institute, "Solar," in Environmental and Energy Study Institute, viewed on December 5, 2021, <https://www.eesi.org/topics/solar>

532. Y. Abdelilah, H. T. P. Bojek, F. Briens, P. Le Feuvre & G. Rodríguez Jiménez, "Challenges and opportunities beyond 2021," in iea, viewed on December 5, 2021, <https://www.iea.org/reports/renewable-energy-market-update-challenges-and-opportunities-beyond-2021>

533. Ibid., p.481.

534. R. Snead, "Floating a New Solution for Solar Deployment," in Environmental and Energy Study Institute, March 30, 2021, viewed on December 5, 2021, <https://www.eesi.org/articles/view/floating-a-new-solution-for-solar-deployment>

535. Ibid., p.481.

536. B. Williams, "Solar for All Demonstrates the Importance of Equity in Clean Energy," in Environmental and Energy Study Institute, June 8, 2020, viewed on December 9, 2021, <https://www.eesi.org/articles/view/solar-for-all-demonstrates-the-importance-of-equity-in-clean-energy>

537. R. Elliott, "Solar-Powered Electric Vehicles Are Almost Ready to Hit the Road," in The Wall Street Journal, November 7, 2021, viewed on December 9, 2021, <https://www.wsj.com/articles/solar-power-electric-vehicle-f1635259950>

538. Ibid., p.130.

539. Caltech, "What Is the Future of Wind Energy," in Caltech Science Exchange, viewed on December 6, 2021, <https://scienceexchange.caltech.edu/topics/sustainability/wind-energy-advantages-disadvantages>

540. Wind Energy The Facts, "Future Developments," in Wind Energy The Facts, viewed on December 6, 2021, <https://www.wind-energy-the-facts.org/future-developments.html>

541. TNQ, "Innovative methods for wind measurements," in TNQ, viewed on December 6, 2021, <https://www.tno.nl/en/focus-areas/energy-transition/roadmaps/renewable-electricity/wind-energy/innovative-wind-measurement>

542. Enerpac, "Wind Turbine on December 8, 2021, <https://themasites.pbl.nl/future-water-challenges/flooding/>

Maintenance: Components, Strategies, and Tools," in Enerpac, September 28, 2021, viewed on December 27, 2021, <https://blog.enerpac.com/wind-turbine-maintenance-components-strategies-and-tools/>

543. TNQ, "Innovative methods for wind measurements," in TNQ, viewed on December 6, 2021, <https://www.tno.nl/en/focus-areas/energy-transition/roadmaps/renewable-electricity/wind-energy/innovative-wind-measurement/>

544. Ibid., p.130.

545. A. Todoroff & U. Atre, "Innovations in River Renewable Energy Power Remote Alaskan Communities," in Environmental and Energy Study Institute, May 5, 2020, viewed on December 8, 2021, <https://www.eesi.org/articles/view/innovations-in-river-renewable-energy-power-remote-alaskan-communities>

546. J. Opperman, "Dams, Rivers, And Drive-By Truckers: Songs That Explain The Challenge Of Sustainable Energy," in Forbes, December 6, 2021, viewed on December 8, 2021, <https://www.forbes.com/sites/jeffopperman/2021/12/06/dams-rivers-and-drive-by-truckers-songs-that-explain-the-challenge-of-sustainable-energy/>

547. J. Opperman, "Energy Will Always Leave Footprints: Projected Hydropower Would Leave Deeper Global Footprint Than Solar Power And Wind Power," in Forbes, September 2, 2021, viewed on December 8, 2021, <https://www.forbes.com/sites/jeffopperman/2021/09/02/energy-will-always-leave-footprints-projected-hydropower-would-leave-deeper-global-footprint-than-solar-and-wind/>

548. I. Kougiass, G. Aggidis, F. Avellan, S. Deniz, U. Lundin, A. Moro, S. Muntean, D. Novara, J. I. Pérez-Díaz, E. Quaranta, P. Schild & N. Theodossiou, "Analysis of emerging technologies in the hydropower sector," in Renewable and Sustainable Energy Reviews, vol. 113, 2019.

549. J. Unwin, "The future of hydropower energy," in Power Technology, February 6, 2020, viewed on December 8, 2021, <https://www.power-technology.com/features/hydropower-energy-future>

550. Global Water Intelligence, "From Old to New," in Global Water Intelligence, September 1, 2018, viewed on December 8, 2021, <https://www.globalwaterintel.com/sponsored-content/from-old-to-new-andritz>

551. Enel Green Power, "Hydroelectric energy and Big Data together to promote environmental sustainability," in Enel Green Power, January 4, 2019, viewed on December 15, 2021, <https://www.enelgreenpower.com/stories/articles/2019/01/sustainable-development-passes-through-hydroelectric-energy-and-big-data>

552. Ibid., p.133.

553. Ibid., p.133.

554. M.L. Thieme, D. Tickner, G. Grill, J.P. Carvalho, M. Goichot, J. Hartmann, J. Higgins, B. Lehner, M. Mulligan, C. Nilsson, K. Tockner, C. Zarfi & J. Opperman, "Navigating trade-offs between dams and river conservation." Global Sustainability, vol. 4, June 2021, pp. 1–7.

555. Enel Green Power, "Geothermal energy," in Enel Green Power, December 15, 2021, <https://www.enelgreenpower.com/learning-hub/>

renewable-energies/geothermal-energy

Environmental and Energy Study Institute, "The Growing Role of Renewable Energy in the U.S. Energy Mix," in Environmental and Energy Study Institute, November 15, 2019, viewed on December 15, 2021, <https://www.eesi.org/briefings/view/t1f1519cetsa>

557. B. Merchant, "What is the future of geothermal energy?" in how stuff works, viewed on December 15, 2021, <https://science.howstuffworks.com/environmental/energy/future-geothermal-energy.htm>

558. Oil & Gas Portal, "Geothermal Energy Future Development," in Oil & Gas portal, viewed on December 15, 2021, <http://www.oil-gasportal.com/geothermal-energy/geothermal-energy-future-development/>

559. A. Kessler, "Drill, Baby, Drill! Is the Future," in The Wall Street Journal, June 27, 2021, viewed on December 15, 2021, <https://www.wsj.com/articles/drill-baby-drill-is-the-future-f1624810731>

560. World Wildlife Foundation, "Living Planet Report 2020: Bending the curve of biodiversity loss," WWF, p. 74. R.E. Almond, M. Grooten, & T. Petersen (Eds), 2020, viewed on December 10, 2021, <https://livingplanet.panda.org/en-us/>

561. T. Bauwens, M. Hekkert, & J. Kirchherr, "Circular futures: What Will They Look Like?" Ecological Economics, vol. 175, no. 175, Sep. 2020, p. 1. doi: 10.1016/j.ecolecon.2020.106703

562. Bauwens, Hekkert, & Kirchherr, "Circular futures: What Will They Look Like?", p. 5.

563. Ellen MacArthur Foundation, "What Is a Circular Economy?" in Ellen Macarthur Foundation, 2019, viewed on December 22, 2021, <https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview>

564. Bauwens, Hekkert, & Kirchherr, "Circular futures: What Will They Look Like?", p. 3.

565. Ellen MacArthur Foundation, "Plastics and a Circular Economy," in Ellen Macarthur Foundation, 2021, viewed on December 22, 2021, <https://ellenmacarthurfoundation.org/topics/plastics/overview>

566. Ellen MacArthur Foundation, "Completing the Picture: How the circular economy tackles climate change | Shared by Climate Change," in European Circular Economy Stakeholder Platform, p. 32. September 23, 2019, viewed on December 22, 2021, https://circulareconomy.europa.eu/platform/sites/default/files/emf_completing_the_picture.pdf

567. C. Bolck, "Renewable materials," in Wageningen University & Research, April 18, 2020, viewed on December 17, 2021, <https://www.wur.nl/en/Research-Results/Research-Institutes/food-biobased-research/Research-themes/Renewable-materials.htm>

568. C. Bolck, "Renewable materials."

569. BASF, "Naturally good? Searching for new bio-based raw materials for industry," in Creating Chemistry Magazine Issue #6, 2017, viewed on December 17, 2021, <https://www.basf.com/global/en/media/magazine/archive/issue-6/naturally-good-searching-for-new-bio-based-raw-materials-for-industry.html>

570. Ibid.

571. Ellen MacArthur Foundation, World Economic Forum, & McKinsey & Company, "The New Plastics Economy: Rethinking the future of plastics," World Economic Forum. 2016, viewed on January 10, 2022, https://www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf

572. J. van Bon, "Cellulose: sustainable alternative to a wide range of materials," in Wageningen University & Research, June 28, 2020, viewed on December 17, 2021, <https://www.wur.nl/en/Research-Results/Research-Institutes/food-biobased-research/Solutions/Cellulose-sustainable-alternative-to-a-wide-range-of-materials.htm>

573. Ibid.

574. Footprint, "Footprint Recognized as one of World's Most Socially Impactful Brands," in Footprint News, November 8, 2021, viewed on December 22, 2021, <https://news.footprintus.com/en/footprint-recognized-as-one-of-worlds-most-socially-impactful-brands?hsLang=en>

575. Mogu, "Mogu Technology," viewed on December 19, 2021, <https://mogu.bio/technology/>

576. Ellen MacArthur Foundation, "Completing the Picture: How the circular economy tackles climate change | Shared by Climate Change (2021 Reprint)," European Circular Economy Stakeholder Platform, September 23, 2021, viewed on January 10, 2022, <https://emf.thirdlight.com/link/w750u7vysuy1-5a5i6n/p/preview/?o>

577. BASF, "Naturally good? Searching for new bio-based raw materials for industry."

578. A. C. Serrenho, J. B. Norman, & J. M. Allwood, "The impact of reducing car weight on global emissions: the future fleet in Great Britain," Philosophical transactions. Series A, Mathematical, physical, and engineering sciences, vol. 375, no. 2095. June 13, 2017, doi: 10.1098/rsta.2016.0364

579. V. DeStefano, S. Khan, & A. Tabada, "Applications of PLA in modern medicine," Engineered Regeneration, vol. 1, 2020, p. 78. doi: 10.1016/j.engreg.2020.08.002

580. T. Casalini, F. Rossi, A. Castrovinci, & G. Perale, "A Perspective on Polyactic Acid-Based Polymers Use for Nanoparticles Synthesis and Applications," Frontiers in Bioengineering and Biotechnology, vol. 7. October 11, 2019, doi: 10.3389/fbioe.2019.00259

581. Ibid.

582. Ibid.

583. European Commission, "Circular economy action plan," in European Commission, viewed on January 10, 2022, https://ec.europa.eu/environment/strategy/circular-economy-action-plan_nl

584. European Commission, "Policy Framework on biobased, biodegradable and compostable plastics: a Roadmap | European Circular Economy Stakeholder Platform," in European Commission. October 7, 2021, viewed on January 10, 2022, https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13138-Policy-framework-on-biobased-biodegradable-and-compostable-plastics_en

585. J. van Kuijk, "Ik realiseerde me dat we al eeuwen aan upcycling doen. In de keuken," in de Volkskrant, November 6, 2020, viewed on December 23, 2021, [https://www.volkskrant.nl/columns-opinie/ik-realiseerde-me-dat-we-al-eeuwen-aan-upcycling-](https://www.volkskrant.nl/columns-opinie/ik-realiseerde-me-dat-we-al-eeuwen-aan-upcycling-&Company,)

doen-in-de-keuken-b5ddb4b7/

586. D. R. Prasser, "Top 8 Circular Economy Trends & Innovations in 2021," in StartUs Insights, June 17, 2021, viewed on December 23, 2021, <https://www.startus-insights.com/innovators-guide/top-8-circular-economy-trends-innovations-in-2021/>

587. Eurostat, "EU's circular material use rate increased in 2020," in Eurostat, November 25, 2021, viewed on January 9, 2022, <https://ec.europa.eu/eurostat/en/web/products-eurostat-news/-/ddn-20211125-1>

588. Prasser, "Top 8 Circular Economy Trends & Innovations in 2021."

589. Circular Computing, "The circular remanufacturing process," viewed on December 23, 2021, <https://circularcomputing.com/remanufacturing-process/>

590. Prasser, "Top 8 Circular Economy Trends & Innovations in 2021".

591. Seab Energy, "SEAB energy," viewed on December 23, 2021, <https://seabenergy.com/products/anaerobic-digesters/>

592. Ellen MacArthur Foundation, "A New Textiles Economy: Redesigning Fashion's Future," in Ellen MacArthur Foundation, December 1, 2017, viewed on December 23, 2021, <https://ellenmacarthurfoundation.org/a-new-textiles-economy>

593. B. Zhang, Y. Zhang, & P. Zhou, "Consumer Attitude Towards Sustainability of Fast Fashion Products in the UK," Sustainability, vol. 13, no. 4, February 2021, p. 1646. doi: 10.3390/sui3041646.

594. Ellen MacArthur Foundation, "A New Textiles Economy: Redesigning Fashion's Future."

595. Zhang, Zhang, & Zhou, "Consumer Attitude Towards Sustainability of Fast Fashion Products in the UK."

596. Kleiderly, "Our Mission," in Kleiderly, viewed on December 17, 2021, <https://kleiderly.com/pages/mission>

597. Kleiderly, "Our Impact," in Kleiderly, viewed on December 17, 2021, <https://kleiderly.com/blogs/kleiderly-magazine/kleiderly-s-impact-reduction-potential>

598. https://sustainablewair.com/facts

599. T. Schröder, "The Dutch have built the world's first shoe recycling machine," in Innovation Origins, December 14, 2021, viewed on December 21, 2021, <https://innovationorigins.com/en/the-dutch-build-the-worlds-first-shoe-recycling-machine/>

600. Zhang, Zhang, & Zhou, "Consumer Attitude Towards Sustainability of Fast Fashion Products in the UK."

601. WGSN Insider, "Exploring youth attitudes towards sustainable fashion | WGSN," in WGSN. September 2, 2021, viewed on December 28, 2021, <https://www.wgsn.com/en/blogs/sustainable-fashion-youth-attitudes>

602. Ibid.

603. R. Kayser, "Inside the World of Buy Nothing, Where Dryer Lint Is a Hot Commodity," The New York Times, October 22, 2021.

604. BarcelonaTech, "Study reveals that reusing 1 kg of clothing saves 25 kg of CO2," Innovation Origins, January 17, 2022, accessed on January 17, 2022, <https://innovationorigins.com/en/selected/study-reveals-that-reusing-1-kg-of-clothing-saves-25-kg-of-co2/>

605. A.J. Hoffman, The next phase of business sustainability. Stanford Social Innovation Review, 2018, vol. 16, no. 2, pp. 34–39.

606. J. Fernando, "Corporate Social Responsibility (CSR)," in Investopedia, September 4, 2021, viewed on December 16, 2021, <https://www.investopedia.com/terms/c/corporate-social-responsibility.asp>

607. Climate Bonds, "Explaining green bonds," in Climate Bonds Initiative, viewed on December 27, 2021, <https://www.climatebonds.net/market/explaining-green-bonds>

608. H. van de Veen, "Water-related investments: thinking beyond blue bonds," in Impact Investor, 2021, viewed on December 19, 2021, <https://newsletter.impact-investor.com/editions/week-39/water-related-investments-thinking-beyond-blue-bonds.html>

609. ADB, "Finance for ocean-positive investments in Asia and the Pacific," in ADB Blue Bonds, September 2021, viewed on December 19, 2021, <https://www.adb.org/publications/acdb-blue-bonds>

610. Ibid., p.143.

611. S. Corcut, "The Evolution and the Future of Corporate Social Responsibility in a Post Covid-19 World," in The Sustainability, May 6, 2020, viewed on January 17, 2022, <https://thesustainability.ae/the-evolution-and-the-future-of-corporate-social-responsibility-in-a-post-covid-19-world/>

612. T. Begum, "What is mass extinction and are we facing a sixth one?" in Natural History Museum of London. May 19, 2021, viewed on December 11, 2021, <https://www.nhm.ac.uk/discover/what-is-mass-extinction-and-are-we-facing-a-sixth-one.html>

613. K. Pavid, "What is biodiversity?" in Natural History Museum of London, April 3, 2020, viewed on December 11, 2021, <https://www.nhm.ac.uk/discover/what-is-biodiversity.html>

614. WWF, "Living Planet Report 2020: Bending the curve of biodiversity loss," WWF, p. 74. R.E. Almond, M. Grooten, & T. Petersen (Eds), 2020, viewed on December 10, 2021, <https://livingplanet.panda.org/en-us/>

615. S. Whittme, A. Haines, C. Beyrer, F. Boltz, A.G. Capon et al, "Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation–Lancet Commission on planetary health," The Lancet, vol. 386, no. 10007, July 15, 2015, p. 1973–2028. doi: 10.1016/S0140-6736(15)60901-1

616. WWF, "Living Planet Report 2020: Bending the curve of biodiversity loss," p. 80.

617. World Economic Forum, "Global risks perception surveys 2007–2020," in The Global Risks Report 2020, World Economic Forum, 15th Edition, p. 89. January 15, 2020, viewed on December 11, 2021, <https://www.weforum.org/reports/the-global-risks-report-2020>

618. M. Greshko, "Mass extinction facts and information from National Geographic," in National Geographic, September 26, 2019, viewed on December 12, 2021, <https://www.nationalgeographic.com/science/article/mass-extinction>

619. WWF, "How Many Species Are We Losing?" in World Wildlife Fund, 2019, viewed on December 12, 2021, <https://wwf.panda.org/discover/our-focus/biodiversity/biodiversity/>

620. D. P. G. Bond & S. E. Grasby, "On the causes of mass extinctions," Palaeogeography, Palaeoclimatology, Palaeoecology, vol. 478, July 2017, pp. 3–29. doi: 10.1016/j.palaeo.2016.11.005.

621. Ibid.

622. Begum, "What is mass extinction and are we facing a sixth one?"

623. Pavid, "What is biodiversity?"

624. Ibid.

625. Begum, "What is mass extinction and are we facing a sixth one?"

626. WWF, "Living Planet Report 2020: Bending the curve of biodiversity loss," p. 12.

627. Begum, "What is mass extinction and are we facing a sixth one?"

628. Begum, "What is mass extinction and are we facing a sixth one?"

629. WWF, "Living Planet Report 2020: Bending the curve of biodiversity loss," p. 16.

630. Pavid, "What is biodiversity?"

631. Begum, "What is mass extinction and are we facing a sixth one?"

632. WWF, "Living Planet Report 2020: Bending the curve of biodiversity loss," p. 82.

633. C.L. Faust et al, "Pathogen spillover during land conversion," in Ecology letters, vol. 21, no. 4, February 21, 2018, pp. 471–483. doi: 10.1111/ele12904

634. J. Tollefson, "Why deforestation and extinctions make pandemics more likely," Nature, vol. 584, August 7, 2020, pp. 175–176. doi: 10.1038/d41586-020-02341-1

635. Conference of the Parties, "Report of the Conference of the Parties to the Convention on Biological Diversity on its fifteenth meeting (Part I)," presented at the COP Convention on Biological Diversity, Kunming, China, October 11–15, 2021, viewed on December 15, 2021, <https://www.cbd.int/doc/c/d707/6fca/f76569ac6b47ae9930a3cb251/cop-15-04-en.pdf>

636. Leaders' Pledge for Nature, "LEADERS' PLEDGE FOR NATURE United to Reverse Biodiversity Loss by 2030 for Sustainable Development," in Leaders Pledge for Nature, September 27, 2020, viewed on December 15, 2021, https://www.leaderspledgefornature.org/wp-content/uploads/2021/06/Leaders_Pledge_for_Nature_27.09.20-ENGLISH.pdf

637. European Commission, "Biodiversity Strategy for 2030," in European Commission, viewed on December 10, 2021, https://ec.europa.eu/environment/strategy/biodiversity-strategy-2030_en

638. L. Street, R. Powell-Tuck, A. Brackley, & M. Lee, "2021 Sustainability Trends report," in ERM, 2021, p. 15, viewed on December 6, 2021, <https://www.sustainability.com/thinking/2021-sustainability-trends-report/>

639. Unilever, "New Forest Data Partnership to help keep our forests safe," in Unilever. November 29, 2021, viewed on January 12, 2022, <https://www.unilever.com/news/news-search/2021/working-together-to-protect-nature/>

640. www.sustaincoffee.org

641. World Wildlife Fund, "The Living Planet Report," in WWF, 2020, viewed on December 16, 2021, <https://www.wwf.org.uk/living-planet-report>

642. Intergovernmental Panel on Climate Change, "Special Report on the Ocean and Cryosphere in a Changing Climate," in IPCC, 2019, viewed on December 16, 2021, <https://www.ipcc.ch/srcc/home/>

643. WWF, "Living Planet Report 2020: Bending the curve of biodiversity loss," p. 169.

loss,” p. 12.

644. US Global Change Research Program, “Fourth National Climate Assessment. Volume II: Impacts, Risks, and Adaptation in the United States,” in National Climate Assessment, vol. 2, no. 4, pp. 1–470, December 2017, viewed on December 17, 2021, <https://nca2018.globalchange.gov/>.

645. L. Laybourn-Langton, L. Rankin, & D. Baxter, “This is a crisis: Facing up to the age of environmental breakdown,” in Progressive Policy Think Tank. February 12, 2019, viewed on December 18, 2021, <https://www.ippr.org/research/publications/age-of-environmental-breakdown>.

646. D. Breitingner, E. Farnworth, A. Pickens, & J. Swanborough, “Chapter 3, A Decade Left: confronting runaway climate threat” in The Global Risks Report 2020 Insight Report, E. Granados Franco (lead author), 15th Edition, World Economic Forum, January 15, 2020, viewed on December 17, 2021, <https://reports.weforum.org/global-risks-report-2020/a-decade-left/#view/fn-68>.

647. C. Blazina, “Fast facts about international views of climate change as Biden attends UN COP26 conference,” in Pew Research Center, October 29, 2021, viewed on December 16, 2021, <https://www.pewresearch.org/fact-tank/2021/10/29/fast-facts-about-international-views-of-climate-change-as-biden-attends-un-cop26-conference/>.

648. Begum, “What is mass extinction and are we facing a sixth one?”

649. L. Brave Bull Allard, “To Save the Water, We Must Break the Cycle of Colonial Trauma,” in Sacred Stone Camp - Injary Wakháragapi Othí, February 4, 2017, viewed on December 14, 2021, <http://www.sacredstonecamp.org/blog/2017/2/4/to-save-the-water-we-must-break-the-cycle-of-colonial-trauma/>; A. Chavez & M. A. Pember, “LaDonna Brave Bull Allard ‘changed history,’” in Indian Country Today, April 12, 2021, accessed January 13, 2022, <https://indiancountrytoday.com/obituaries/ladonna-brave-bull-allard-changed-history>.

650. Brave Bull Allard, “To Save the Water, We Must Break the Cycle of Colonial Trauma.”

651. R. Bengal, “Standing Rock Rising: Inside the Movement to Stop the Dakota Access Pipeline,” in Vogue, November 22, 2016, viewed on December 14, 2021, <https://www.vogue.com/projects/1350551/standing-rock-movement-dakota-access-pipeline>.

652. H. Nijenhuis, “Deze satelliet meet wereldwijd een van de belangrijkste bronnen van klimaatverandering,” in Algemeen Dagblad, December 21, 2021, viewed on December 28, 2021, <https://www.ad.nl/wetenschap/deze-satelliet-meet-wereldwijd-een-van-de-belangrijkste-bronnen-van-klimaatverandering-ac77647f/>.

653. M. Egan, “Secretive energy startup backed by Bill Gates achieves solar breakthrough,” in CNN Business, November 19, 2019, viewed on December 17, 2021, <https://edition.cnn.com/2019/11/19/business/heliogen-solar-energy-bill-gates/index.html>.

654. E. Kobayashi-Solomon, “Heliogen And Bloom Energy Agreement Signals The Start Of The Hydrogen Age,” in Forbes, July 22, 2021, viewed on January 2, 2022, <https://www.forbes.com/sites/erikkobayashis-olomon/2021/07/22/heliogen-and-bloom-energy-agreement-signals-the-start-of-the-hydrogen-age>.

655. Newsweek Staff, “America’s Greatest Disruptors: Planet protectors who are helping to counter climate change and other environmental challenges,” in Newsweek, December 15, 2021, viewed on December 21, 2021, <https://www.newsweek.com/2021/12/24/americas-greatest-disruptors-planet-protectors-1659074.html>.

656. Nature, “Rise of the citizen scientist,” Nature, vol. 524, no. 7565, p. 265, August 18, 2015, doi: 10.1038/524265a.

657. M. Burgess, “What is the Internet of Things? WIRED Explains,” in WIRED, February 2018, viewed on December 9, 2021, <https://www.wired.co.uk/article/internet-of-things-what-is-explained-io>.

658. T. Poongodi et al., “Wearable Devices and IoT,” Intelligent Systems Reference Library, vol. 165, July 2019, pp. 245–273, https://doi.org/10.1007/978-3-030-23983-1_10.

659. I. Gosh, “4 Key Areas Where AI and IoT Are Being Combined,” in World Economic Forum, March 2021, viewed on December 9, 2021, <https://www.weforum.org/agenda/2021/03/ai-is-fusing-with-the-internet-of-things-to-create-new-technology-innovations/>.

660. Grand View Research, “Wearable Technology Market Size, & Trends Analysis Report By Product, By Application, By Region, and Segment Forecasts, 2021–2028,” Market View Research, October 2021, pp.1–70.

661. S. Kumar, P. Tiwari & M. Zymbler, “Internet of Things is a revolutionary approach for future technology enhancement: a review,” Journal of Big Data, no. 11f, December 2019, <https://doi.org/10.1186/s40537-019-0268-2>.

662. K. Jones, “How the Internet of Things is Building Smarter Cities,” in Visual Capitalist, February 2020, viewed on December 9, 2021, <https://www.visualcapitalist.com/iot-building-smarter-cities/>.

663. Polaris Market Research, “Smart Cities Market Size to Reach \$1.03 Trillion By 2028 | CAGR: 14.4%: Exclusive Report by Polaris Market Research,” in Polaris Market Research, November 10, 2021, viewed on December 23, 2021, <https://www.prnewswire.com/news-releases/smart-cities-market-size-to-reach-1-03-trillion-by-2028--cagr-14-4-exclusive-report-by-polaris-market-research-301421024.html>.

664. KPMG staff, “Modernizing government: Global trends,” in KPMG. April 2020, viewed on 27 December 2021, <https://assets.kpmg/content/dam/kpmg/xx/pdf/2021/04/modernizing-government-global-trends.pdf>.

665. Ibid.

666. S. Ranger, “What is the IoT? Everything you need to know about the Internet of Things right now,” in ZDNet, February 2020, viewed on December 9, 2021, <https://www.zdnet.com/article/what-is-the-internet-of-things-everything-you-need-to-know-about-the-iot-right-now/>.

667. M. Burgess, “What is the Internet of Things? WIRED Explains,” in WIRED, February 2018, viewed on December 9, 2021, <https://www.wired.co.uk/article/internet-of-things-what-is-explained-io>.

668. J. Tilley, “Automation, Robotics, and the Factory of the Future,” in McKinsey & Company Operations, September 2017, viewed on December 9, 2021, <https://www.mckinsey.com/business-functions/operations/our-insights/automation-robotics-and-the-factory-of-the-future>.

669. M. Simon, “The WIRED Guide to Robots,” in WIRED, April 2020, viewed on December 9, 2021, <https://www.wired.com/story/wired-guide-to-robots/>.

670. R. Waugh, “Will Robots Change Business for the Better,” in The Telegraph Media Group, January 2019, viewed on December 9, 2021, <https://www.telegraph.co.uk/business/ready-and-enabled/artificial-intelligence-companies-transformation/>.

671. R. Lassig et al., “Robotics Outlook 2030: How Intelligence and Mobility Will Shape the Future,” in Boston Consulting Group, June 2021, viewed on December 9, 2021, <https://www.bcg.com/publications/2021/how-intelligence-and-mobility-will-shape-the-future-of-the-robotics-industry>.

672. J. Manyika, “Digitization, AI, and The Future of Work: Imperatives for Europe,” in McKinsey Global Institute, September 2017, viewed on December 9, 2021, <https://www.mckinsey.com/featured-insights/europe/ten-imperatives-for-europe-in-the-age>.

673. Tykn, “Blockchain Identity Management: The Definitive Guide (2021 Update),” in Tykn.Tech, March 2021, viewed on December 9, 2021, <https://tykn.tech/identity-management-blockchain/>.

674. Ibid.

675. P. Boiardi & E. Stout, “To What Extent Can Blockchain Help Development Co-Operation Actors Meet the 2030 Agenda,” OECD Development Co-Operation Working Papers, no. 95, May 2021, pp.1–50, <https://doi.org/10.1787/11857cb5-en>.

676. PricewaterhouseCooper, “Time for Trust: The Trillion Dollar Reasons to Rethink Blockchain,” in PWC, October 2021, viewed on December 13, 2021, <https://www.pwc.com/gx/en/industries/technology/publications/blockchain-report-transform-business-economy.html>.

677. K. Alicke et al., “Blockchain technology for supply chains – A must or a maybe?,” in McKinsey & Company Operations, September 2017, viewed on December 9, 2021, <https://www.mckinsey.com/business-functions/operations/our-insights/blockchain-technology-for-supply-chains-a-must-or-a-maybe>.

678. Yeeply, “The Impact of Blockchain on Consumer Engagement,” in Yeeply, January 2021, viewed on December 13, 2021, <https://en.yeeply.com/blog/influence-blockchain-customer-engagement/>.

679. Consensys, “Blockchain Solutions for Central Bank Digital Currency (CBDC),” in Consensys, January 2021, viewed on December 13, 2021, <https://consensys.net/solutions/payments-and-money/cbdc/>.

680. J. Lintz, “The Future of NFTs: Digital Entertainment at Its Finest,” in Forbes, November 19, 2021, viewed on December 23, 2021, <https://www.forbes.com/sites/forbesbusiness-council/2021/11/19/the-future-of-nfts-digital-entertainment-at-its-finest>.

681. Ibid.

682. N. Serenea Silver, “The History and Future of NFTs,” in Forbes, November 2, 2021, viewed on December 23, 2021, <https://www.forbes.com/sites/nicolesilver/2021/11/02/the-history-and-future-of-nfts>.

683. J. Folger, “Metaverse Definition,” in Investopedia, February 15, 2022, viewed on March 20, 2022, <https://www.investopedia.com/metaverse-definition-5206578>.

684. M. Bobrowsky, “Big Tech Seeks Its Next Fortune in the Metaverse,” in The Wall Street Journal, November 2021, viewed on December 9, 2021, <https://www.wsj.com/articles/big-tech-seeks-its-next-fortune-in-the-metaverse-f1636459200>.

685. C. Newton, “Mark in the Metaverse,” in The Verge, July 2021, viewed on December 9, 2021, <https://www.theverge.com/2258802/mark-zuckerberg-facebook-ceo-metaverse-interview>.

686. C. Hackl, “The Metaverse Is Coming And It’s A Very Big Deal,” in Forbes, July 2020, viewed on December 9, 2021, <https://www.forbes.com/sites/cathyhackl/2020/07/05/the-metaverse-is-coming--its-a-very-big-deal>.

687. M. Bobrowsky, “Big Tech Seeks Its Next Fortune in the Metaverse,” in The Wall Street Journal, November 2021, viewed on December 9, 2021, <https://www.wsj.com/articles/big-tech-seeks-its-next-fortune-in-the-metaverse-f1636459200>.

688. B. Marr, “The Enterprise Metaverse: What It Means for Businesses,” in Bernard Marr & Co., October 2021, viewed on December 9, 2021, <https://bernardmarr.com/the-enterprise-metaverse-what-it-means-for-businesses/>.

689. International Telecommunication Union, “Measuring digital development: facts and figures,” ITU Telecommunication Development Bureau, 2021, viewed on December 16, 2022, <https://techjury.net/blog/google-search-statistics/#gref>.

690. A. Turner, “How many smartphones are in the world?” in Bankmycell, com, December 2021, viewed on December 29, 2021, <https://www.bankmycell.com/blog/how-many-phones-are-in-the-world>.

691. S. Kemp, “Digital 2021: Global Overview Report,” in Datareportal. com, January 27, 2021, viewed on December 29, 2021, <https://datareportal.com/reports/digital-2021-global-overview-report>.

692. M. F. Guillen, 2030: How Today’s Biggest Trends Will Collide and Reshape the Future of Everything, The History Press, Stroud, UK, 2020, p. 207.

693. The Economist, “Data, data everywhere,” in The Economist, February 27, 2010, viewed on December 29, 2021, <https://www.economist.com/special-report/2010/02/27/data-everywhere>; Danah Boyd and Kate Crawford, “Six Provocations for Big Data,” SSRN Electronic Journal, 2011, p. 1 & 3, viewed on December 29, 2021, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1926431.

694. D. Reinsel, J. Gantz & J. Rydning, “The Digitization of the World From Edge to Core,” Seagate, 2018, p.6, viewed on December 29, 2021, <https://www.seagate.com/files/www-content/our-story/trends/files/idc-seagate-dataage-whitepaper.pdf>.

695. Reinsel, Gantz & Rydning, “The Digitization of the World From Edge to Core,” p.7.

696. K. Lo, “Mobile Data: How Many Gigabytes Do You Need & How Long Will It Last?,” Ken’s Tech Tips, May 15, 2019, viewed on January 2, 2022, https://kenstechtips.com/index.php/download-limits-actual-meaning-of-gb#Our_Assumptions.

697. Reinsel, Gantz & Rydning, “The Digitization of the World From Edge to Core,” p.5.

698. E. Granados Franco, “The Global Risks Report 2020 Insight Report 15th Edition,” World Economic Forum, 2020, p.67, viewed on December 27, 2021, https://www3.weforum.org/docs/WEF_Global_Risk_Report_2020.pdf.

699. P. Jurcys, “Personal Data Ownership’ on Medium.com, July 23, 2020, viewed on December 29, 2021, <https://towardsdatascience.com/personal-data-ownership-f3b62e6ed07d>.

700. “Prifina,” Prifina.com, viewed on January 2, 2022, <https://www.prifina.com/>.

701. J. Kamińska and K. Matuszewska, “Comparison of 9 leading consent management platforms,” Piwik PRO, November 20, 2020, viewed on January 2, 2022, <https://piwik.pro/blog/consent-management-platforms-comparison/>; K. Lubowicka, “How Consent Manager Can Help You Obtain GDPR-Compliant Consents?,” Piwik PRO, May 21, 2018, viewed on January 2, 2022, <https://piwik.pro/blog/how-consent-manager-can-help-you-obtain-gdpr-compliant-consents-from-your-users/>.

702. G. Weinberg, “DuckDuckGo in 2021: Building the Privacy Super App,” Spread Privacy, December 21, 2021, viewed on January 2, 2022, <https://spreadprivacy.com/duckduckgo-2021-review/>.

703. C. Petrov, “The Stupendous World of Google Search Statistics,” TechJury, January 4, 2022, viewed on January 16, 2022, <https://techjury.net/blog/google-search-statistics/#gref>.

704. G. Weinberg, “About DuckDuckGo,” DuckDuckGo, 2010, viewed on January 2, 2022, <https://duckduckgo.com/about>.

705. McCourt, “Civic Entrepreneur Frank McCourt Launches Project Liberty, Transformational New Initiative To Enable Healthier, More Equitable Online Economy,” www.prnewswire.com, McCourt, June 21, 2021, viewed on December 21, 2021, [@MEXC_Global, “MEXC Global Daily Trending Stories,” Twitter, June 22, 2021, viewed on December 21, 2021, <https://twitter.com/cdxon/status/1442201621266534402>, \[https://twitter.com/MEXC_Global/status/1407185329635823616?s=20\]\(https://twitter.com/MEXC_Global/status/1407185329635823616?s=20\); Project Liberty, “Project Liberty,” Projectliberty.io, viewed on December 28, 2021, <https://www.projectliberty.io/>.](https://www.prnewswire.com/news-releases/civic-entrepreneur-frank-mccourt-launches-project-liberty-transformational-new-initiative-to-enable-healthier-more-equitable-online-economy-301316048.html)

707. Firing Line with Margaret Hoover, ep: Frank McCourt, podcast, PBS, October 1, 2021, viewed on December 21, 2021, <https://open.spotify.com/show/1uBimoClw9AqeoN2RwUlbQ>.

708. European Commission, “Net Neutrality - Digital Agenda for Europe - European Commission,” European Commission Website, April 24, 2014, viewed on January 2, 2022, <https://web.archive.org/web/20140424065845/http://ec.europa.eu/digital-agenda/about-open-internet>.

709. Body of European Regulators for Electronic Communications, “All you need to know about the Open Internet rules in the EU,” in Berec. Europa.eu, 2015, viewed on January 2, 2022, https://berec.europa.eu/eng/open_internet/; A. Gilroy, “CRS Report for Congress Access to Broadband Networks: The Net Neutrality Debate,” Congressional Research Service, March 2011, viewed January 2, 2022, https://www.everycrsreport.com/files/20110311_R40616_81d4f1aa5388126152dec-6b5a2959691d13f1145.pdf.

710. A. Shahbaz and A. Funk, “Freedom on the Net 2021: The Global Drive to Control Big Tech,” Freedom on the Net 2021, September 2021, viewed on January 2, 2022, <https://freedomhouse.org/report/freedom-net/2021/global-drive-control-big-tech>.

711. Shahbaz and Funk, “Freedom on the Net 2021: The Global Drive to Control Big Tech.”

712. E. Shearer and A. Mitchell, “News Use Across Social Media Platforms in 2020,” Pew Research Center’s Journalism Project, January 12, 2021, viewed on January 2, 2022, <https://www.pewresearch.org/journalism/2021/01/12/news-use-across-social-media-platforms-in-2020/>.

713. Shahbaz and Funk, “Freedom on the Net 2021: The Global Drive to Control Big Tech.”

714. B. R. Neupane, “Open Science Movement | United Nations Educational, Scientific and Cultural Organization,” Unesco.org, 2016, viewed on January 2, 2022, <http://www.unesco.org/new/en/communication-and-information/portals-and-platforms/goap/open-science-movement/>.

715. Sci-hub, “Sci-hub: the first pirate website in the world to provide mass and public access to tens of millions of research papers,” viewed on January 3, 2022, <https://sci-hub.mk/sa/top/>.

716. J. Walter, “The Founder of Sci-Hub Is Absolutely Unrepentant,” Futurism, October 9, 2021, viewed on January 2, 2022, <https://futurism.com/founder-sci-hub-unrepentant/>; H. Else, “What Sci-Hub’s latest court battle means for research,” Nature, vol. 600, no. 7889, pp. 370–371, December 13, 2021, viewed on January 2, 2022, doi: 10.1038/d41588-021-03659-0.

717. Else, “What Sci-Hub’s latest court battle means for research,” pp. 370–371.

718. Chris Dixon, “Why Web 3 Matters,” on Twitter, September 26, 2021, viewed on December 21, 2021, <https://twitter.com/cdxon/status/1442201621266534402>.

719. Packy McCormick, “Why Web 3 Matters,” on Twitter, September 26, 2021, viewed on December 21, 2021, <https://twitter.com/cdxon/status/1442201626610077701>.

720. V. Madurai, “Web Evolution from 1.0 to 3.0,” Medium, February 17, 2018, viewed on December 21, 2021, <https://medium.com/@vivekmadurai/web-evolution-from-1-0-to-3-0-e84f2c06739>; M. Gould and D.

721. Gould and Chen, “14- Introducing Web 3.0 with Mason Nystrom from Messari,” the Unstoppable Podcast.

722. M. Nystrom, “Web 3.0 Manifesto: Why Web 3.0 Matters,” Unsyndicated by Mason Nystrom. February 17, 2020, viewed on January 3, 2022, <https://nystrom.substack.com/p/web-3-0-manifesto-why-web-3-0-matters>.

723. N. Dabit, “What is Web3? The Decentralized Internet of the Future Explained,” freeCodeCamp. org, September 8, 2021, viewed on January 3, 2022, <https://www.freecodecamp.org/news/what-is-web3/>.

724. B. Allyn, “People are talking about Web3. Is it the Internet of the future or just a buzzword?” NPR.org, November 21, 2021, Accessed on December 20, 2021, <https://www.npr.org/2021/11/21/1056988346/web3-internet-jargon-or-future-vision>.

725. WSJ Tech News Briefing, ep: “Could ‘Web 3.0’ Democratize the internet?”, podcast, Wall Street Journal, December 20, 2021, accessed on December 21, 2021, <https://open.spotify.com/episode/6za0Wp00Fn-Bh7maDSke7VT?si=gfh9rosQNYR-m6i2faknmA&nd=1>.

726. Gould and Chen, “14- Introducing Web 3.0 with Mason Nystrom from Messari,” the Unstoppable Podcast. Ibid.

727. Allyn, “People are talking about Web3. Is it the Internet of the future or just a buzzword?”

729. Ron Miller, “The irrational exuberance of web3,” TechCrunch, December 14, 2021, viewed on January 3, 2022, <https://techcrunch.com/2021/12/14/the-irrational-exuberance-of-web3/>.

730. R. Rai, “An Overview of Web3 Venture Capital Activity In 2021,” Forbes, January 2, 2022, <https://www.forbes.com/sites/raihurali/2022/01/02/an-overview-of-web3-venture-capital-activity-in-2021/>.

731. K. Rose, Modern Finance, ep: From Web2 to Web3: Alexis Ohanian and Kevin Rose, Modern Finance LLC, December 28, 2021, viewed on January 2, 2022, <https://modern.finance/episode/web2-to-web3-alexis-ohanian/>.

732. Interaction Design Foundation, “What is Human-Centered Design?” The Interaction Design Foundation, viewed on January 2, 2022, <https://www.interaction-design.org/literature/topics/human-centered-design/>; D. Norman, “The Four Fundamental Principles of Human-Centered Design and Application,” jnd.org, August 1, 2019, viewed on January 2, 2022, <https://jnd.org/the-four-fundamental-principles-ofhuman-centered-design/>.

733. B. Cosley, “Human-Centered Data Science,” Medium, March 15, 2021, viewed on January 2, 2022, <https://towardsdatascience.com/human-centered-data-science-3a92066bf779>.

734. K. O’Neill, “The Tech Humanist Manifesto,” Medium, July 29, 2017, viewed on December 27, 2021, <https://medium.com/intuitionmachine/the-tech-humanist-manifesto-bf9eba4e45f>.

735. K. Bettinger, J. Ziskind Ferrari, and V. Lähteenoja, “Empowered Data Societies: A Human-Centric Approach to Data Relationships,” World Economic Forum, September 2021, viewed January 3, 2022, https://www3.weforum.org/docs/WEF_Empowered_Data_Societies_2021.pdf.

736. Cosley, “Human-Centered Data Science.”

737. K. O’Neill, A Future so Bright: How Strategic Optimism and Meaningful Innovation Can Restore Our Humanity and Save the World. New York: KO Insights, 2021.

738. K. Bettinger, “12 ways a human-centric approach to data can improve the world,” World Economic Forum, August 31, 2021, viewed January 3, 2022, <https://www.weforum.org/agenda/2021/08/12-ways-a-human-centric-approach-to-data-can-improve-the-world/>.

739. Ibid.

740. A.D. Kaye, C.N. Okeagu, A.D. Pham, R.A. Silva, J.J. Hurley, B.L. Arron, N. Safraz, H.N. Lee, G.E. Gali, J.W. Gamble, H.L. Liu, R.D. Urman & E.M. Cornett, “Economic Impact Of COVID-19 Pandemic on Healthcare Facilities And Systems: International Perspectives.” Best Practice & Research Clinical Anesthesiology vol. 35, November 2021, pp. 293–306.

741. S. Mehta, F. Machado, A. Kwizera, L. Papazian, M. Moss, E. Azoulay, & M. Heridge, “COVID-19: a heavy toll on health-care workers.” The Lancet Respiratory Medicine vol. 9, February 2021, pp. 226–228.

742. L.O. Gostin, E.A. Friedman, & S.A. Wetter, “Responding to COVID-19: how to navigate a public health emergency legally and ethically.” Hastings center report, volume 50, March 2020, pp. 8–12.

743. Ibid.

744. O. Bestsenryy, G. Gilbert, A. Harris & J. Rost, “Telehealth: A quarter-trillion-dollar post-COVID-19 reality?,” in McKinsey, July 9, 2021, viewed on November 20, 2021, <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/telehealth-a-quarter-trillion-dollar-post-covid-19-reality>.

745. Adracare, “What is Virtual Healthcare,” in Adracare, October 28, 2021, viewed on December 2, 2021, <https://www.adracare.com/blog/what-is-virtual-healthcare>.

746. FDA, “What is Digital Health?”, in FDA, viewed on December 2, 2021, <https://www.fda.gov/medical-devices/digital-health-center-excellence/what-digital-health>.

747. GlobeNewswire, “Global Report on Digital Health Market Size Valuation,” in Globe News Wire, viewed on December 1, 2021, <https://www.globenewswire.com/en/news-release/2021/09/02/2290548/0/en/Global-Report-on-Digital-Health-Market-Size-Valuation-Will-Reach-to-USD-220-94-Billion-by-2026-According-to-Facts-Factors.html>.

748. O. Bestsenryy, G. Gilbert, A. Harris & J. Rost, “Telehealth: A quarter-trillion-dollar post-COVID-19 reality?,” in McKinsey, July 9, 2021, viewed on November 20, 2021, <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/telehealth-a-quarter-trillion-dollar-post-covid>.

749. E. Olsen, “Telehealth utilization dropped by 10% in June,” in Mobi Health News, September 10, 2021, viewed on December 1, 2021, <https://www.mobihealthnews.com/news/telehealth-utilization-dropped-10-june>.

750. O. Bestsennyy, G. Gilbert, A. Harris, & J. Rost, "Telehealth: A quarter-trillion-dollar post-COVID-19 reality?", in *McKinsey*, July 9, 2021, viewed on November 20, 2021, <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/telehealth-a-quarter-trillion-dollar-post-covid>

751. L. English, "Virtual Healthcare Is the Future – If Organizations Can Clear These Hurdles", in *Forbes*, September 19, 2021, viewed on December 2, 2021 <https://www.forbes.com/sites/larryenglish/2021/09/19/virtual-healthcare-is-the-future-if-organizations-can-clear-these-hurdles>

752. Ibid.

753. K.B. Johnson, W.Q. Wei, D. Weeraratne, M.E. Frisse, K. Misulis, K. Rhee, J. Zhao, & J. L. Snowdon, "Precision medicine, AI, and the future of personalized health care." *Clinical and Translational Science*, vol 14, January 2021, pp. 86–93.

754. V. Wollesen, "Next Generation Cardiac Wearables and Implantables Will Integrate into Wireless Body Area Networks," in *Diacardiology*, 23 July 2021, viewed on December 4, 2021, <https://www.diacardiology.com/article/next-generation-cardiac-wearables-and-implantables-will-integrate-wireless-body-area>

755. M. van der Schee, H. Pinheiro, & E. Gaude, "Breath biopsy for early detection and precision medicine in cancer." *ecancermedicalsecience*, vol. 12, July 2018.

756. R.J. Hartmaier, L.A. Albacker, J. Chmielecki, M. Bailey, J. He, M. E. Goldberg, S. Ramkissoon et al., "High-throughput genomic profiling of adult solid tumors reveals novel insights into cancer pathogenesis." *Cancer research* vol. 77, May 2017, pp. 2464–2475.

757. K.B. Johnson, W.Q. Wei, D. Weeraratne, M.E. Frisse, K. Misulis, K. Rhee, J. Zhao, & J.L. Snowdon, "Precision medicine, AI, and the future of personalized health care." *Clinical and Translational Science*, vol. 14, September 2020, pp. 86–93.

758. E. Topol, *Deep medicine: how artificial intelligence can make healthcare human again*. Hachette UK, 2019.

759. K.B. Johnson, W.Q. Wei, D. Weeraratne, M.E. Frisse, K. Misulis, K. Rhee, J. Zhao, & J.L. Snowdon, "Precision medicine, AI, and the future of personalized health care." *Clinical and Translational Science*, vol. 14, September 2020, pp. 86–93.

760. E. Topol, *Deep medicine: how artificial intelligence can make healthcare human again*. Hachette UK, 2019.

761. Time, "12 Innovations That Will Change Health Care and Medicine in the 2020s," in *Time*, October 25, 2019, viewed on December 3, 2021, <https://time.com/5710295/top-health-innovations/>

762. K.B. Johnson, W.Q. Wei, D. Weeraratne, M.E. Frisse, K. Misulis, K. Rhee, J. Zhao, & J.L. Snowdon, "Precision medicine, AI, and the future of personalized health care." *Clinical and Translational Science*, vol. 14, September 2020, pp. 86–93.

763. S. Groch, "Curing cancer, designer babies, supersoldiers: How will gene-editing change us?" in *The Sydney Morning Herald*, July 4, 2021, viewed on November 30, 2021, [https://www.smh.com.au/national/curing-cancer-designer-babies-supersoldiers-how-will-gene-editing-change-us-20210601-how-transplant-](https://www.smh.com.au/national/curing-cancer-designer-babies-supersoldiers-how-will-gene-editing-change-us-20210601-how-transplant-organs-might-be-printed-in-outer-space)

764. A. Vidyasagar & N. Lanese "What is CRISPR?", in *Life Science*, October 21, 2021, viewed on November 30, 2021, <https://www.livescience.com/58790-crispr-explained.html>

765. YourGenome "What is CRISPR-Cas9," in *Your Genome*, viewed on November 30, 2021, <https://www.yourgenome.org/facts/what-is-crispr-cas9>

766. M. Prabhune "Diseases CRISPR Could Cure: Latest Updates On Research Studies And Human Trials," in *Synthego*, viewed on December 1, 2021, <https://www.synthego.com/blog/crispr-cure-diseases>

767. H. Ledford, "Landmark CRISPR trial shows promise against deadly disease" in *Nature*, June 29, 2021, viewed on December 1, 2021, <https://www.nature.com/articles/d41586-021-01776-4>

768. K.B. Johnson, W.Q. Wei, D. Weeraratne, M.E. Frisse, K. Misulis, K. Rhee, J. Zhao, & J. L. Snowdon, "Precision medicine, AI, and the future of personalized health care." *Clinical and Translational Science*, vol 14, January 2021, pp. 86–93.

769. A. Mack, E. R. Choffnes, M. A. Hamburg, & D. A. Relman, *Microbial evolution and co-adaptation: a tribute to the life and scientific legacies of Joshua Lederberg*: workshop summary. National Academies Press, 2009.

770. O. Feeney, & V. Rakić, "Genome editing and 'diseenhancement': Considerations on issues of non-identity and genetic pluralism," *Humanities and Social Sciences Communications* vol. 8, May 2021, pp. 1–7.

771. E. Mullin, "The End of Deafness," in *Future Human*, September 29, 2021, viewed on December 6, 2021, <https://futurehuman.medium.com/the-end-of-deafness-670f06df39cd>

772. A. Regalado, "EXCLUSIVE: Chinese scientists are creating CRISPR babies," *MIT Technology Review*, 2018.

773. K. Lo, "China's gene-editing 'Frankenstein' jailed for three years in modified baby case," in *SCMP*, December 30, 2019, viewed on November 30, 2021, <https://www.scmp.com/news/china/science/article/3043894/chinas-gene-editing-frankenstein-jailed-3-years-modified-baby>

774. S. Sufian & R. Garland-Thomson, "The Dark Side of CRISPR," in *Scientific American*, February 16, 2021, viewed on December 1, 2021, <https://www.scientificamerican.com/article/the-dark-side-of-crispr/>

775. E.Y. Adashi & I.G. Cohen, "Germline editing: could ban encourage medical tourism?", in *Nature*, April 30, 2019, viewed on December 1, 2021, <https://www.nature.com/articles/d41586-019-01365-6>

776. M. Chui, M. Evers, J. Manyika, A. Zheng, & T. Nisbet, "The Bio Revolution: Innovations transforming economies, societies, and our lives," *McKinsey Global Institute*, 2020.

777. Ibid.

778. Council of Europe, "European Day for Organ Donation and Transplantation," in *Council of Europe*, viewed on December 3, 2021, <https://www.coe.int/en/web/human-rights-channel/organ-donation>

779. J. Sims, "Why astronauts are printing organs in space," in *BBC*, June 2, 2021, viewed on December 3, 2021, [https://www.bbc.com/future/article/20210601-how-transplant-](https://www.bbc.com/future/article/20210601-how-transplant-organs-might-be-printed-in-outer-space)

780. A. R. Guevarra, "Here Come the Robot Nurses," in *Boston Review*, August 2, 2021, viewed on December 3, 2021, <https://bostonreview.net/articles/here-come-the-robot-nurses/>

781. WHO, "Health Workforce," in *World Health Organization*, viewed on December 3, 2021, https://www.who.int/health-topics/health-workforce#tab-tab_1

782. IFR, "The role of robots in healthcare," in *International Federation of Robotics*, May 31, 2021, viewed on December 2, 2021, <https://ifr.org/post/the-role-of-robots-in-healthcare-part2>

783. Research Outreach, "Social Robots – a New Perspective in Healthcare," in *Research Outreach*, June 3, 2020, viewed on December 2, 2021, <https://researchoutreach.org/articles/social-robots-new-perspective-healthcare/>

784. A.H. Eden, J. H. Moor, J. H. Soraker, & E. Steinhart, *Singularity Hypotheses: A Scientific and Philosophical Assessment*. Berlin, Springer, 2012.

785. R. Kurzweil, *The singularity is near: When humans transcend biology*. Penguin, 2005.

786. D. K. Johnson, "Ray Kurzweil's Crazy Yet Somewhat Precise Predictions about the Future," in *The Great Courses Daily*, June 1, 2021, viewed on December 4, 2021, <https://www.thegreatcoursesdaily.com/ray-kurzweils-crazy-yet-somewhat-precise-predictions-about-the-future/>

787. V. Luckerson, "Very smart people who think artificial intelligence could bring the apocalypse," *Time*, vol. 5, January 2016.

788. A.S. Nilsson, "Your 2020 Vision is Turning You into a Cyborg," in *Anders Sormann Nilsson Blog*, February 19, 2020, viewed on December 5, 2021, <https://www.anderssormann-nilsson.com/blog/your-2020-vision-is-turning-you-into-a-cyborg>

789. A.S. Nilsson, "Your 2020 Vision is Turning You into a Cyborg," in *Anders Sormann Nilsson Blog*, February 19, 2020, viewed on December 5, 2021, <https://www.anderssormann-nilsson.com/blog/your-2020-vision-is-turning-you-into-a-cyborg>

790. A. Henshall, "What is Digital Ethics?: 10 Key Issues Which Will Shape Our Future," in *Process.st*, September 24, 2019, viewed on November 28, 2021, <https://www.process.st/digital-ethics/>

791. W Stouffer, "115 cybersecurity statistics and trends you need to know in 2021" in *Norton*, 2021, viewed on November 27, 2021, <https://us.norton.com/internetsecurity-emerging-threats-cyberthreat-trends-cybersecurity-threat-review.html>

792. Embroker Team, "2021 Must-Know Cyber Attack Statistics and Trends" in *Embroker*, December 10, 2021, viewed on December 11, 2021, <https://www.embroker.com/blog/cyber-attack-statistics/>

793. S. Shea, A. Gillis & C. Clark, "What is Cyber Security?" in *Techtarget*, August, 2021, viewed on December 1, 2021, <https://www.techtarget.com/searchsecurity/definition/cybersecurity>

794. S. Morgan & S. Calif, "What you need to know about the trillion dollar cyber economy over the next 2 years," in *Cybercrime Magazine*, March 29, 2020, viewed on November 29, 2021, [https://cybersecurityventures.com/top-5-cybersecurity-facts-figures-](https://cybersecurityventures.com/top-5-cybersecurity-facts-figures-predictions-and-statistics-for-2019-to-2021/)

795. C. Stouffer, "115 cybersecurity statistics and trends you need to know in 2021," in *Norton*, August 9, 2021, viewed on November 27, 2021, <https://us.norton.com/internetsecurity-emerging-threats-cyberthreat-trends-cybersecurity-threat-review.html>

796. F. Lang, "Cyber Attacks More Likely to Bring Down F-35 Jets Than Missiles," in *Interesting Engineering*, February 25, 2021, viewed on November 26, 2021, <https://interestingengineering.com/cyber-attacks-more-likely-to-bring-down-f-35-jets-than-missiles>

797. N. Latto, "Data Brokers: Everything You Need to Know" in *Avast*, November 25, 2021, viewed on November 27, 2021, <https://www.avast.com/c-data-brokers#gref>

798. J. Holvast, "History of Privacy," *Holvast & Partner, Privacy Consultants*, viewed on November 26, 2021, <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.1037.5642&rep=rep1&type=pdf>

799. N. Singer, "Mapping, and Sharing, the Consumer Genome" in *NY Times*, June 16, 2012, viewed on November 25, 2021, <https://www.nytimes.com/2012/06/17/technology/acxiom-the-quiet-giant-of-consumer-database-marketing.html>

800. F. Cate, "Data Privacy and Consent" in *TEdXIndianaUniversity*, January 17, 2020, viewed on November 23, 2021, <https://www.youtube.com/watch?v=2iPDpV8ojHA>

801. S. Bond & N. Junior, "How Racial Bias in Tech Has Developed the 'New Jim Code'" in *Hyperallergic*, October 8, 2020, viewed on November 26, 2021, <https://hyperallergic.com/593074/how-racial-bias-in-tech-has-developed-the-new-jim-code/>

802. Rock Content Writer, "Artificial Intelligence Algorithm: Everything You Need To Know About It" in *Rock Content*, June 28, viewed on November 21, 2021, <https://rockcontent.com/blog/artificial-intelligence-algorithm>

803. TRT World, "Algorithmic Bias Explained," in *TRT world*, June 29, 2019, viewed on November 22, 2021, <https://www.youtube.com/watch?v=bWOUw8omUvg>

804. J. Dastin, "Amazon scraps secret AI recruiting tool that showed bias against women," in *Reuters*, October 11, 2018, viewed on November 25, 2021, <https://www.reuters.com/article/us-amazon-com-jobs-automation-insight/amazon-scrap-secret-ai-recruiting-tool-that-showed-bias-against-women-idUSKBN1MK08G>

805. J. Stempel, "Facebook sued for age, gender bias in financial services ads," in *Reuters*, November 1, 2019, viewed on November 23, 2021, <https://www.reuters.com/article/us-facebook-lawsuit-bias/facebook-sued-for-age-gender-bias-in-financial-services-ads-idUSKBN1XA2G8>

806. F. Karimi, "People of color have a new enemy: techno-racism," in *CNN*, May 9, 2021, viewed on November 25, 2021, <https://edition.cnn.com/2021/05/09/us/techno-racism-explainer-trnd/index.html>

807. T. Lorenz, "'OK Boomer' Marks the End of Friendly Generational Relations," in *New York Times*, January 15, 2020, viewed on December 6, 2021, [https://www.nytimes.com/2019/10/29/style/ok-](https://www.nytimes.com/2019/10/29/style/ok-boomer.html)

808. Ibid.

809. World Bank Group. "Demographic Trends and Urbanization" 2021.

810. UN, "World Population Ageing 2017 Highlights," *United Nations*, 2017.

811. Ibid.

812. UN, "World Population Ageing 2019 Highlights," *United Nations*, 2019.

813. World Bank Group. "Demographic Trends and Urbanization," 2021.

814. Ibid.

815. UN, "Population Division World Population Prospects 2019," in *United Nations Population*, viewed on December 4, 2021, <https://population.un.org/wpp/>

816. R. Kurzweil, *The Age of Spiritual Machines: When Computers Exceed Human Intelligence*, Pen-guin Books, New York, 1999.

817. UN, "Population Division World Population Prospects 2019," in *United Nations Population*, viewed on December 4, 2021, <https://population.un.org/wpp/>

818. UN, "World Population Prospects 2017," *United Nations*, 2017.

819. UN, "World Population Ageing 2017 Highlights," *United Nations*, 2017.

820. L. Trei, "Changing focus from 'growing old' to 'living long' matters to Laura Carstensen," in *Stan-ford News*, January 19, 2005, viewed on December 9, 2021, <https://news.stanford.edu/news/2005/january19/carstensen-011905.html>

821. United Nations, Department of Economic and Social Affairs, "Population Division 2019," *United Nations*, 2019.

822. World Bank Group. "Demographic Trends and Urbanization," 2021.

823. UN, "World Population Ageing 2019 Highlights," *United Nations*, 2019.

824. UN, "Migration and population change – drivers and impacts," *United Nations Population*, December 2017.

825. J. Elliott, "Death and the mid-life crisis," *International Journal of Psycho-Analysis*, vol 46, 1965, pp. 502–514.

826. Ibid.

827. T. Parker-Pope, "The Midlife Crisis Goes Global," in *New York Times*, January 30, 2008, viewed on January 15, 2022, <https://well.blogs.nytimes.com/2008/01/30/the-midlife-crisis-goes-glob-al/?mtref=undefined&gwh=BCB7572DE4770AA10326F97F1B87609&gwt=pay&assetType=PAYWALL>

828. G.E. Vaillant, *Triumphs of experience*. Harvard University Press, 2012.

829. J. Fischman, "Crisis? What Crisis?" in *LA Times*, October 16, 2006, viewed on January 15, 2022, <https://www.latimes.com/archives/la-xpm-2006-oct-16-he-newment16-story.html>

830. A. Tergezen, "To Age Well, Change How You Feel About Aging," in *The Wall Street Journal*, October 7, 2021, <https://www.wsj.com/articles/to-age-well-change-how-you-feel-about-aging-1445220002>

831. R. A. Dionigi, "Stereotypes of aging: Their effects on the health of older adults," *Journal of Geriatrics*, vol. 2015, October 2015.

832. R. Ng, & J.W. Lim-Soh, "Ageism linked to culture, not demographics: Evidence from an 8-billion-word corpus across 20 countries," *The Journals of Gerontology*, vol. 9, November 2021, pp. 1791–1798.

833. Stanford Medicine, "Culturally Appropriate Geriatric Care: Assessment," in *Stanford*, viewed on January 16, 2022, <https://geriatrics.stanford.edu/ethnomed/korean/assessment.html>

834. NCAI, "Elders," in *National Congress of American Indians*, viewed on January 16, 2022, <https://www.ncai.org/policy-issues/education-health-human-services/elders>

835. WHO, "Elder Abuse," in *WHO*, viewed on December 6, 2021, https://www.who.int/health-topics/elder-abuse#tab-tab_1

836. WHO, "Ageing and health," in *WHO*, October 4, 2021, viewed on December 12, 2021, <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>

837. WHO, "Ageism is a global challenge: UN," in *WHO*, March 18, 2021, viewed on December 6, 2021, <https://www.who.int/news/item/18-03-2021-ageism-is-a-global-challenge-un>

838. Ibid.

839. Ibid.

840. C. McDonough, "The effect of ageism on the digital divide among older adults," *Journal of Ger-ontology and Geriatric Medicine*, vol. 2, February 2016, pp. 1–7.

841. WHO, "Ageism is a global challenge: UN," in *WHO*, March 18, 2021, viewed on December 6, 2021, <https://www.who.int/news/item/18-03-2021-ageism-is-a-global-challenge-un>

842. Prescient & Strategic Intelligence, "Anti-Aging Market," June 2021.

843. Mordor Intelligence, ANTI-AGING MARKET - GROWTH, TRENDS, COVID-19 IMPACT, AND FORECASTS (2021–2026), in *Mordor Intelligence*, April 14, 2021, viewed on December 8, 2021, <https://www.mordorintelligence.com/industry-reports/anti-aging-market>

844. Prescient & Strategic Intelligence, "Anti-Aging Market," June 2021.

845. Mordor Intelligence, "ANTI-AGING MARKET - GROWTH, TRENDS, COVID-19 IMPACT, AND FORECASTS (2022 - 2027)," in *Mordor Intelligence*, viewed on December 9, 2021, <https://www.mordorintelligence.com/industry-reports/anti-aging-market>

846. American Academy of Dermatology Association, "Act your age when it comes to skin care," in *AAD*, November 1, 2016, viewed on December 8, 2021, <https://www.aad.org/news/age-and-skin-care>

847. S. Horvath, K. Singh, K. Raj, S. Khairnar, A. Sanghavi, A. Shrivastava, J.A. Zoller, C.Z. Li, C.B. Herenku, M. Canatelli-Mallat, & M. Lehmann, "Reversing age: dual species measurement of epige-netic age with a single clock," *biorxiv*, May 2020.

848. K. Verburgh, "How to Reverse Aging in Humans," in *Novos Labs*, August 4, 2021, viewed on December 9, 2021, <https://novoslabs.com/reversing-aging-how-to-reverse-aging/>

849. Ibid.

850. D. Buettner & S. Skemp, "Blue zones: lessons from the world's longest lived," *American journal of lifestyle medicine*, vol 10, September 2016, pp. 318–321.

851. Blue zones, "Power 9," in *Blue Zones*, n.d., viewed on December 12, 2021, <https://www.bluezones.com/2016/11/power-9/>

852. Deloitte, "The future of aging," *Deloitte*, 2019.

853. WHO, "Ageing and health," in *WHO*, October 4, 2021, viewed on December 12, 2021, <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>

854. Deloitte, "The future of aging," *Deloitte*, 2019.

855. J. P. Michel, C. Dreux, A.Vacheron, "Healthy ageing: Evidence that improvement is possible at every

age," *European Geriatric Medicine*, vol. 7(4), July 2016, pp 298–305. <https://www.sciencedirect.com/science/article/pii/S1878764916300699>

856. UN, "World Population Ageing 2019 Highlights," *United Nations*, 2019.

857. Y. Kamiya & S. Hertog, "Measuring household and living arrangements of older persons around the world: The United Nations Database on the Households and Living Arrangements of Older Persons 2019," *United Nations*, 2019.

858. J.A. Gabell & A. Steptoe, "Why is living alone in older age related to increased mortality risk? A longitudinal cohort study," *Age and Ageing*, vol 50, November 2021.

859. D. Reher & M. Requena, "Living alone in later life: A global perspective. Population and Development Review," *Population and Development Review*, vol. 44, April 2018, pp. 427–454. B. Is-engard & M. Szydlík, "Living apart (or) together? Co-residence of elderly parents and their adult children in Europe," *Research on Ageing*, vol 34, January 2012, pp. 449–474.

860. Y. Kamiya & S. Hertog, "Measuring household and living arrangements of older persons around the world: The United Nations Database on the Households and Living Arrangements of Older Persons 2019," *United Nations*, 2019. J.A. Gabell & A. Steptoe, "Why is living alone in older age related to increased mortality risk? A longitudinal cohort study," *Age and Ageing*, vol 50, November 2021.

861. M. Brandt, Martina, K. Haberkern & M. Szydlík, "Intergenerational help and care in Europe," *Euro-pean Sociological Review*, vol. 25, January 2009, pp. 585–601.

862. Y. Kamiya & S. Hertog, "Measuring household and living arrangements of older persons around the world: The United Nations Database on the Households and Living Arrangements of Older Persons 2019," *United Nations*, 2019.

863. K. Gawrońska & J. Lorkowski, "Smart homes for the older population: particularly important during the COVID-19 outbreak," *Reumatologia*, vol 59, February 2021, pp. 41–46.

864. World Health Organization, "Global Report on Falls Prevention in Older Age," 2007.

865. S. Cockayne, A. Pighills & J. Adamson, "Can occupational therapist-led home environmental as-sessment prevent falls in older people? A modified cohort randomised controlled trial protocol," *BMJ Open*, vol 8, September 2018.

866. K. Gawrońska & J. Lorkowski, "Smart homes for the older population: particularly important during the COVID-19 outbreak," *Reumatologia*, vol 59, February 2021, pp. 41–46.

867. R. Cericola, "The Best Smart Home Devices to Help Seniors Age in Place," in *New York Times*, October 8, 2021, viewed on December 31, 2021, <https://www.nytimes.com/wirecutter/reviews/smart-home-for-seniors/>

868. P. Carnemolla, "Ageing in place & the internet of things – how smart home technologies, the built environment and caregiving intersect," *Visualization in Engineering*, vol 6, December 2018.

869. Quotes, in *Population Matters*, viewed on December 16, 2021, <https://populationmatters.org/quotes>.

870. A. Raftery et al., "Bayesian Probabilistic Projections of Life Expectancy for All Countries," in *Demogra-phy* 2013/50, viewed on January 26, 2022, p. 795–797, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3904289/>

871. J. Vespa et al. "Demographic turning points for the United States: Population projections for 2020 to 2060," in *United States Census Bureau* 2020, viewed on December 12, 2021, <https://www.census.gov/content/dam/Census/library/publications/2020/demo/p25-1144.pdf>

872. K. Bhattacharyya, "Degrowing the population," in *Degrowth*, February 25, 2019, viewed on December 11, 2021, <https://www.degrowth.info/blog/degrowing-the-population>

873. World Population Review, "Countries with declining population 2021; Country rankings," viewed on December 10, 2021, <https://worldpopulationreview.com/country-rankings/countries-with-declining-population>

874. World Population Review, "Germany population," viewed on December 10, 2021, <https://worldpopulationreview.com/countries/germany-population>

875. World Population Review, "Total population by country 2021," viewed on December 10, 2021, <https://worldpopulationreview.com/countries>

876. Quotes, in *Population Matters*, viewed on December 16, 2021. <https://populationmatters.org/quotes>

877. Ibid.

878. Quotes, in *Population Matters*, viewed on December 16, 2021. <https://populationmatters.org/quotes>

879. F. Pearce, *The Coming Population Crash and Our Planet's Surprising Future* (Boston: Beacon Press 2010), p.249.

880. M. Roser, "Future population growth," in *Our World in Data*, published 2014, revised 2019, viewed on December 16, 2021, <https://ourworldindata.org/future-population-growth>

881. P. Morland, *The Human Tide: How population shaped the modern world* (New York: Public Affairs 2019), p.267.

882. Morland, *The Human Tide*, p.268.

883. Morland, *The Human Tide*, p.268.

884. M. Bergaglio, "The contemporary illusion: population growth and sustainability," in *Environment, Development and Sustainability* 2017/19, viewed on January 26, 2022, p.12, https://ideas.repec.org/a/spr/endesu/v19y2017i5d10:1007_s10668-016-9842-3.html

885. D. Herald, "Here are a few countries that have child policies," June 2, 2021, viewed on December 22, 2021, <https://www.deccanherald.com/international/here-are-a-few-countries-that-have-child-policies-992949.html>

886. S. Brechin, "Climate Change Mitigation and the Collective Action Problem: Exploring Country Differences in Greenhouse Gas Contributions," in *Sociological Forum* 2016/31, viewed on January 26, 2022, p. 851–854, <https://onlinelibrary.wiley.com/doi/abs/10.1111/socf.12276>

887. Y. Harari, *Homo Deus: A brief history of tomorrow* (Oxford: Signal 2015), p.30.

888. Harari, *Homo Deus*, p.30–31.

889. A. Ruggeri, "Do we really live longer than our ancestors?," in *BBC* 100-year life, October 3, 2018, viewed on December 15, 2021, <https://www.bbc.com/news/health-56811111>

com/future/article/20181002-how-long-did-ancient-people-live-life-span-versus-longevity.

890. Pearce, The coming population crash, p.17.

891. Ibid., p.43.

892. Raftery et al., "Projections of Life Expectancy," p. 796.

893. Morland, The Human Tide, p. 264.

894. Morland, The Human Tide, p. 265.

895. Morland, The Human Tide, pp. 265–267.

896. J. Ulmer & D. Steffensmeier, "The Age and Crime Relationship: Social Variation, Social Explanations," in The Nurture versus Biosocial Debate in Criminology. On the Origins of Criminal Behavior and Criminality (Sage Publications: 2014), viewed on December 14, 2021, https://www.sagepub.com/sites/default/files/upm-binaries/60294_Chapter_23.pdf, pp. 377–396.

897. C. Goodhart & M. Pradhan, The Great Demographic Reversal: Ageing Societies, Waning Inequality, and an Inflation Revival (Cham: Palgrave Macmillan 2020), p. 13.

898. Goodhart & Pradhan, The Great Demographic Reversal, p. 13.

899. Ibid.

900. Ibid., p.153.

901. Aegon, "The New Social Contract: Future-Proofing Retirement: Aegon Retirement Readiness Survey 2021," December 16, 2021, viewed on January 17, 2022, p. 43, <https://www.aegon.com/newsroom/news/2021/future-proofing-retirement-systems/>.

902. Ibid.

903. Cavagna, G. A., P. A. Willems, & N. C. Heglund, "Walking on mars," Nature, vol. 393 1998, 636–636.

904. A. Majendie & P. Parjia, "How to Halt Global Warming for \$300 Billion," in Bloomberg. October 23, 2021, viewed on November 24, 2021, <https://www.bloomberg.com/news/articles/2019-10-23/how-to-halt-global-warming-for-300-billion>

905. S. Klebinov, "Stopping Global Warming Will Cost \$50 Trillion: Morgan Stanley Report," in Forbes. October 24, 2019, viewed on November 24, 2021, <https://www.forbes.com/sites/sergeiklebinikov/2019/10/24/stopping-global-warming-will-cost-50-trillion-morgan-stanley-report>

906. N. Lewis, "Nuclear-powered rocket could get astronauts to Mars faster," in CNN. February 10, 2021, viewed on November 25, 2021, <https://edition.cnn.com/2021/02/03/world/nuclear-powered-rocket-scن-spc-int/index.html>

907. E. Musk. Twitter Post. January 17, 2020. <https://twitter.com/elonmusk/status/1217990326867988480>

908. E. Howel, "NASA Aims for Mars Landings in 2035 While Building Support for Lunar Gateway," in Space. October 21, 2019, viewed on November 27, <https://www.space.com/nasa-aims-for-2035-mars-landings-lac.html>

909. S. Holder, "Urban Life on Mars?", in Bloomberg. November 12, 2021, viewed on November 25, 2021, <https://www.bloomberg.com/features/2021-life-on-mars/>

910. NASA, "Space Pens, Pencils, and How NASA Takes Notes in Space," in NASA. August 27, 2021, viewed on November 30, 2021, https://www.nasa.gov/directorates/spacetech/spinoff/How_NASA_Astronauts_Write_in_Space

911. H. Ritchie & M. Roser, "Urbanization," in Our World in Data. November 2019, viewed on November 25, 2021, <https://ourworldindata.org/urbanization>

912. "Urbanization." in MeSH Browser, viewed on November 23, 2021, <https://meshb.nlm.nih.gov/search/%2Frecord%2Fui/%3F-name=Urbanization>

913. World Bank Group. "Demographic Trends and Urbanization." 2021.

914. UN Urbanization Prospects 2018.

915. United Nations, "68% of the world population projected to live in urban areas by 2050, says UN," in UN. May 16, 2018, viewed on November 23, 2021, <https://www.un.org/development/desa/en/news/population/2018-revision-of-world-urbanization-prospects.html>

916. World Bank Group. "Demographic Trends and Urbanization." 2021.

917. United Nations, "68% of the world population projected to live in urban areas by 2050, says UN," in UN. May 16, 2018, viewed on November 23, 2021, <https://www.un.org/development/desa/en/news/population/2018-revision-of-world-urbanization-prospects.html>

918. H. Ritchie & M. Roser, "Urbanization," in Our World in Data. November 2019, viewed on November 25, 2021, <https://ourworldindata.org/urbanization>

919. World Bank Group. "Demographic Trends and Urbanization." 2021.

920. E. Badger, "Covid Didn't Kill Cities. Why Was That Prophecy So Alluring?", in New York Times. July 12, 2021, viewed on January 2, 2022, <https://www.nytimes.com/2021/07/12/upshot/covid-cities-predictions-wrong.html>

921. R. MacGahey, "Has Covid-19 Changed Cities Forever? Probably Not," in Forbes. October 25, 2021, viewed on January 2, 2022, <https://www.forbes.com/sites/richardmgahey/2021/10/25/has-covid-19-changed-cities-forever-probably-not/?sh=d879b6ebca6c>

922. OECD European Commission. "A new perspective on urbanisation." 2020.

923. M.J. Burger, P.S. Morrison, M. Hendriks & M.M. Hoogerbrugge, M. M., "Urban–rural happiness differentials across the world." World happiness report, March 2020, pp. 66–93.

924. Duranton, Gilles, & Diego Puga. "The economics of urban density." Journal of Economic Perspectives 34, no. 3 (2020): 3–26.

925. E.L. Glaeser & M.E. Kahn, "The greenness of cities: Carbon dioxide emissions and urban development." Journal of urban economics, vol 67, May 2010, pp. 404–48.

926. Buchecker, Matthias, and Jacqueline Frick. "The implications of urbanization for inhabitants' relationship to their residential environment." Sustainability, vol. 12, February 2020, p.1624.

927. S. S. Hiremath, "Impact of Urbanisation on Mental Health: A Critical Appraisal," in Urban Design and Mental Health, viewed on November 26, 2021, <https://scientonline.org/open-access/impact-of-urbanisation-on-mental-health-a-critical-appraisal.pdf>

928. Marston, Sallie A., Paul L. Knox, & Diana M. Liverman. World regions in global context: Peoples, places, and environments. Prentice Hall, 2002.

929. World Bank.

930. C. Quagliolo, C. Elena & A. Pezzoli. "Experimental flash floods assessment through Urban Flood Risk Mitigation (UFRM) model: the case study of Ligurian coastal cities." Frontiers in Water, vol. 3, May 2021, p.50.

931. National Geographic, "Urban Threats," in National Geographic, viewed on November 27, 2021, <https://www.nationalgeographic.com/environment/article/urban-threats>

932. World Economic Forum, "This is how much house prices have increased in countries around the world," in WeForum, January 10, 2021, <https://www.weforum.org/agenda/2021/10/housing-prices-continue-increase-countries-europe-world/>

933. E. Charlton, "This is how much house prices are outpacing rents across Europe," in WE Forum. October 22, 2021, viewed on January 2, 2022, <https://www.weforum.org/agenda/2021/10/house-prices-outpacing-rental-prices-eu-europe/>

934. A. Crawford, "The Global Housing Market Is Broken, and It's Dividing Entire Countries," in Bloomberg. September 19, 2021, viewed on January 2, 2022, <https://www.bloomberg.com/news/features/2021-09-19/global-housing-markets-are-hurting-and-it-s-getting-political>

935. Ibid.

936. E. Charlton, "This is how much house prices are outpacing rents across Europe," in WE Forum. October 22, 2021, viewed on January 2, 2022, <https://www.weforum.org/agenda/2021/10/house-prices-outpacing-rental-prices-eu-europe/>

937. E. Charlton, "This is how much house prices are outpacing rents across Europe," in WE Forum. October 22, 2021, viewed on January 2, 2022, <https://www.weforum.org/agenda/2021/10/house-prices-outpacing-rental-prices-eu-europe/>

938. G. Vermeulen & M.van der Beek, "Opkoopbescherming in Rotterdam is een feit: in 16 wijken krijgen beleggers geen kans op de woningmarkt," in Een Vandaag. November 16, 2021, viewed on January 2, 2022, <https://eenvandaag.avrotros.nl/item/opkoopbescherming-in-rotterdam-is-een-feit-in-16-wijken-krijgen-beleggers-geen-kans-op-de-woningmarkt/>

939. UN Habitat, "Housing," in UN Habitat, January 26, 2022, <https://unhabitat.org/topic/housing#:~:text=By%202030%2C%20UN%2DHabitat%20estimates,accessible%20housing%20units%20every%20day.>

940. Oxford Business Group, "Growing pressure on emerging markets to solve housing deficits," in Oxford Business Group, viewed on January 26, 2022, <https://oxfordbusinessgroup.com/overview/urban-adaptation-rapid-urbanisation-and-young-growing-populations-put-pressure-emerging-2>

941. UN Habitat, "The climate is changing, so must our homes & how we build them," in UN Habitat. September 23, 2019, viewed on January 26, 2022, <https://unhabitat.org/the-climate-is-changing-so-must-our-homes-how-we-build-them>

942. Classe, "Back to the Future" in Classe Training. January 17, 2020, viewed on November 24, 2021, <https://classtraining.co.uk/back-to-the-future/>

943. C. Lyman, "15 historical predictions on what life would be like in 2020," in Considerable. August 17, 2020, viewed on November 24, 2021, <https://www.considerable.com/entertainment/history/historical-predictions-about-2020/>

944. S. Ranger, "What is Hyperloop? Everything you need to know about the race for super-fast travel," in ZD Net. August 16, 2019, viewed on December 20, <https://www.zdnet.com/article/what-is-hyperloop-everything-you-need-to-know-about-the-future-of-transport/>

945. World Bank Group. "Demographic Trends and Urbanization," 2021.

946. Ibid.

947. Ibid.

948. SDGS, "The 17 Goals" in Sustainable Development Goals, viewed on November 23, 2021, <https://sdgs.un.org/goals>

949. GEF, "Sustainable Urbanization Policy Brief: Proliferation of Urban Centres, Their Impact on the World's Environment and the Potential Role of the GEF." June 2014.

950. ICLEI, "Sustainable City," in ICLEI viewed on November 26, 2021, <http://old.iclei.org/index.php?id=35>

951. D. E. Pataki, M. Alberti, M.L. Cadenasso, A.J. Felson, M.J. McDonnell, S. Pincetl, R.V. Pouyat, H. Setälä, & T.H. Whitlow, "The benefits and limits of urban tree planting for environmental and human health." Frontiers in Ecology and Evolution, vol. 9, April 2021, pp. 155.

952. A. Dunn. "7 innovative projects making cities more sustainable," in Weforum. September 4, 2021, viewed on December 11, 2021, <https://www.weforum.org/agenda/2020/09/cities-sustainability-innovation-global-goals/>

953. European Commission, "Smart cities," in European Commission, viewed on November 26, 2021, https://ec.europa.eu/info/eu-regional-and-urban-development/topics/cities-and-urban-development/city-initiatives/smart-cities_en.

954. S. Fleming, "The affordable 3D-printed home that could transform African urbanization," in We Forum. June 30, 2021, viewed on November 27, 2021. <https://www.weforum.org/agenda/2021/06/3d-printed-home-african-urbanization/>

955. H. Ritchie & M. Roser, "Urbanization," in Our World in Data. November 2019, viewed on November 25, 2021, <https://ourworldindata.org/urbanization>

956. T. Birr, "The future is more about smart communities than smart cities," in EON. November 20, 2019, viewed on November 26, 2021, <https://www.eon.com/en/innovation/innovation-frontline/opinion/future-smart-communities-smart-cities.html>

957. P. Lundmark, "Smart cities are great but we also need smart villages," in WEF. October 11, 2021, viewed on December 20, 2021, <https://www.weforum.org/agenda/2021/10/smart-cities-we-also-need-smart-villages/>

958. European Commission, "EU Action for Smart Villages," European Commission, April 2017, pp. 3.

959. G. Jusufi, "Migration and economic development in Western Balkan Countries: Evidence from Kosovo". June 2020. https://www.researchgate.net/publication/342277085_MIGRATION_AND_ECONOMIC_DEVELOPMENT_IN_WESTERN_BALKAN_COUNTRIES_EVIDENCE_FROM_KOSOVO

960. A. Szczepanikova & T. Van Crielinge, 'The Future of Migration in the European Union'. Joint Research Center, 2018, pp 12-14.

961. V. Ottenelli & T. Torresi, 'When is Migration Voluntary?'. International Migration Review, vol. 47, 2013, pp

783-813.

962. National Intelligence Council's Strategic Futures Group, 'The Future of Migration' in Office of the Director of National Intelligence. April 2021, viewed on 8 December 2021, <https://www.dni.gov/files/images/globalTrends/GT2040/NIC-2021-02486--Future-of-Migration--Unsourcesd--14May21.pdf>

963. Ibid.

964. The World Bank, 'GNI per capita, Atlas method (current US\$)' in World Bank. 2020, viewed on 7 December 2021. <https://data.worldbank.org/indicator/NY.GNP.PCAP.CD>

965. National Intelligence Council's Strategic Futures Group, 'The Future of Migration' in Office of the Director of National Intelligence. April 2021, viewed on 8 December 2021, <https://www.dni.gov/files/images/globalTrends/GT2040/NIC-2021-02486--Future-of-Migration--Unsourcesd--14May21.pdf>

966. World Economic Forum, 'Migration and Its Impact on Cities' in World Economic Forum. 2017, viewed on 9 December 2021. https://www3.weforum.org/docs/Migration_Impact_Cities_report_2017_HR.pdf

967. J. Vespa, L. Medina & D. Armstrong, 'Demographic Turning Points for the United States: Population Projections for 2020 to 2060'. In United States Census Bureau, March 2018, pp 25-144. <https://www.census.gov/content/dam/Census/library/publications/2020/demo/p25-t144.pdf>; Euro-pean Strategy and Policy Analysis System, 'Global Trends to 2030: The Future of Migration and Integration'.ESPAS Ideas Paper Series, 2018, pp 1-10.

968. National Intelligence Council's Strategic Futures Group, 'DEMOGRAPHICS AND HUMAN DEVELOPMENT' in Office of the Director of National Intelligence. 2021, viewed on 8 December 2021, <https://www.dni.gov/index.php/gt2040-home/gt2040-structural-forces/demographics-and-human-development>

969. World Economic Forum, 'Migration and Its Impact on Cities' in World Economic Forum. 2017, viewed on 9 December 2021. https://www3.weforum.org/docs/Migration_Impact_Cities_report_2017_HR.pdf

970. National Intelligence Council's Strategic Futures Group, 'DEMOGRAPHICS AND HUMAN DEVELOPMENT' in Office of the Director of National Intelligence. 2021, viewed on 8 December 2021, <https://www.dni.gov/index.php/gt2040-home/gt2040-structural-forces/demographics-and-human-development>

971. World Economic Forum, 'Migration and Its Impact on Cities' in the World Economic Forum. October 2017, viewed on 9 December 2021, https://www3.weforum.org/docs/Migration_Impact_Cities_report_2017_HR.pdf

972. National Intelligence Council's Strategic Futures Group, 'The Future of Migration' in Office of the Director of National Intelligence. April 2021, viewed on 8 December 2021, <https://www.dni.gov/files/images/globalTrends/GT2040/NIC-2021-02486--Future-of-Migration--Unsourcesd--14May21.pdf>

973. V. Ottenelli & T. Torresi, 'When is Migration Voluntary?'. International Migration Review, vol. 47, 2013, pp 783-813.

974. National Intelligence Council's Strategic Futures Group, 'The Future of Migration' in Office of the

Director of National Intelligence. April 2021, viewed on 8 December 2021, <https://www.dni.gov/files/images/globalTrends/GT2040/NIC-2021-02486--Future-of-Migration--Unsourcesd--14May21.pdf>

975. World Economic Forum, 'Migration and Its Impact on Cities' in World Economic Forum. 2017, viewed on 9 December 2021. https://www3.weforum.org/docs/Migration_Impact_Cities_report_2017_HR.pdf

976. United Nations High Commissioner for Refugees (UNHCR) (2018) Global Trends Forced Displacement in 2017. The UN Refugee Agency. Available online at: <http://www.unhcr.org/globaltrends2017/>

977. UNHCR, Global Trends: Forced Displacement in 2016 (Geneva: UNHCR, 2017). Viewed on December 9 2021 at: <http://www.unhcr.org/globaltrends2016/>

978. BBC, How many refugees have fled Ukraine and where are they going? March 15 2022, viewed on March 15 2022, <https://www.bbc.com/news/world-60555472>

979. United Nations High Commissioner for Refugees (UNHCR) (2020) Figures at a Glance. The UN Refugee Agency. Available online at: <https://www.unhcr.org/uk/figures-at-a-glance.html>

980. UNHCR, Global Trends: Forced Displacement in 2017.

981. U.S. Customs and Border Protection, "U.S. Border Patrol Nationwide Illegal Apps Fiscal Years 1925-2018," Department of Homeland Security, 2018, <https://www.cbp.gov/sites/default/files/assets/documents/2019-Mar/bp-total-apps-fy1925-fy2018.pdf>.

982. "Southwest Border Migration FY 2019," Department of Homeland Security, 2019, <https://www.cbp.gov/newsroom/stats/sw-border-migration>.

983. Phillip Connor, "The most common Mediterranean migration paths into Europe have changed since 2009," Pew Research Center, September 18, 2018, <https://www.pewresearch.org/fact-tank/2018/09/18/the-mostcommon-mediterranean-migration-paths-into-europe-have-changed-since-2009/>.

984. Phillip Connor, "The most common Mediterranean migration paths into Europe have changed since 2009," Pew Research Center, September 18, 2018, <https://www.pewresearch.org/fact-tank/2018/09/18/the-mostcommon-mediterranean-migration-paths-into-europe-have-changed-since-2009/>.

985. Organisation for Economic Co-operation and Development (OECD) (2020) 'Tackling Coronavirus (COVID19) – Contributing to a Global Effort: The Impact of Coronavirus (COVID-19) on Forcibly Displaced Persons in Developing Countries', Available online at: <https://www.oecd.org/coronavirus/policy-responses/the-impact-of-coronavirus-covid-19-on-forcibly-displaced-persons-in-developing-countries-88ad26de/>

986. G. Bakshi, "Super" El Nino Finally Comes to an End", in Global Citizen. 26 May 2016. Viewed on 8 December 2021. <https://www.globalcitizen.org/en/content/super-el-nino-finally-comes-to-an-end/>