Edited by
Steve Gennaro
Blair Miller

YOUNG PEOPLE AND SOCIAL MEDIA

Contemporary Children's Digital Culture

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CRITICAL PERSPECTIVES ON SOCIAL SCIENCE

Zoetanya Sujon, London College of Communication, University of the Arts London

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York University, Toronto, Canada
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Zoetanya Sujon, London College of Communication, University of the Arts London

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About the Collection

This edited collection explores Children, Youth, and Digital Culture — in particular the practices, relationships, consequences, benefits, and outcomes of the experiences of young people with, on, and through social media — by bringing together a vast array of different ideas about childhood, youth, and young people's lives. The ideas here are drawn from scholars working in a variety of different and often seemingly disparate disciplines, and more than just describing the social construction of childhood or the everyday actions in children's lives, this collection seeks to encapsulate not only how young people exist on social media but also how their physical lives are impacted by their digital presence.

One of the goals for exploring youth interaction with social media is to unpack the structuring of digital technologies in terms of how young people access the technology to use it as a means of communication, a platform for identification, and a tool for participation in their larger social world. During longstanding and continued experience in the broad field of youth and digital culture, we have come to realize that not only is the subject matter increasing in importance at an immeasurable rate, but the amount of textbooks and/or edited collections has lagged behind considerably. There is a lack of sources that fully encapsulate the cannon of texts for the discipline, or the rich diversity and complexity of overlapping disciplines that create the fertile ground for studying young people's lives and culture. Our hope is that this text will occupy some of that void and act as a catalyst for future interdisciplinary collections and research.

The intended audience for this collection is undergraduate students studying Child and Youth Studies. However, given the interdisciplinary nature of the collection, this text would lend itself to proficiency in a variety of disciplines and courses in anthropology, psychology, sociology, communication studies, cultural studies, media studies, medicine, education, human rights, biology, literature, film studies, geography, and more. It will also distinguish itself within a constantly evolving media landscape by drawing on the most current and up-to-date research and theories across the landscapes of more than a dozen different academic fields.

Zoetanya Sujon, London College of Communication, University of the Arts London

About the Editors

Dr. Steve Gennaro has a Ph.D. from McGill University that explores intersections of media, technology, psychology, and youth identity. He completed a Postdoc in Philosophy of Education at UCLA with Douglas Kellner. He is one of the founding members of the Children, Childhood, and Youth Studies Program at York University and is the author of *Selling Youth*, and co-author, with Blair Miller, of *The Googleburg Galaxy* (forthcoming Lexington 2022). Dr. Gennaro regularly publishes in areas related to the philosophy of technology, education, critical theory, and media studies of youth, identity, and politics.

Blair Miller is a published author and poet. He has a Bachelors in Philosophy and a Master's in Film Studies, and his scholarship and publications continue to explore the connections between the self and media technologies. Blair teaches at York University in the Department of Humanities and the Department of Film Studies, where he has taught *Stories in Diverse Media*, *Popular Technology and Cultural Practice*, and *Information and Technology* among others for the last decade.

Zoetanya Sujon, London College of Communication, University of the Arts London

About the Authors

The Office of Research – Innocenti (Sonia Livingstone, Marium Saeed, and Daniel Kardefelt Winther) is UNICEF's dedicated research centre. It undertakes research on emerging or current issues to inform the strategic direction, policies and programmes of UNICEF and its partners, shape global debates on child rights and development, and inform the global research and policy agenda for all children, and particularly for the most vulnerable.

Office of Research – Innocenti publications are contributions to a global debate on children and may not necessarily reflect UNICEF policies or approaches.

John Tobin is the Francine V McNiff Chair in International Human Rights Law and Professor at Melbourne Law School at the University of Melbourne, where he researches and teaches in the area of human rights with a special interest in children's rights. His book, *The Right to Health in International Law*, was published by Oxford University Press in January 2012. John has provided human rights training and advice as a consultant and on a pro bono basis on numerous occasions to organisations such as UNICEF, Law Reform Commissions, the Law Institute of Victoria, Judicial College of Victoria, the Victorian Equal Opportunity Commission, NGOs, statutory bodies, Government Departments and community groups. He is the editor of *The U.N. Convention on the Rights of the Child: A Commentary* (OUP 2019).

Dr. Shelley Boulianne is an Associate Professor in Sociology at MacEwan University. Dr. Boulianne studies citizens' engagement in civic and political life. She has published several meta-analysis projects and systematic reviews about the role of digital media in political participation. Her research has since expanded to understand a variety of factors that influence patterns of civic and political participation. She is interested in citizens' participation in boycotts, petitions, marches and demonstrations, public consultation exercises, and political talk.

Mireille Lalancette is a full professor in social communication at the University of Quebec in Trois-Rivières. Lalancette's interests include political communication, social media, media representations and discourse with a particular emphasis on argumentation.

David Ilkiw is an undergraduate student in the Department of Sociology at MacEwan University.

Douglas Kellner is George Kneller Chair in the Philosophy of Education at UCLA and is the author of many books on social theory, politics, history, and culture. Recent books include *Cinema Wars: Hollywood Film and Politics in the Bush/Cheney Era* (2010); *Media Spectacle and Insurrection* (2011), *From the Arab Uprisings to Occupy Everywhere* (2013), *American Nightmare: Donald Trump, Media Spectacle, and Authoritarian Populism* (2016); *The American Horror Show: Election 2016 and the Ascendency of Donald J. Trump* (2017); and *25th Anniversary revised edition of Media Culture* (2020).

Roslyn M. Satchel is an award-winning media and culture scholar-activist who hails from West Palm Beach, Florida originally. She serves as a professor at Pepperdine University, where she's also faculty advisor to Tau Lambda Chapter. Dr. Satchel's recent book, *What Movies Teach about Race: Exceptionalism, Erasure and Entitlemen*t, brings her media, legal, and religious background together to examine cultural representations in the most influential films of all time. Dr. Satchel earned a Ph.D. in Media & Public Affairs at LSU, J.D. and MDiv degrees at Emory, and a B.A. in Communication at Howard.

Berkeley Media Studies Group (Laura Nixon, Sarah Han, Pamela Mejia, and Lori Dorfman) is a nonprofit organization dedicated to expanding advocates' ability to improve the systems and structures that determine health. BMSG is a project of the Public Health Institute. BMSG is based in California but works across the U.S. and internationally.

Berkeley Media Studies Group conducts research to learn how the media characterize health issues. Through media advocacy training and consultation, the staff helps advocates, community organizers, and public health practitioners harness lessons from that research and develop the skills they need to shape journalists' coverage of health issues so that it illuminates the need for policies that improve the places where people live, learn, work and play so everyone, no matter where they live, can grow up healthy. BMSG also works with journalists to help them understand the public health implications of the issues they cover.

Molly Gadanidis is a Research Assistant in the Faculty of Education at Ontario Tech University and a student in the International Development and Globalization program at the University of Ottawa. She is an avid consumer, producer and critic of social media.

Janette Hughes is a Canada Research Chair in Technology and Pedagogy and Professor in the Faculty of Education at Ontario Tech University. She is the recipient of multiple research and teaching awards and research grants in the area of digital literacies. Dr. Hughes is a prolific author and presenter, sharing her work both nationally and internationally in prestigious scholarly and professional journals, keynote talks, and conferences.

Jennifer Laffier is an Assistant Professor and licensed therapist with the Faculty of Education at Ontario Tech University. She researches and teaches in the area of mental health and healthy human development. She is also the Director of the Mental Health in the Digital Age Lab, which conducts research on the effects of technology on mental health and how we can use technology in healthy ways for positive development and wellbeing.

Natalie Coulter is Associate Professor and Director of the Institute for Digital Literacies (IRDL) at York University, Canada. Her research explores the promotional ecologies of children's media and entertainment. She is co-editor of Youth Mediations and Affective Relations, with Susan Driver (2019, Palgrave Macmillan) and author of Tweening the Girl (2014, Peter Lang). She has been published in the Journal of Consumer Culture, Girlhood Studies and the Journal of Children and Media and is a founding member of the Association for Research on the Cultures of Young People (ARCYP).

Bailey Parnell is the Founder & CEO of SkillsCamp, a soft skills training company, and was named one of Canada's Top 100 Most Powerful Women. Bailey did her Masters in Communications and Culture at Ryerson University with research focused on social media's impact on mental health, the results of which have been shared at the World Youth Forum in Egypt, in a TEDx talk with over 2 million views, and created the basis for her signature 5 Steps Towards #SafeSocial. Her work and expertise have been featured in Forbes, CBC, FOX, and more.

Ilyssa Salomon, Ph.D., is an assistant professor of psychology at Elon University. Her research focuses on the influence of media, particularly social media, on adolescent development.

Christia Spears Brown is an author, researcher, and professor of Developmental Psychology. She earned her Ph.D. in Developmental Psychology at The University of Texas at Austin. She is also the Director of Center for Equality and Social Justice at the University of Kentucky. Her research focuses on how children develop gender and ethnic stereotypes, how children understand gender and ethnic discrimination, and how discrimination and stereotypes affect children and teens' lives.

Dr. Chris Alton is a communications scholar who has specialized in video game studies for over ten years. He has examined the player/avatar relationship, the ontology and affect of virtual representations of real-world environments, and gender in horror video games. His work tends to use an intersectional, multidisciplinary approach, bringing in aspects of film studies, video game studies, digital humanities, and gender studies.

Jody Berland is Professor in the Department of Humanities, and Graduate Programs in Communication and Culture, Social and Political Thought, Science and Technology Studies, and Music, York University. She is the author of *North of Empire: Essays on the Cultural Technologies of Space* (Duke University Press, 2009) and *Virtual Menageries: Animals as Mediators in Network Cultures* (MIT Press 2019), founding editor of *Topia: Canadian Journal of Cultural Studies*, and co-editor of *Cultures of Militarization* and other books. She is the principal investigator of the SSHRC-funded project "Digital Animalities: Media Representations of Nonhuman Life," a collaborative multi-researcher project on digitality and animality in the age of risk, which supported research for this chapter.

Kate Jones is a Senior Lecturer at Auckland University of Technology. Dr. Jones has a strong brand management background in the consumer food and wine industries gained in New Zealand and Australia. These experiences have lead to Kate's interest in the impact of social media use upon consumer brand choices, with a special focus on how children make these choices. Kate's business psychology background adds key skills to investigating this interesting area of consumer's lives. Kate balances her Ph.D. in marketing with a Master's degree in business psychology and a Bachelor of Arts degree.

Kate specialises in qualitative research approaches and is publishing in the area of children and their use of social media. Kate brings a strong business background to her research profile and experience working with government and corporate clients.

Irmine Kabimbi Ngoy completed her Bachelor of Business (Honours) in Marketing at Auckland University of Technology. Kabimbi Ngoy is planning on doing a Ph.D. to continue researching in the area of marketing.

J. Mitchell Vaterlaus, Ph.D., LMFT, is an Associate Professor of Human Development and Family Science at Montana State University. His research focuses on technology use in adolescence and family interactions around technology.

Dr. Victoria Goodyear (University of Birmingham) is a Senior Lecturer in Pedagogy of Sport, Physical Activity and Health in the School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham, UK. Dr. Goodyear's research focuses on understanding and enhancing young people's health and wellbeing through research on pedagogy and digital technologies. Her research has been supported by research councils, trusts and industry, and she has published in pedagogy, education and qualitative research journals. Dr. Goodyear has given keynotes and invited talks in numerous countries around the world and communicated her research to policy and the media. She can be found on Twitter: @VGoodyear, and an example of her research can be accessed here: http://opencpd.net/Guidelines.html

Professor Kathleen Armour (University of Birmingham) was formerly Head of the School of Sport, Exercise and Rehabilitation and is now Pro-Vice-Chancellor Education. Her research is in education and in career-long professional learning, and she is particularly interested in bridging the gaps between theory/research and practice. Professor Armour has received over £2.5 million of research funding from research councils, charities and industries, and she is Co-I on the Goodyear projects focused on apps and social media. In her most recent books, she has developed a new translational mechanism – 'pedagogical cases' – to support practitioner learning. This mechanism was recently applied to digital technologies to offer fresh insights into young people's learning. Alongside publishing widely in the field, Kathleen was a REF2014 panelist, is a Fellow of the Academy of Social Sciences and is an International Fellow of the National Academy of Kinesiology.

Hannah Wood worked as a Research Associate at the University of Birmingham in the School of Sport, Exercise and Rehabilitation Sciences. Her research background is diverse, having begun her career working in sport policy before moving into the area of pedagogy, young people, health and digital technologies. She now works for The Active Wellbeing Society as a Senior Researcher.

Elia Abi-Jaoude is a psychiatrist, researcher, and clinical educator based at the Hospital for Sick Children in Toronto. He is also an Assistant Professor with the Department of Psychiatry, University of Toronto.

Antonio Pignatiello is the Associate Psychiatrist-in-Chief at The Hospital for Sick Children (SickKids) and an Assistant Professor with the Department of Psychiatry, University of Toronto.

Karline Treurnicht Naylor is a fifth-year psychiatry resident at the University of Toronto.

Turki Alelyani has a Ph.D. in Software Engineering from Stevens Institute of Technology and researches and publishes in Crowdsourcing, Human-Computer Interaction, A.I., and Healthcare related topics.

Arup Kumar Ghosh is an Assistant Professor in the Department of Mathematical, Computing, and Information Sciences at Jacksonville State University. He has a Ph.D. in Computer Science from the University of Central Florida. His research and teaching expertise lie at the intersection of Computer Science, Cybersecurity, Data Science, and Human-Computer Interaction (HCI). He has published several peer-reviewed journal and conference papers, including multiple first-author papers at ACM's premier conference on Human Factors in Computing Systems (CHI). His research work placed in UCF's top 10 research findings of 2018 and has been featured by popular news media outlets, including ABC News, NPR, Business Standard, Science Daily, and IEEE Security & Privacy. He has ample teaching experience and taught both introductory and advanced level Computer Science, Information Technology, Cybersecurity, and HCI courses.

Larry Moralez previously studied Philosophy and Cognitive Science at University of Central Florida before enrolling in their Ph.D. program in Modeling and Simulation. He is interested in studying human-machine interaction at multiple scales.

Shion Guha has a Ph.D. from Cornell University and is an Assistant Professor in the Department of Computer Science at Marquette University. His research interests cut across human-computer interaction, data science, and public policy. We've developed the term Human-Centered Data Science to introduce this intersectional research area that develops human-centered algorithmic methodologies which combine the best advances in AI/ML methods with interpretive inquiry and design practices in order to make human-centered data-driven contributions to particular application areas.

Dr. Pamela Wisniewski is an Associate Professor in the Department of Computer Science at the University of Central Florida. She is a Human-Computer Interaction researcher whose work lies at the intersection of Social Computing and Privacy. She is an expert in the interplay between social media, privacy, and online safety for adolescents. She has authored over 75 peer-reviewed publications and has won multiple best papers (top 1%) and best paper honorable mentions (top 5%) at ACM SIGCHI conferences. She has been awarded over $3 million in external grant funding, and her research has been featured by popular news media outlets, including *ABC News, NPR, Psychology Today*, and *U.S. News and World Report*. She is an inaugural member of the ACM Future Computing Academy and the first computer scientist to ever be selected as a William T. Grant Scholar.

Luci Pangrazio, is a senior lecturer in literacy and language at Deakin University, Australia. Her research focuses on datafication, digital and data literacies, personal data and privacy, and young people's digital worlds. She is the author of Young People's Literacies in the Digital Age: Continuities, Conflicts and Contradictions (Routledge, 2019).

Neil Selwyn is a Distinguished Research Professor in the Faculty of Education, Monash University, who has worked for the past 25 years researching the integration of digital technology into schools, universities and adult learning. He is recognised as a leading international researcher in the area of digital education - with particular expertise in the 'real-life' constraints and problems faced when technology-based education is implemented. He is

currently working on nationally-funded projects examining the roll-out of educational data and learning analytics, A.I. technologies, and the changing nature of teachers' digital work.

Dr. Zoetanya Sujon is Programme Director and Senior Lecturer for Communications and Media in the Media School at the London College of Communication, University of the Arts London. Prior to this, she was a senior lecturer and Course Leader for the M.A. in Media and Digital Communications at Regent's University London. Dr. Sujon's key areas of interest include digital and social media, platforms, privacy, datafication, and everyday life. She is currently researching data rights, platformization and data epistemologies. Zoetanya is also the author of *The Social Media Age* (Sage 2021).

Melissa Brough is Assistant Professor of Communication & Technology in the Department of Communication Studies at California State University Northridge. Her research focuses on the relationships between digital communication, civic/political engagement and social change. Much of her work considers the role of communication technology in the lives of youth from historically disenfranchised groups. Prior to joining CSUN, she carried out postdoctoral research on parenting, digital media use, and interest-driven learning among youth in low-income families for the Connected Learning Research Network (directed by Mizuko Ito). Her first book, *Youth Participation in Precarious Times: The Power of Polycultural Civics* (2020), is now available from Duke University Press.

Amanda Ikin is a recent graduate of the Master of Arts in Communication Studies at California State University, Northridge.

Ioana Literat is an Assistant Professor in the Communication, Media and Learning Technologies Design program at Teachers College, Columbia University. Dr. Literat's research examines participatory online cultures, with a particular focus on youth creative and civic participation. She is also the Associate Director of the Media & Social Change Lab (MASCLab) at Teachers College, and serves on the Board of Directors of the National Association of Media Literacy Education (NAMLE).

Editors' Note

This text brings together more than 30 different authors across over a dozen academic disciplines to provide readers with the most compressive "meta view" of young people's relationships with social media. While exciting, this type of depth and breadth also presents real challenges. In working to remain consistent with the original publications for many of the reprinted articles, the intentions of the multiplicity of authors, and the wide breadth of academic disciplines, scholarly speciality, and medical practices involved in this collection, we have taken some liberty as the editors to waiver from an entirely consistent document with *Chicago Style* formatting. We have tried, where appropriate, to make adjustments to ensure consistency across the document, however we recognize the importance to discipline-specific work and to the original spirit of the piece for each of the authors, and in some cases, the desires of the original author, publishers, or discipline practice are given priority. This is particularly evident when citing, quoting, and paraphrasing the voices of young people themselves and with social media posts.

Zoetanya Sujon, London College of Communication, University of the Arts London

Preface: It Ain't Easy to Theorize or Teach Media

Shirley R. Steinberg

Werklund School of Education, The University of Calgary

Incanting a lyric from The Eagles of my days, *it ain't easy* to consider the notions of young people, children, social media and digital culture. When I bought my first Apple 2C, a behemoth machine skinned in undefinable gray/green plastic, I had no idea of what future ramifications it contained. Computers of the mid-80s were close to the price of a used VW Bug, and many of us considered them a type of souped-up Selectric, the ultimate word "processing" apparatus. In a word, to the layperson, teachers, parents, kids, it was a new way to *type,* and with sophistication, play *Pong*…two miraculous changes to our lives: all for the betterment of children, youth and adults.

Many of us were introduced to computers through early sci-fi films and books, but *Star Trek, "The Ultimate Computer"* (Season 2, Episode 24 March 8, 1968), brought together computers and humans when the M-5 was introduced to the crew of the *Enterprise* with the intention of the computer to handle all issues, problems and *without any human involvement.* The M-5 was quickly able to handle traditional spaceship needs, and indeed, tasks were done with brevity and accuracy; the crew found that they could not possibly keep up with M-5. The downside of this superb invention was that the M-5 engaged in unexplained and misunderstood acts, which diminish the crew's ability to make decisions and function for the benefit of the inhabitants of the *Enterprise.* The M-5 cut off power (and air) in different areas of the ship and re-directed this power.

Identifying another vehicle, the M-5 attacked and Captain Kirk attempted to take the M-5 off-line; however, the order is moot, and a forcefield surrounded the computer for its protection. More situations develop which threaten the ship and other space crafts, while the creator of the M-5 continues to insist that the computer is created for *our own good.* Not one to spoil an ending, suffice my story to end with an assurance that the *Enterprise* and *Star Trek* continued for another season.

Early science fiction's bread crumbs were followed by technological advances, leading to expectations and continued changes…inspired by science, and most definitely by the unquenchable desire for capital a la the Bill Gates/Steve Jobs express, M-5's interventions on the *Enterprise* have multiplied and sophisticated. It's not like we weren't informed, warned about the implications of technology; as early as 1964, McLuhan (1964, 2001) noted that new technologies would bring more than the medium was indeed the message (1964). That we could not separate the technical from the interventional, the intellectual, the hermeneutic. That the device/machine/apparatus was intrinsically entwined with what it could accomplish. Neil Postman (1993) went on to caution us that technology would overcome society and culture to be shaped by the technology itself. Both scholars were ridiculed at the absurd assertions that mere machines could overcome humanity…and not much more than two decades ago, students of the media began to understand McLuhan's and Postman's warnings, but we had not yet begun to comprehend that bigger than the technology, the post-modern M-5's were the social and ideological implications of the words and images distributed. Social media had become the technical behemoth. Unlike the M-5, harmful, often irreversible, life-changing decisions and activities created by technology were now made by humans, by children as young as 2 or 3. The ultimate cultural hegemony was born through social media.

Young People and Social Media is a collection of contemporary and forward-thinking essays examining the different dimensions of social media, its multiple meanings and workings and the ways in which children and youth engage in and with it. The editors clearly articulate the importance of understanding the everyday and future ways in which young people engage with, operate within and are influenced by social media. I believe there is no more important personal, academic and pedagogical discussion than to participate in a never-editing examination and critique of social media. The book has been put together for the ultimate consumers, undergraduate teachers, who were/are still involved with social media, subject to it and the essential task for them to engage in a critical pedagogical read, analysis and curriculum which alerts students to the benefits, possibilities, probabilities, dangers and futures of social media. Media literacy is barely taught in many schools; indeed, it has passed us by. Social media is the new generation of media, and educational professions should be demanding appropriate attention to the strongest global influence on children and youth today. Steve Gennaro and Blair Miller have served us well to compile this volume. Read it, share it, and write about it… and begin to think about the next steps. Social media is here, and we can't get over it; we must get a handle on it and our students need the tools to responsibly use it, disseminate it, define it and if needed, decry it.

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Introduction: Contemporary Children's Culture in Digital Space(s)

Steve Gennaro, Blair Miller

York University, Toronto, Canada

There is a vital passage in Plato's *Republic* that eminent philosopher Bernard Williams summarizes thusly: "It is not a trivial question, Socrates said: what we are talking about is how one should live".[1] Framed this way, morality — how one ought to live — begs attention despite being obvious. Some things that we normalize in our society become overlooked as a result; whereas they were literally world-changing at the time, they become part of our background understanding of how one ought to live. There is nothing wrong with this per se, as long as we remain aware of the idea that from the beginning of (North-)Western society moral virtues that would ideally come instinctually instead require discourse, attention, and responsiveness to change over time — and that these things run the risk of evading those very same processes due to their entrenched nature. As Williams' claim asserts, this endeavor, this discourse itself, is an intrinsically moral one.[2]

The very notion of youth meets these criteria. Childhood itself is a social construct of Romantic and Puritan discourse, spurred forth in large part by the drastic shifts in labour that defined the Industrial Revolution.[3] Prior to this point in history, individuals of most ages were considered and treated in more similar ways, but once established as separate and more vulnerable, children were granted extra protections against physical and psychological threats.[4] Thus, childhood represents a moral decision in that the very concept and its characteristics exist as an ethical response to fluid existential standards. Under Williams' terms, youth benefits from — if not begs for — the aforementioned attention and discourse, and it does so with moral weight. As such, inquiry is ongoing; childhood and our relationship to it is something that gets updated in order to better position youth within safe and nurturing limits, and the perpetual moral urgency involved here details a learning curve whose slope humbles us in self-reflexivity. Witness how obvious it should have been to distinguish children from adults under the pall of coal fumes, or how the UN Convention on Rights of the Child is 30 years young.

For an indication that such moral decisions are indeed still immediate when concerning youth look no further than the tech industry's leading minds — not at their public stances toward the use of technology, but rather the stance they take when it concerns their own families. During research for *Irresistible*, his incisive look into technology and addiction, Adam Alter came across a 2014 article by *New York Times* journalist Nick Bilton, who discovered that at least several leaders in Silicon Valley — Apple's Steve Jobs and Twitter co-founder Evan Williams among them — exacted restrictions upon their own children in terms of which sorts of technology they are allowed to use, and how often. Alter draws a telling, if harsh analogy: "It seemed as if the people producing tech products were following the cardinal rule of drug dealing: never get high on your own supply".[5]

This realization is helpful in asserting two claims: that those who know the most about the technology they have ushered into ubiquitous roles in our lives know that children should not be interacting with it unfettered, and that morality is constitutive of relationships between youth and technology. In other words, the closest experts believe in mediation between youth and technology, and that this — from the ground up — is imbued with moral reasons and ethical manifestations of them in the form of rules, restrictions, monitoring: discourse. Although the maxim "it takes a village to raise a child" can inhabit the ranks of cliché, this discourse is clearly misrepresented when limited to direct parent-child and/or child-tech dynamics because to accurately encompass the scope of youth interactions with technology would require recognition of myriad other spheres overlapping to form an intersectional whole. It isn't just technology — especially social media — that is ubiquitous among youth, but also the duty to call for and act out discourse about both, and from as many fields as possible. *Young People and Social Media* represents an attempt to answer that call to duty, which inherently outlines moral standpoints that are sensitive to the ubiquity of social media among youth as well as notions of play and inclusivity for young people within participatory family (and, to a broader extent, social) frameworks.

This edited collection explores children, youth, and digital culture — in particular the practices, relationships, consequences, benefits, and outcomes of the experiences of young people with, on, and through social media — by bringing together a vast array of different ideas about childhood, youth, and young people's lives. The ideas here are drawn from scholars working in a variety of different and often seemingly disparate disciplines, and more than just describing the social construction of childhood or the everyday actions in children's lives, this collection seeks to encapsulate not only how young people exist on social media but also how their physical lives are impacted by their digital presence. Adaptable as humans are, that can often be the

problem: nascent technologies require more discourse than the time popular culture affords them. To be sure, social media has entrenched itself into everyday life much faster than even sufficient conscientious analysis could have foreseen. This might be especially true among youth.

Proliferation, play, patronage

The role played by digital media in the lives of children constantly presses up against our sensibilities. The notion that moral standpoints are indeed not trivial gathers more force as the occasions that call for said standpoints become more ubiquitous. On top of its injection into the everyday, discourse about youth and digital media also matters deeply when it comes to typical aspects of children at play, and how youth is mediated by adulthood — each interaction a child has with digital media elicits ethical standards of behaviour, both of which carry moral consequences that feed back into technologies themselves, and so on. To engage in discourse about youth and digital media means at first to accept and integrate these truths, but not blindly, or without the sort of conscientious landscape that can be surveyed by a locus of perspectives such as the one provided by the pages that follow.

Since the impact of technology upon children remains so complicated to grasp, assessing the extent to which digital — and specifically social media — plays a role in the lives of youth is still a prerequisite for our discourse. While that discourse might apply aptly to technology in general, in terms of moral awareness around youth one statistical access point is the use of mobile devices. Smartphones in particular are the most ubiquitous. The use of these devices by children is resoundingly taken up by time on social media, and in arguably a more private manner than a tablet or family computer. In the United States of America, a prime sample ground for unfettered social media use, teen access to a smartphone has risen dramatically in recent years: from 73% of teens surveyed in 2014-2015 to 95% just three years later. The same study states "smartphone ownership is nearly universal among teens of different gender, races and ethnicities and socioeconomic backgrounds".[6] However, coinciding with that increase of access has been a near-doubling of time spent online. Over the same time span, 45% of teens claim to use the internet "almost constantly" — up from 24%. Add to this that another 44% report going online several times per day, which means that in 2018 approximately nine out of every 10 American teenagers went online at least that often.[7] Guided by social custom within young demographics, teens likely drive usage behaviour in a trickle-up and trickle-down manner to other age groups as well.

Regardless, this dramatic surge in internet usage begs the question, what are teens now *doing* with their time online? Here in Canada, where both us editors

reside, four out of five Canadians say that they keep up to date with the news through social media sites "like Facebook, LinkedIn and Twitter"[8] — and that does not account for the time users spend on social media for other, dare we say, more functionally-specific reasons, such as posting content, direct messaging, and video links. Furthermore, as many of the chapters in this collection indicate, social media is serving an increasing number of functions for users as its existence proliferates into areas such as health, exercise monitoring, and gaming. One effect has been the hybridizing of communicative media technologies such as chat functions in video games with the greater realm of social media in ways that have increased and intensified due to necessity during the current COVID-19 pandemic, and young people are no exception.[9] In fact, youth rule the day when it comes to social media use. As recently as 2017, a UNICEF report concludes that across many socioeconomic and geographical spheres young people use social media at a higher rate than any other age group.[10] Still, precise data in these areas remains elusive, as another UNICEF report from the year prior explains — while also confidently asserting its titular claim that one third of all online users worldwide are children.[11] It follows, then, that in terms of both online presence and social media proclivity, the only "sure things" about youth and social media is that most of them use it often — extensively so — and that it is difficult to appraise the nuances of this phenomenon with quantifiable precision.

As is the case when reaching the stage of learning something as layered and complex as a new language, what this statistical knowledge does is help us better grasp how much we do *not* know. There are daunting numbers; it is not just the sheer volume that is so dizzying, but its multifaceted nature. It is difficult to properly contextualize something so everywhere, something that also grows and changes exponentially, seemingly by nature. (These statistical challenges do not even account for the increasingly proprietary nature of user statistics online, ultimately limiting authentic access.) *Young People and Social Media* approaches this task as a challenge to be met diligently. Arguably the most demanding contested space for our species and planet is our collective future(s) – and as the retread maxim states, that space *is* our children. Honouring this obligation is the general goal of this collection. Whether said goal is satisfied or not is, like the burgeoning future of youth, open-ended.

As though it possesses a sort of self-awareness, the notion of contestation refuses to be overlooked in these discourses. Open-ended spaces, childhood, the future, are necessarily under negotiation, and the young individual brings these forces together through acts of play. Even the way online play is "born", so to speak, is often done by (re-)negotiating access to online space in a subversive manner — one which exposes some key gaps in youth online

access. Specifically, one of our own children has at least one online profile that claims his/her birth year to be longer ago than our own, merely to gain access to online content that requires users be at least 13 years of age. This hinderance to concrete data for tracking youth activity online delineates the space as subversive from the outset; that space's inability to maintain its own user rules also shapes it as contested. More generally, contested spaces need not be considered primarily on negative terms. Those spaces are contested by nature, but not necessarily competitive — contestation and/or negotiation can occur without healthy or unhealthy rivalries. In this sense, contested spaces for youth can verge more on the playful side than that of a contest, illuminating their characteristics as matching those of social media spaces as children are wont to use them. Drawing a more direct line that extrapolates from these claims, contested spaces are made for play. Now, consider some characteristics of youth: finer motor skills, mental flexibility and ability to absorb and integrate than their adult counterparts, especially in the case of new languages and literacies. Like contested spaces, youth is made for play; children are practically built for it. The overlap here is considerable.

Circling back to Williams' claim at the outset, youth play and its exigent circumstances are not trivial matters. The patterns of subversion from the outset position acts of play as modifiers in children's lives. Put more concretely, children use play as one constitutive way to make sense of their lives. Through sequences of imagination that allow internalized present moments and surroundings to elicit "virtual" or imaginary futures, children decode the actual physical world around them. Considered this way, play holds a somewhat privileged status in youth as playing a role in socialization, identity formation, and development. In other words, play paints children's pathways to their futures by making sense of the present moment in more dynamic (or at least alternative) ways than at-hand empirical sensory recognition. To play is to engage with futures. This carries moral weight to it — what is formative is what either enables or prevents moral cognisance to varying degrees.

But as with most things passed through the prism of globalization, play can also be refracted, separated, warped, distorted. The lion's share of online user activity across all ages amounts to "involuntary"[12] participation in informal market research conducted by the controllers of each site or platform on behalf of themselves and/or paying clientele. For youth, that results in the expansion of online play into work — commodified child labour in digital space. To make matters more complicated, this constant transactional online presence can even inform research on the subject matter. This commodification further positions discourse about youth online as a morally weighty matter, as does the very analysis of youth undertaken in these pages,

since instrumentalizing — even exploitation — is always nearby. Thus, a harrowing context is revealed for young online users. They are unwittingly involved in a tête-à-tête match, whereby lab coats, algorithms and ad execs make up the other half of a game designed to perfectly play with the young subject(s) in a way that in and of itself suggests, directs, and even implants codes for moral behaviour — arguably at a point in time during youth development that precedes internal wherewithal.

Such realities are daunting, to say the least. Under these circumstances, where is the room for agency for the child? Where, for that matter, is the room for agency for anyone? When it comes to discourse about youth and social media, alarmist responses and/or positions feel constantly within arm's reach. An alarmist standpoint inhabits much of the same conceptual territory as top-down hierarchal approaches to age — especially within parental and educational frameworks. It is easier to be alarmist when understanding something from the distance maintained by parent/educator-child relationships; no matter how "close" and "in sync" either of the former figures may feel to a child (or vice versa), the hierarchal nature of the relationships resists shared understanding on equal footing, and that lack can easily trigger concern, even alarm. As with most things, this is about power, and as with the power of the gaze, the power of observation, and physical power — all of which are implicit in academic discourses about childhood — cogent analysis is about recognizing and dealing with the inherent power imbalances for both youth and adult, as opposed to trying to do away with, ignore, or sound alarm over them in a way that would be deflationary for the field itself. Seen this way, we have serious doubts that true responsible discourse on the matter of youth and social media can even be alarmist at all. This supposition thwarts the primacy of top-down hierarchal approaches to youth studies.

Consider: When the dynamics and content of digital media is as fluid as it is now, what exactly are we, as adults, protecting youth from? Do we need equally fluid responses to that? Can intersectionality be a partial response to this challenge? Anyone who has spent time raising or studying youth knows the folly in pigeonholing them. Young minds, bodies, behavioural sets, relationships, existences, even, are nascent almost by definition. Of all the gatekeepers online, the utmost ones for most children remains their parent(s), or whichever authority figures stand in as such. This position of power is altogether unavoidable, but it is a complicated one. In terms of childhood experience, parents exercise control of, and police the right to, a child's privileges, and this necessarily includes online space. In this sense, the position of power involved in family hierarchies is a relationship partly defined by patronage. But in order to both more accurately understand children, and to allow them the freedom to be seen under those same

circumstances, adults must aim for discourse about childhood that avoids the other sense of the idea to patronize children — wherever feasible they must not prejudice analysis from a primarily top-down perspective. The moral implications of this stance should be obvious: We owe it to ourselves and children to conceive of and interact with them in ways that recognize, and ideally account for, the realities and problematic nature of top-down relationships — in both discourse about youth, and in parenting itself.

Moving subjects, moving positions

Our collective academic discourses on youth are as inseparable from hierarchal age bias as the observer's gaze is from empirical research. As such, we do not shy away from the relative lack of peer-to-peer youth analysis here. Although online interaction among youth cohorts is likely the most prevalent type of demographic relationship on social media, part of acknowledgment of the complications caused by top-down research involves leaving aspects of that voice to children themselves. This is not to discount the value of such peer-to-peer discourse within the field(s) of Child and Youth Studies. Rather, studies that aim for a more horizontal ilk in terms of content and/or hierarchy of research deserve another space; the limitations placed on fitting such a study into the thematic approaches that define the content of this collection would not do either spheres justice. We are not even sure if it is hyperbole to depict youth space as something like searching for balance amidst a storm of peer pressures, privacy, nurturing, hierarchal, and even honesty/performative issues. After all, we have all of us literally been there — and for many of us, that was before social media.

There will be references to gaps in the pages and chapters to follow. One of the challenges — and appeal — of Child and Youth Studies is that youth are moving subjects considered from moving positions; *Young People and Social Media* is a sequence of chapters on this demanding field that hit marks within the current moments they capture. Each entry has been included in part for its recentness, with the implicit understanding that socio-technological change is constant and certainly feels exponential, both subjectively and objectively. The contributors in this collection engage in rigorous discourse of varying scopes and subjects, resulting in 18 different approaches engaging with core data that, though apt, are never comprehensive, and never absolute. Even in their success in filling academic gaps, they also leave and/or expose others due to the aforementioned dynamics of Child and Youth Studies.

A Canadian television station recently re-aired an episode of *Law & Order* in which a teen suspect is involved in criminal acts online. The coda of dialogue for the show applies here: "It's always ten p.m. somewhere, do you know where your children are?"[13] The significance of this line can extend beyond

mere supervisory purposes: the internet never sleeps. Online space and activity are literally a constant flow. Child and Youth Studies should endeavor to parallel, even match, this flow — not just in terms of presence, but also in terms of content, information quota, and research systems — a dialogical infrastructure, if you will, a back-and-forth that bridges those didactic systems of inquiry with the global online current of media technologies (that last term being a more encompassing one than allowable when limiting it to social and news media). Therefore, this collection and the greater field(s) it is a part of comprise an academic ecology that in its way can help to fill academic gaps with future discourse. Again, like online flow itself, these discourses are always ongoing and contested like the spaces they examine (and thusly create). *Young People and Social Media* is a signpost along a road without end that is rife with unexpected bumps and turns. Kids and the internet are as surprising as they are predictable.

To wit: there are historical landmarks that have played out during the process of bringing this collection to print — ones that have already begun to change our real and virtual landscapes, producing results that might make the staunchest of cynics balk. All of the essays in this collection were submitted for publication prior to the American presidential election in 2020. Many of them were also largely written and/or researched with a passing opportunity at best to analyze the COVID-19 pandemic and its impacts. This timing also means that the watershed insurrectionist movement in the U.S. on January 6, 2021, rests outside of this book's scope of analysis. While racial unrest around the world has intensified over that same timespan, there are some chapters here that address BLM and the like, albeit prior to this recent and welcome surge of popularity. It would be optimistic at best to wish that these aforementioned historical factors merely accelerate or emphasize so many of the power imbalances that are already so urgent. Global and domestic factors such as the rise of conservative populist politics, the daunting perils nature poses for us — seemingly in response to our own technological advancements — and racial and economic divides growing wider and wider are also transmogrifying right before our eyes in ways that are both more visceral due to, and made more accessible by, social media technologies. While on the matter, perhaps if the desolate time of the Trump presidency and its acceleration of the expansion of fringe politics largely through social media has shown us anything, it is that adults are not exactly collectively responsible experts on social media either. Top-down approaches to youth studies overlook this at their own risk.

These recent events and the social unrest caused by them are part of a wave presaged almost in real time by a small nascent countermovement that seems to have started among some once-high-ranking corporate social media

intelligentsia "gone rogue", perhaps most prominently manifest so far in the Netflix documentary film *The Social Dilemma*, and also proliferating across talk/radio/podcast circuits. While much of the youth-specific messaging in the film is unfortunately wrapped in an alarmist tone, this movement itself — especially coming in part from individuals who have participated directly in the creation, maintenance and manipulation of social media, and specifically algorithms that are, even with explanation, an opaque barrier to understanding user exploitation and dependency upon social media — stands within the same counterbalancing continuum that this collection addresses. The absence of these events and their reactions in these pages is proof of the call to precise, yet continuous discourse.

One person in particular stands out in *The Social Dilemma*: Cathy O'Neill, mathematician, and author of *Weapons of Math Destruction*. Her presence in the film is striking, not just for her unconventional hair style at the time, but because she is the lone female face and voice among the throng of social media experts allowed to speak in the documentary. While this might serve as no surprise, it touches on an immediate and unavoidable issue with *Young People and Social Media* — that of its editors both being middle-class CIS white men. For us, the time has long passed when blind objectivity in academic work is something feasible, let alone to aim for. We cannot change who we are in these senses; what we can do is our best to account for the immeasurable gaps in identity, experience — everything! — with the chapters to follow, and the contributors' identities that often stand in healthy contradistinction to our own. Perhaps the best, or at least most direct, rationale we can offer is that — as with matters of racial, gender, and other inequities that threaten healthy participation in citizenship and media interaction — it behooves those who possess the greater share of access to power to seek opportunities to ally. As Heather McGhee asserts in *The Sum of Us — What Racism Costs Everyone and How We Can Prosper Together*, these critical rifts across unequal standing around the world amount to deeply involving discord within *all* of us.[14] This observation is at once a response to invalidations of affluent white CIS male perspectives, and acknowledgement of the disproportionate power that our deeply flawed group possesses. As with age bias mentioned above, we do not shy away from these crucial gaps in any way that should resist inclusive discourse, and we have tried to account for our obvious lack in these foundational areas of youth studies with the contents of this collection — both in the discourses themselves, and those enacting/writing them.

In the film *Contact* based on the Carl Sagan novel of the same title, NASA specialists give impromptu astronaut Ellie Arroway a poisonous pill to take as a last resort with her on her journey through an interdimensional space portal

gifted to humanity by an extraterrestrial race, "mostly for the reasons we *can't* think of".[15] To be sure, the moving subjects of inquiry being viewed in this collection, from moving positions, are often elusive as well — they hide, differentiate, change, and even deceive. This set of studies is not just for what it anticipates, but also for so many other factors and outcomes that may not seem readily available. Single instances of discourse about young people and social media, even when successful in their goals, are insufficient unless contextualized within an ongoing and responsive academic continuum. In this vein, the very designation "social media" is becoming so hybridized that thinking of it in fixed terms is proving to be inaccurate the more time plays out, and the more media technologies develop along with those producing and controlling content. The analyses in this collection thusly understand that the term "social media" takes different forms depending on explained contexts within the greater digital environment. As users — especially adult ones — we have a responsibility in principle to understand social media within this greater socio-technological environment. This responsibility is met in part on moral terms, by dealing with who we are, and the conceptual frameworks for the task at hand.

Voices and rights

The nuances and aforementioned inevitability of top-down hierarchal relationships that in large part define academic discourse about youth and social media are worth revisiting here because accounting for them proves to play a formative role in contemporary children's culture itself. Though often marginalized by existing adult culture, children's culture is situated firmly within mainstream society, in large part because, as mentioned above, the very concept of childhood originated in contrast to adulthood; where children exist through our shared histories, so do adults, whether the ontology and language to categorize them existed at the time or not. As such, just like observations of any culture, understanding that of children is derived from the stories, rituals, and practices inhabited by youth. However, in the case of children, the amalgamation of these factors is determined largely by parallel sets of adult ideas, fears, ambitions, and rules about children, as well as adult versions of the same for youth themselves present in dominant social structures. These intrinsic intersectionalities between childhood and adulthood make the exploration of stories that young people engage with crucial in order to give us a sense of child literacy as it pertains to their own culture and media interactions. One point of access here is the intermingled voices of youth and adults on the matter, specifically what one of us has elsewhere referred to as the three voices of contemporary children's culture.[16]

1. **Institutional voices about children (IVAC)** describe who children are at any given social moment. Primarily occupying institutional spaces of government, education, health care and other similar social organizations, these voices order and classify. These institutions detail social roles and/or functions for children, including rules for which space(s) children can or cannot occupy as well as rules governing their participation and behaviour in said spaces. Children's voices are largely absent from IVACs.

2. **Institutional voices for children (IVFC)** take those institutional ideas about children in IVACs and communicate them to children, making them didactic, and typically part of popular culture. Whatever form of media IVFCs take, they are the means through which IVACs are disseminated to children. IVFCs explain these aspects of the world and a child's role in it to children, but they do not define a child's life, nor do they regulate it. In fact, IVFCs allow room for contested children's voices as well, answering the demands of (pseudo) autonomy within the experience of youth development.

3. **Children's own voices (COV)** are play-based in the same ways explained above. They are largely media-dependent — the result of children's participation in the social world as they take up the ideas of IVACs via engagement with IVFCs. Seen through these lenses, play is youth engagement with popular media in order to name and make sense of their world through their own rituals, practices and action. In doing so, children "speak back" to the dominant voices.[17] Recall: play is subversive in nature; those acts allow children to speak for or against the ideologies that make up their shared reality.

These three voices overlap conceptually, making a Venn diagram whereby contemporary children's culture rests in the middle as both the intersection with and interaction between the social construction of childhood and real, lived youth experiences.

It is not just that the average child is situated within a media-dominant culture. This nexus of voices that makes up contemporary children's culture is wired by media, and as we have already explained, this is maintained by children primarily through social media. Through social media — and in real time — children express and negotiate their identities, societal roles, and the power (or lack) of access to social and cultural capital. This means that in

order to study contemporary children's culture one must aim to understand the relationship between young people and social media. Studying social media in the present moment illuminates both the limiting aspects of media for contemporary children's culture in the sense that it can oppress, mute, and exploit children's voices, as well as the positive, ground-breaking possibilities for media as a contested space within which activism and agency are still possible. This ascribes to social media a liberating potential for children and even democracy as a whole that can feel counterintuitive today.

All of this being said, the resulting discourses and/or possibilities that come from these standpoints still require structure and framing. The United Nations, UNICEF, and their rights-based approach provides us with the semantics for what is a child, youth and young people. But first, as a relatively new discipline, Child and Youth Studies nonetheless has its roots in much older and deeper histories — much like globalization. To further complicate matters, COVs are typically absent from international histories, so comprehensive research on global lives of children must reach beyond typical post-colonial thought. Indigenous Maori theorist Linda Tuhiwai Smith correctly claims that "imperialism frames the indigenous experience"[18]; we argue that globalization frames the childhood experience. Seen this way, a rights-based approach to Child and Youth Studies is an interdisciplinary approach to the study of children's lives, working through the three voices of contemporary children's culture.

A rights-based approach is a procedural framework that seeks to place the child and the rights of the child as defined by the 1989 United Nations Convention on the Rights of the Child (UNCRC) as central to all interactions with young people. Article Three of the UNCRC — widely referred to as "the best interests principle" asserts that adults should prioritize said interests of young people whenever making or considering choices that will affect them.[19] A rights-based approach extends this principle with specificity to ensure that as adult allies, we act with an anti-oppressive anti-racist, child-centered, and intersectional framework when working with young people. Tuhiwai Smith offers a set of questions that she suggests be intrinsic to any research project with indigenous peoples, and we see them applying with equal but not identical necessity in order for Child and Youth Studies to be rights-based:[20]

- Whose research is it?
- Who owns it?
- Whose interests does it serve?
- Who will benefit from it?

- Who has designed its questions and framed its scope?
- Who will carry it out?
- Who will write it up?
- How will its results be disseminated?

The implied consequences here for the perils of top-down hierarchal study are significant. As Tuhiwai Smith states, again applying the same notion, but to indigenous study:

> When indigenous peoples become the researchers and not merely the researched, the activity of research is transformed. Questions are framed differently, priorities are ranked differently, problems are defined differently, people participate on different terms.[21]

Said terms are constantly negotiated within another contested framework, and that is the delineation of youth and childhood themselves.

Here, we return to the utmost global authority on not only children's rights, but also the guidelines for determining what a child is: the UNCRC. That binding international human rights convention defines children as anyone under the age of 18. At first glance, this might seem like an overgeneralization that ignores canonical age subcategories such as adolescent, youth, and teenager. However, like children's stories, rituals, and practices, those age-designated terms all speak for implicit ideologies that are mirror reflections of adult fears and anxieties. Those fears are projected upon the youth in order to safeguard discourses that colonize children and deny them access to types of power.[22] This proves childhood to be a social construct. However, these loaded discourses, classifications and representations have real consequences in society. Adolescence and childhood become categories of distinction within which relationships of power, domination, and inequality are continually contested. As Henry Jenkins suggests,

> This marginalization affects not only how we understand the child, its social agency, its cultural contexts, and its relations to powerful institutions, but also how we understand adult politics, adult culture, and adult society, which often circle around the specter of the innocent child.[23]

In other words, terms like adolescent, teenager, Child and Youth Studies all represent power structures that have become so normalized we tend not to see the dangers inherent in them.

Positioned against this conundrum, the age range of a child provided by the UNCRC and UNICEF — the former being the latter's stated basis for all its work[24] — is an attempt to depoliticize the ideologies at work that limit COVs through markers of age among young people. Obvious differences in power, ability, and agency exist between, say, a two-year-old and a 12-year-old. However, in terms of rights, the same ones apply to all people under the age of 18. In many ways, the UNCRC is established with the same problematic IVACs that make possible a social construction of childhood — this might even be unavoidable. But UNICEF does attempt to create some distinction between Child and Youth Studies, with child referring to those under 15 and youth referring to those ages 15-24, while acknowledging that UNCRC extends children's rights to 18 to be in line with what most nation-states deem to be the age of majority, and that the purpose of these rights is to protect and provide for young people until they are old enough to be recognized by the state as primary actors in their own lives.[25]

Although these explanations do not necessarily provide full clarity for age-related terms used to refer to young people, what they *do* is establish the whole enterprise as morally relevant: Adults and children position youth (or do not) in ways that they believe they *ought* to be understood and treated. Whether these acts result in morally good or bad behaviour and/or outcomes remains up to specific instances — if it was not, there would be no need for regulatory bodies such as UNICEF. In fact, as time plays out, age markers continue to be examined, re-examined, moved, and transmogrified — contested! — in tandem with societal forces seen and unseen. This is no coincidence; childhood is the result of fluid identities within fluid circumstances. Pseudo-static legislative rights for children do not contradict this fluidity — they allow it the opportunity to properly flourish, as it does for children themselves. For the purposes of this collection, then, age-"specific" terms have not been scrutinized, but rather allowed the contextual uses that fit each study — with the implicit recognition that universal rights undergird each term, in each understandably porous instance of their use.

Receptive, responsive, and renegotiable

The prioritizing of children's rights as an entry point for Child and Youth Studies is reflected in the order of chapters that follow this introduction. Care and extended research were taken in selecting and collating the work of our esteemed contributors, but this is not to say that the essays in *Young People and Social Media* cannot be emphasized, separated, reordered or recontextualized in other reasonable ways in order to impress upon neophytes and experts alike. Just as the discipline must be receptive, responsive, and renegotiable, so must be its artifacts — it follows to balance

the commendable preciseness and ambition of each study ahead with the possibilities and changes they project into the future. In other words, engage with critical discourse; each piece welcomes it, as does the internal logic of the collection as a whole.

Without practical application, academic theory is just that. Dealing with rights-based global policy initiatives is at once as comprehensive demographically, and as action-oriented, as one can ask. As far as Child and Youth Studies goes, the foundational document remains the UNCRC, and UNICEF is the wing of the United Nations that locates the lives of young people within approaches commiserate with the convention. "Growing Up in a Connected World" is a key UNICEF report, and a worthwhile jumping-off point for discourse. It is co-authored by Sonia Livingstone, the global expert on young people's digital rights, as well as Daniel Kardefelt-Winther, who, more recently at UNICEF's Office of Research - Innocenti has pushed the digital lives of young people to the forefront of all discussion around children's rights. The work in this report stands as a baseline for how young people use and occupy digital spaces globally and offers insight into some procedural gaps in rights provision. Those gaps are met with recommendations for further study, and for more equitable and just distribution of resources for youth in digital spaces. Making more direct and overt contact with the UNCRC, global Human Rights Law expert John Tobin offers readers an orientation course to the convention in "Understanding the Relationship Between Young People and Social Media: What Role Do Rights Play?". By walking us through the UNCRC and how it extends into digital spaces — noting unique problems posed for policy makers and youth along the way — Tobin's chapter effectively frames this whole collection within a rights-based approach to studying the lives of young people. These two essays provide a horizon of tensions of power between young people and the legislation that protects them — a horizon that surveys the landscape of the work to follow.

The politics of youth expression are tied to the social movements that accommodate them. Any rights-based approach to studying young people's lives should actively seek to hear COVs themselves. Those voices are often received most poignantly in areas of subversion, protest and agency. For youth today, there is no greater issue than climate change, and thanks in part to youth climate activist Greta Thunberg there is no better current example of how young people can organize, mobilize, and speak back using social media than climate change activism — which reached into the priorities of adult social media algorithms with the peaceful climate school strikes of 2019. "School Strike 4 Climate: Social Media and the International Youth Protest on Climate Change" provides real data exploration of how young people availed themselves of Twitter to take part in the lead-up to the strikes. Examining

what youth said and did online in this context provides access to COVs, and allows one to witness how social media can be used to amplify those voices — even when they are legally denied access to those very channels of discussion (recall from above that this is often how children "play" their way into digital spaces). "Resisting Youth: From Occupy through Black Lives Matter to the Trump Resistance" functions somewhat differently than the previous chapter on climate change, in that it is a historical piece instead of one relying upon quantitative data. As such it contextualizes for the reader both the connection between youth and social protest online, and a pointed reminder that the titular countermovement events of 2019 and 2020 did not occur in a vacuum. While other essays in this collection — such as the Berkeley Media Studies one that succeeds this — provide hard data pertaining to how social media devices were used, and what was said during these online protests, it is still valuable to see the longer historical trajectory of an inequitable power relationship between young people and the governing bodies that shape their lives and experiences. As long as there has been youth and media, young people have leveraged the participatory components of the latter to activate VOCs, and, in turn, social protest.

Participation is far from equal across online selves, however. Serving as a strong reminder of these unequal experiences, "Trauma, Resilience, and #BlackLivesMatter: How do Racism and Trauma Intersect in Social Media Conversations?" provides a lens through which we can extrapolate and infer how the experiences of posting content on social media, and how that content is received by the greater audience, are heavily influenced by race. All of these rights-based approaches are reminders that such standpoints must be antiracist, gender-neutral, trauma-informed, and anti-discriminatory based on age.

Individual identity is wrapped up in so many aspects of Child and Youth Studies as well as activism. Identity for youth is about finding one's pace and place in the world. "Youth's Relationship with Social Media: Identity Formation Through Self-Expression and Activism" uses BLM and climate activism to connect the role of identity with that of activism by examining how young people assess their own selves by connecting to groups and participating in larger social activism. One of the most dangerous facets of identity formation at any age is how image-oriented it has become — literally and figuratively. One main hub for negotiating identity in social media on image-mediated terms is Instagram, as explored in "Living Their Best Life: Instagram, Social Comparison and Young Women". This chapter delves into that platform and the ways that users experience positive or negative self-perceptions in tandem with the presentation of their friends' and followees' lives there. This in turn expands into user differentiation between that

comparative set and the images of other identities on the social media channels they follow. If this more general take on the throes of youth identity within a space of unrealistic images to aspire to fails to elicit concern, then specifics about body image should. "The Selfie Generation: Examining the Relation Between Social Media Use and Adolescent Body Image" explores the negative impact of social media on body image, and the resulting physical harm that can come from this. Building on the previous articles here, the substantial impact social media is having on self-image and body image becomes virtually undeniable. If we are attempting to understand children better in order to improve their individual and collective standing and self-worth, then addressing these issues is paramount.

Negative body image and resulting forms of self-harm are difficult to separate from the alarmist stances taken by adults that we have examined above. Video games are no stranger to such accusatory receptions either, and despite their constant sense of "brand newness" (or out-of-touchness, depending on one's side of the proverbial fence) their being subject to moral panic over youth discourse has historical roots in its industry that date back beyond contemporary trends — as "The *Video Kids* Are All Right: A Comparative Analysis of Moral Panics Around Youth and Social Gaming Containment and Resistance" demonstrates while debunking some of the longstanding myths about video games and young people.

Domesticated pets are a more benign form of youth interaction — at least until they are considered in the hands of Jody Berland, and on digital terms. "Playing with Pets, Playing with Machines, Playing with Futures" considers child identity formation amidst the forces of community, friends, and play, and how a digital pet — even the cuteness of it — serves as a node in an intersection of relationships, making digital pets important and ubiquitously-appealing components of childhood imagination that open up not only present experiences for young users, but the future as well. Building on spaces of play, YouTube is a play space for digital youth; it is where young people congregate to learn about the world around them, and then play with the knowledge they gain in order to speak their own imagined selves (back, again) into existence. This massive reach of YouTube has been seized by parents and children alike in the form of youth social media influencers. This recent capitalist phenomenon is examined in "Digital Media and Kidfluencers in the Twenty-First Century are Here: What and Who are the World's Children Watching?", exposing multiple levels of discursive tension between capitalism, exploitation, political economy, and children's rights.

Partly out of necessity, parents play an enabling role for Kidfluencers, bringing attention to parental roles within discourses about young people. Turning to psychology and Bronfenbrenner's Ecological System Theory, "Connected or

Disconnected?: Parent-Adolescent Relationships and Interactive Technology" argues that the period of adolescence is a specific space within which the parent-child relationship requires particular attention. By looking firsthand at the nature of communication between parents and adolescents, this chapter shows how technology use can add either more trust or more strain to that part of a family dynamic, and how technological advancements have made this more immediate.

Any responsible discourse in Child and Youth Studies should also be mindful of health. In an implicit way, health is present in every chapter in this collection, but some take on the matter more directly, such as "Young People and Their Engagement With Health-Related Social Media: New Perspectives". This article connects to earlier chapters on happiness, body image, and identity formation among young people via social media. However, instead of psychology or media studies, this study dissects those relationships across health discourses and the posting of health-related content online. It also offers useful insight into the levels of engagement young people have with social media content. Health is never skin-deep, though, and "Smartphones, Social Media Use, and Youth Mental Health" provides a synopsis of several studies over multiple years to gain a sense of the most pressing challenges to the mental health of young people, as brought on my social media. The data suggests a laundry list of problems that can, do and will arise in young people's health online — and offline — as a result. This chapter outlines what those problems are, and how being educated about them is important in order for adults to inform policy makers, educators, and themselves as caregivers in order to assist young people in navigating this terrain. Carried out by a group of professors who also serve as practitioners at SickKids Hospital in Toronto, this represents our most involved perspective from the front lines, as it were.

One tenet of young people's good health is their protection. Due to its potential for anonymity, unsupervised use, and uncensored (read: easily accessible either way) content, the internet is likely the influence in a young person's life that they are the most stringently protected from; among those perils that they are legally granted access to prior to the age of majority, it is likely the last to have that protection fully lifted. This is in large part due to the complicated nature of child censorship, and the like. IVACs are forever trying to catch up with changes in technology, content, and standards for evaluating each. The UNCRC is not immune to this issue. "Examining Parent Versus Child Reviews of Parental Control Apps on Google Play" takes this challenge head-on by juxtaposing the tensions between parental guidance online and the freedom of young people to learn and grow independently in online spaces, with the aforementioned "best interests principle" in the UNCRC. Also at issue

in this study is trust: this article conducts its findings by examining how young people and parents view parental control apps specifically designed to allow parents the opportunity to surveil their child's online usage. Similar to the offline world, in which it must be specified not to tell strangers where one lives, young people often have yet to develop healthy reticence when it comes to sharing personal information. How well do children understand the ways in which they divulge personal data on social media? "Young People's Understandings of Social Media Data" takes stock of this question, while also examining how access to this information informs the types of choices young people make online and in social media — choices that are bound up in contradictions, binaries, and dualisms.

Among those daunting complexities is the manner in which media technologies can enhance user freedoms, knowledge base, abilities, and experiences while also expanding systemic power such as platform colonialism. This catch-22 has surfaced in United Kingdom classrooms, where though new virtual reality tech offers liberating potential for education, it also enables Google to expand its corporate presence — and all of the nebulous polemics involved. This fusing of social media space with youth, school, and corporate space makes for complex discourse, as evidenced in "Disruptive Play or Platform Colonialism? The Contradictory Dynamics of Google Expeditions and Educational Virtual Reality".

In the end, true acquiescence between competing discourses in youth-inhabited social media spaces requires that young people have a say in platform design, as per "Good Social Media?: Underrepresented Youth Perspectives on the Ethical and Equitable Design of Social Media Platforms". Deliberately seeking out the voices of young people, this research project investigates how the design of media apps (application programs) can influence access to the extent that it can limit or prohibit youth behaviour, or conversely provide opportunities for agency and social justice. By taking the perspectives of young people on the design of social media and its structure, this final chapter aims to seek more fair options moving forward. This is the object of discourse: to pave a safer and more inclusive way ahead.

Questions to answers

Another goal in exploring youth interaction with social media is to unpack the structuring of digital technologies in terms of how young people use it as a means of communication, a platform for identification, and a tool for participation in their larger social world. During longstanding and continued experience in the broad field of youth and digital culture, we have come to realize that not only is the subject matter increasing in importance at an immeasurable rate, but the number of textbooks and/or edited collections

has lagged behind considerably. There exists a lack of sources that fully encapsulate the cannon of texts for the discipline, or the rich diversity and complexity of overlapping disciplines that create the fertile ground for studying young people's lives and culture. Our hope is that this collection — originally intended for, but not limited to, undergraduate students interested in Child and Youth Studies — will occupy some of that void and act as a catalyst for future interdisciplinary collections and research, because as it is with the internet, so it goes with critical discourse about it: it never turns off, never ends. Neither does the moral obligation to engage. The line in Plato's *Republic* following Socrates' call to attention to the self-perpetuating urgency of how one ought to live — how society ought to function:[26]

Proceed with your inquiry.

Steve Gennaro & Blair Miller,
February 2021

Addendum

On March 24, 2021, The Child Rights Committee at the United Nation's Office of the High Commissioner for Human Rights published general comment No. 25 on children's rights in relation to the digital environment. The Committee on the Rights of the Child consists of 18 independent experts who monitor the implementation of the UNCRC by State parties, including the two Optional Protocols that have been adopted since the original drafting of the Convention in 1989. General comment No. 25 was adopted by The Committee on the Rights of the Child at its 86th session. The intention of the comment is to provide legal guidance on "how States should protect children's rights with regard to the digital environment".

General comment No. 25 is the result of a significant consultation process, spanning two years, whereby State parties, civil society, NGOs, and more than 700 young people across 27 countries, shared their opinions on the impacts of digital technology on children's rights and suggestions to ensure better protection of these rights in digital environments. It is also a recognition of the significant impact of digital technology and the digital environment on the lived experiences of young people globally. For example, COVID-19 forced the migration of all aspects of young people's lives to the digital. Around the world, outdoor public spaces were closed, schools were shut down, sports teams and clubs cancelled, and the opportunity to gather and congregate in public space was discouraged and even made illegal in some parts! According to a March 2021 UNICEF Innocenti report, COVID-19 displaced over 1.5 billion children in 190 countries, confining them to their homes and moving their activities away from public, physical spaces. Even with the publication of

general comment No. 25, there remains an immediate need for a digital approach to the UNCRC to address the gaps in children's rights in this area from the original 1989 document. Luis Pedernera, Chair of the Committee, noted "Meaningful access to digital technologies can empower children and support them to realize the full range of their civil, political, cultural, economic and social rights. If such technologies are available only for some children and not others, it will lead to greater inequalities and affect their opportunities for the future". Pedernera's statement highlights some of the tensions that immediately arise when acknowledging the benefits and limitations of general comment No. 25.

On one hand, the comment marks a significant breakthrough for State parties, scholars, activists, and NGOs, by acknowledging the importance of "the digital" for global children's rights. Despite UNICEF's 2017 *State of the World's Children* annual report "Children in a Digital World", a movement towards improving the digital rights of children has not kept pace with the rise in access to technology and the role of technology in young people's lives. Sonia Livingstone at the London School of Economics has argued this point for more than a decade, with her January 2017 blog post "An updated UNCRC for the digital age" and her 2017 report for the Children's Commissioner for England with Lansdown and Third "The Case for a UNCRC General Comment on Children's Rights and Digital Media" being two of the most well-known and important documented pieces in this chain. Acknowledgment of the need for a more concrete engagement by the United Nations and by State parties has long been overdue. This acknowledgement now publicly places the responsibility on governments, institutions, corporations and not on the child and the family by themselves, to ensure that digital spaces remain safe and open for young people.

On the other hand, while the document itself provides guidelines, it does not and has not made any changes to the UNCRC. The original Convention remains grounded firmly in its 1989 form despite numerous calls for adaptation and change. General comment No. 25 offers great insight into the need for change, 125 statements towards what that change should look like and how it can be implemented; it does not ensure that change will come.

Only weeks after the completion of this book, The Committee on the Rights of the Child published General comment No. 25. It is a reminder of how important the digital is in the very fabric of children's culture and the lives of young people. If anything, it makes the contents of this book even more important than before.

Zoetanya Sujon, London College of Communication, University of the Arts London

Chapter 17

Disruptive Play or Platform Colonialism? The Contradictory Dynamics of Google Expeditions and Educational Virtual Reality

Zoetanya Sujon

London College of Communication, University of the Arts London

Abstract: This paper provides an exploratory case study Google Expeditions (GE), a virtual reality (VR) toolkit designed for the classroom, and its roll-out in the UK through the "pioneer program". Drawing from existing research on Google, platform studies, and interdisciplinary work on the digital landscape, this paper examines the conflicting tensions around the logic of Google for Education (GFE) and the tangled user experiences of GE within a higher education context. Findings are drawn from participant observation of a one-day GE trial; participant observation of 396 people's mostly first-time experience with GE; a post-trial survey with those predominantly first-time users (N = 100); and participant observation of invite-only GFE events organized by Apps Events on GFE's behalf. In addition to providing a detailed insight into the roll-out of a rising educational Google product, findings suggest GE engages contradictory dynamics. On one hand, users experience exciting, disruptive play, and on the other, the pioneer program extends Google's platform empire, colonizing educational space and those within it.*

Keywords: Google for Education (GFE), Google Expeditions (G.E.), platformization, disruptive play, virtual reality (V.R.), platform colonialism

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Zoetanya Sujon, London College of Communication, University of the Arts London

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Launched in 2015, Google Expeditions (GE) is a virtual reality toolkit designed for the classroom, intended to maximize playful, experiential learning which boosts memory and engages learners.[1] The GE toolkit includes up to 50 Google Cardboard viewers or head-mounted displays (HMD) with accompanying smartphones, a teacher's tablet and over 1000 virtual expeditions (in 2019, 500 in 2017 at the time this research was conducted).

Each expedition is made from 360 panoramas and 3D photoscapes. The teacher's tablet maps each HMD, represented by a small circle that follows each student's gaze, indicating to teachers what students are looking and where they are in the VR expedition. These features allow the teacher to lead the expedition experience, pause the tour when appropriate, ask students to note certain features or specific questions at specific times and virtual locations. The expeditions cover a wide range of high-quality educational content, presented to potential users in this way:

> Imagine visiting the bottom of the sea, Buckingham Palace or even the surface of Mars all in an afternoon. With Google Expeditions, teachers can take their classes on immersive virtual journeys to bring their lessons to life.

Virtual expeditions include a wide range of experiences, spanning tours of natural wonders like volcanoes around the world, the Great Barrier reefs, or Machu Picchu, as well as highly inaccessible regions like the nuclear aftermath in Chernobyl or the Googleplex in California. Expeditions also include career insights providing inside perspectives and the locations of people working as a television presenter or as a scientist, and on and on (2017).

The Expeditions "pioneer program", is a free global Google for Education (GFE) initiative aiming to bring GE to millions of "select" schools and universities. First introduced in 2015-2016 in the United States of America, the pioneer program came to the UK in 2016-2017, visiting select schools and universities, as well as to any community centres, after school groups and youth groups with enough participants — which although not officially advertised was around 400+ students. In May 2018, GE introduced an augmented reality functionality, demonstrating the rapid pace of technological change as well as in Google's product priorities.[2]

Through participant observation of one institution's experience of GE, this paper examines the "pioneer program" and the almost entirely first-time user experiences of 396 students and staff, surveying 100 of these participants about their experiences. Although unanticipated in the original research

design, I also report on participant observation in many invite-only G Suite for Education promotional events, a surprising follow-up part of the GE experience. In addition, I attended public talks by Google leaders — all of which provided unique insights into GE, GFE and Google's interest in the educational market. Based on this data, this paper offers an original account of GE, its roll-out across the UK, and reflects on the broader implications of GE and GFE on the educational landscape.

From a user perspective, the findings paint a contradictory picture marked by excitability and also reluctance, where many students report less enthusiasm than educators. The pioneer program and its roll-out strategy also point to a complex process, equally characterized by two perspectives: platform colonialism and educational enrichment. In terms of platform colonialism, GE is one small part of a highly sophisticated marketing strategy which extends Google's platform into the educational market by embedding free Google products in classrooms, establishing path dependency, and seducing new vulnerable users (children and educators) into a lifetime of brand loyalty. In terms of enrichment, GE is an innovative non-profit educational technology, one that appears to be publicly oriented, provides much-needed support for teachers, students, and educational institutions. These twin tensions between Google's aggressive takeover of the educational technology market in today's classrooms, and genuine educational enrichment drive the findings and analysis presented here. These tensions pose a serious and deeply entangled problematic around the role GE and of the work of GFE, both of which are important factors for understanding Google's role in the future of educational technology.

In order to pick apart this problematic, this paper provides an original account of GE, its context, and current state of play. Following this, the paper brings together scholarship on Google in part to contextualize the case more broadly, and to connect existing explanations about the logic of GE's free provision to educational institutions. In addition to multi-sided markets, current theories on platformization, data colonialism, and surveillance capitalism position Google not only within the broader data ecosystem and as one of the big four global tech players. From here, I explain the mixed-method approach and key findings, arguing that several distinct stories emerge from the data, including tensions around the user experience — between excitable and reluctant use, and between the power of disruptive play for educational enrichment and Google's power to colonize educational space and those within it. The GE "roadshow" demonstrates one of Google's small empire-building tactics in education. These tensions are brought together in the conclusion to reflect Google's role in education today, as well as reflecting on key implications for tomorrow's educators, students, and wider educational futures.

A Brief Background: Virtual Reality (VR) & Google Expeditions (GE)

VR is an exciting technology, one that is often considered innovative and future-oriented. Jones defines VR "as a technological construct meant to convey via the senses and/or the imagination a sensation of reality".[3] VR is understood as providing an immersive experience, whereas augmented reality is about adding in digital features to users' experience (e.g., Pokémon Go or Snapchat filters). Although virtual reality is not new, it is returning to the public eye and many claim we are entering VR's "third" or even fourth "wave".[4] This wave follows widespread hype and recent investment by global platforms like Facebook, Google, Sony Interactive Entertainment, Samsung, HTC and StarVR Corp — a global wave demonstrated, in part, by establishing the Global Virtual Reality Association in 2016.[5] Like many innovations, VR technologies appear to follow a boom and bust cycle, spiralling from hyped-up innovation to obsolescence and from almost mainstream penetration to relative oblivion.[6] In the case of VR, this cycle has many peaks beginning in the early 1900s (e.g., the stereoscope), the 1960s (e.g., the Sword of Damocles and military investment), the mid-1990s (e.g., the rise of 3D and the launch of consumer VR headsets) and more recently, in the 2010s.

GE, as many VR and edtech initiatives before it, aims to bring the excitement of new innovative technologies into education. Yet, VR is only a small part of GE and aside from some historical context, the scholarship on VR does little to help explain GE or its implications. As such, the focus of this paper is not on VR per se, but on the experience of GE as one product in GFE's strategy to enter schools, enrich education, simultaneously extending its platform empire and colonization strategy — a strategy with historical precedents especially in the high growth stakes of the educational technology market.[7]

Organizationally, GE sits within several departments, including Google VR and GFE. GE builds upon Google Cardboard, developed in 2014 by two Google engineers, David Coz and Damien Henry, who were working at the Google Cultural Institute in Paris — an important detail given GE's reliance on high-quality content.[8] Google Cardboard is an affordable head-mounted display (HMD) made out of cardboard and because it costs only a few dollars or pounds, it is widely understood as carrying VR into the mainstream market for everyone".[9] Launched at the 2014 annual Google I/O conference, Cardboard was a "surprise hit", immediately showing up Facebook's expensive purchase of Oculus Rift and showcasing accessible cutting-edge technology.[10] *The New York Times* launched NYTVR in 2015, an app featuring original VR documentaries, and partnered with Google to send over 1.3 million free Cardboard viewers to US subscribers on at least two different occasions.[11] A number which Clay Bavor, Google's VP of Google Cardboard and VR, claims has increased to over 10 million HMD viewers in March 2017.[12]

The Cardboard model is openly available to anyone who wants to make or produce their own version of Google's Cardboard HMD, so the 10 million figure only refers to branded products rather than the whole cardboard market. GFE, GE's parent department, shares a similar trajectory in the education market, boasting over 70 million users as of January 24 and up from 8 million in 2010, growth which is at least partially attributed to GE and the pioneer program.[13] Google VR, building on Google Cardboard's success, has developed many other VR products, including Daydream, Jump (a VR camera), a VR-ready smartphone (Pixel), VR for creators (Tilt Brush) and a set of tools for VR developers.

Originating in 2006, GFE is a non-profit arm of Google (parented by the Alphabet Company) and is responsible for developing a wide range of educational apps, products, and services. GFE aims to provide "solutions built for teachers and students".[14] GFE came to life with its primary product, Google Apps for Education, which were made "free" for those in the education sector in 2009. These apps were relaunched as G Suite for Education in 2016,[15] and include: 11 core services (e.g., Classroom, Gmail, Drive, Calendar, Vault, Docs, Sheets, Forms, Hangouts etc.), core devices like Chromebook, productivity tools, and cloud services — all designed specifically for the classroom.[16] GE is only one of many products offered in G Suite, all intended to provide global educational value.

Ben Schrom, one of Google Expeditions' product managers, claims GE enables large-scale experiential and accessible spatially oriented learning for the masses.[17] Schrom compares the expensive technology of the school bus with the cheap educational costs of Cardboard VR:

> Even the classic technology of the big yellow bus that takes us on field trips, again, provides amazing moments but it's really expensive and it's super limited by time and space. VR gives us new found powers to scale and make experiential, dynamic and engaging learning a much much more regular occurrence. The economics of VR for schools looks really different when a single device can be your science lab, can be your programmable robot, can give you access to museums, and can be your school bus.[18]

This brief overview points to GE as an increasingly accessible technology and publicly oriented initiative developed to support teachers and students, intended to maximize educational benefits. However, it also points to the nesting of Google products (e.g., GE and Google Cardboard) in other product bundles (e.g., G Suite for Education) within overlapping departments (e.g., GoogleVR and GFE) all seductively pitched to educators as saving money,

supporting learning and fixing a broken system — as discussed further in the findings section below.

Understanding Google: Business Logics, Data Extraction and Platform Colonialism

Most of the literature on Google focuses on search,[19] Mapping and Google Earth,[20] or on Google as a capitalist business enterprise.[21] Recent scholarship examines Google's role as a platform and digital intermediary,[22] as related to algorithmic and civic power,[23] or as a multi-sided market.[24] In terms of education, more critical accounts focus on the power of "big tech", data, and surveillance — often referring to Google as one example among many rather than providing details.[25] Yet, despite the rise in more critical approaches to Google, those that have looked at Google Apps for Education tend to do so in highly optimistic and uncritical terms. Existing studies examine usability,[26] effectiveness, and learning benefits.[27]

Based on an analysis of Google's power to "organize the world's information", Hillis, Petit, and Jarrett argue that Google has a kind of "consecrated status" — meaning it is both sanctioned "by law, custom or usage" and is "[rendered] hallowed, sacred or divine".[28] Part of Google's rise to power includes the use of ordinary users' "monetizable [personal] information" in exchange for search and access to products and information.[29] Christian Fuchs takes up this point, framing Google as both good and bad for internet culture, embodying good and evil "like the figure of Satan and good like the figure of God"[30] — echoing Hillis et al..'s idea of "consecrated status".[31] Further, Fuchs comments on the ubiquity of Google and its ideology, what Fuchs' terms "googology" emphasizing the freedom of workers to "play labour" all of their time in and towards the company.[32] This seems highly relevant, especially given Google employee's self-referential use of the word "Googleyness" to define the ideal characteristics of Google employees.

> Googleyness (n.)
> \goo-GUL-lē-nes\
> A person who is humble, curious, conscientious.
> Thrives in ambiguity and loves to learn.
> See Also: responsible, adapted, ownership.[33]

This kind of soft power constructs ideal employee behaviour through both play labour and as a particular kind of personal characteristic identified as "Googleyness". Employees carry these logics to users, embedding free "play" within Google Expeditions.[34] Marisol Sandoval offers a critical perspective of the implications of play labour, highlighting Google's pervasive user

surveillance, ubiquitous personalized advertising and ruthless capitalization of users as products for advertisers.[35] In terms of the GE, Google claims to keep user data "secure", free from advertisements, and claims 'schools own their data'.[36] Despite these claims, Google faces on-going lawsuits[37] and the Electronic Frontier Foundation has twice launched a "Spying on Students" campaign, drawing attention to Google's extraction and collection of student data, ineffective privacy controls and lack of data transparency.[38]

The extraction and use of student data opens up questions about Google's economic motivation for its free provision of GE and G Suite Apps for Education across the education sector. Many internet-based and social media companies employ a similar business model, what some economists refer to as a "multi" or "two-sided market", where:

> the platform may — and often does — structure prices so that one side of the market operates at a loss while the other side generates all the profit of the platform.[39]

Google can offer search or Gmail or G Suite Apps for Education including GE for free in exchange for monetizable data. While Google claim they do not extract or use student data for advertisers (quite different from claims that data is not mined or not collected for profit), GFE also acts as both the face of Google's corporate social responsibility and as a "loss leader", in part because the same products are licenced for profit to business clients through Google Enterprise.[40] Here Google can emphasize its work for the "social good" through education, and apparent profit losses in education products are compensated by profits made in Google's many other holdings.[41]

Beyond the Google universe, it is important to remember that Google operates within a data ecosystem, one that overlaps with GFE's for-profit logics. Through an analysis of Google's public-facing policy documents, Lindh and Nolin argue that Google intentionally conceals this multi-sided market and their business logics:

> the rhetorical aim of Google customer-oriented policy documents is to disguise the business model and to persuade the reader to understand Google as a free public service, divorced from marketplace contexts and concerns. We found it quite remarkable that the commercial aspects of Google's relationship to customers were so absent in the documents we reviewed.[42]

There are a number of competing theories explaining the broader "marketplace contexts" referred to above, including: data colonialism,[43] surveillance capitalism,[44] platform society, and platformization.[45]

Between these theories, we can see a struggle to conceptualize the interstices weaving the material infrastructures of platforms with social, economic, and cultural realities. Platformization, an important concept explaining the expansion of social media, refers not only to the extension of websites across the web, but also the reshaping of "external web data" to become "platform ready".[46] Van Dijck et al.. build on this argument suggesting that platform society "emphasizes the inextricable relation between online platforms and societal structures".[47] Alongside health and financial data, educational data is amongst the most valuable, and Google and Facebook are crucial gatekeepers in the normalization of data extraction, mining and collection within and across educational systems.[48] Couldry and Mejias take this argument further, identifying the exploitative nature of platforms and "big tech" as "data colonialism" — an ideological system driving "the predatory extractive practices of historical colonialism with the abstract quantification methods of computing".[49] Similarly, Zuboff argues that we are in "a new economic order that claims human experience as free raw material for hidden commercial practices of extraction, prediction, and sales".[50]

I argue, that although each of these theories are unique, distinct concepts and the particulars of their respective vernaculars, they are more similar in essence than they are different. In addition to proximity and critical focus on platform power, these works can be situated as parts of a collective attempt to capture coercive economic and social dynamics of big tech and their impact on the social infrastructures of everyday life — all important aspects of the broader marketplace contexts. For this paper, GFE illustrates Google's platform colonialism — the combined structures and practices of data colonialism, surveillance capitalism, and platformization — via the roll-out of a nested GFE product line designed to achieve market and cultural dominance in and through the classroom.

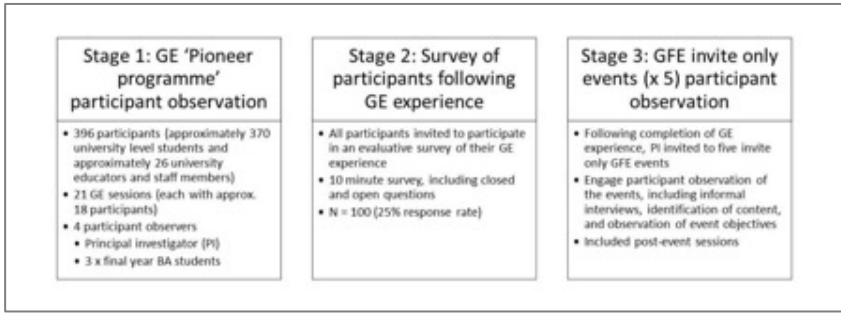
Mixed Methods: Participant Observation and Survey

At the time this project was being developed, virtually no critical and publicly available research existed on GFE or GE — both were new as of 2006 and 2016 respectively. Prior research either examined Google products in instrumental ways or referred to any educational products as undifferentiated from Google. As a result, a mixed-method approach[51] driven primarily by participatory methods and a quantitative survey seemed the best way to capture the complexities of GE as an emerging technology and set of practices. Mixed methods provide a deeper empirical rigour, allowing for both triangulation and

"heightened knowledge" of the research object.[52] The primary method, participant observation, provides an "orientation to inquiry".[53] This orientation aids exploratory research, allowing for a bottom-up approach to identify emerging and tacit processes, interactions with and around technology, and for exploring both anticipated and unanticipated forms of engagement.[54]

Based on these methodological principles, the research design included three stages (see figure 17.1 below), the last of which only emerged after completing the first two stages. The sample began with participants in a small university in an urban centre, populated by an international student body, and largely involving primarily undergraduate students (ages 18-24), staff (ages 30+), and some post-graduates (approximately aged 23-35).

Figure 17.1: Research design depicting research stages



In the first stage, the PI was responsible for setting up 21 "teaching" sessions of approximately 18 participants per session, as instructed by the GE coordinator. Following this scheduling, three GE field assistants came for the day to provide technical and instructional support for the session participants. The PI and three student observers sat within sessions, recording notes in a field note log, taking pictures, and conducting informal interviews with other participants. Each student observer was briefed on participant observation and field log notes prior to the GE sessions, and then interviewed about their experience and their field logs. These interviews allowed for a better understanding of participant observers whole impressions of the event and to follow up on any particular details recorded in the field log.

In stage 2, all participants were invited to complete a survey including 36 closed questions and four open questions, all asking participants to reflect on their GE experience for entry into a pool to win a £50 incentive. Of the 396 participants, 25.2% (N = 100) completed the survey, with a much higher response rate for staff (86%) than for students (19%). Although the participant

group was primarily composed of undergraduate students, survey respondents also included staff and postgraduate students.

Following completion of the survey, the PI began to receive multiple invites to select events hosted by Google for Education (GFE). Although stage three began as a response to unanticipated events following the first two stages, this stage provided data revealing deep insights into the GE's motivations, practice, and operating logics, far beyond the data collected in the first two stages. The PI observed five events, noting a wide range of co-participants including educators, educational tech teams, international participants, educational decision-makers, heads of schools, and many others — all joining for insights on Google's freemium services. All of this data was incorporated and thematically analysed in order to identify the most important findings across qualitative data (participant observation notes) and quantitative data (survey results).

These data-gathering techniques and thematic analysis lead to meaningful findings, yet they are also limited. The first two stages focus on one case taking place in one higher education institution, and the limited experiences of those members with GE. Most of these users were new to VR and most had never experienced Google Cardboard. This means that it is difficult to assess the learning potential of GE as participants' reactions are likely to be as much the result of a novel experience as they are the result of engaging GE. This research cannot provide evaluative insight on the educational impact or potential of VR, instead, it aims to further understanding of GE — as a Google project and as an educational endeavour — rather than as an appraisal of GE's or of VR's educational value. Stage three provided key insights into the "broader market contexts" as well as Google's strategy for entering classrooms and the edtech market. Yet, the findings are based on a relatively small sample, are not generalizable or representative and do not claim to be.

Findings: The Pioneer Program, Dynamics of Contradictory Use, Disruptive Play, and Building Platform Empires

> *The Expeditions Pioneer Program is just one of the ways Google is helping teachers engage students.*[55]

Beginning with Google's reliance on volunteers and their promotional labour to run the pioneer program, one of the first findings is that Google's pioneer program reflects a strategy shaped by Google's "consecrated status" and its aims to further develop this status. In terms of use, the findings are contradictory. Despite repeated excited expressions noted by all observers throughout the day, detailed participant observation notes reveal that this

enthusiasm is uneven and is marked by a notable split between excitable and reluctant patterns of use. Survey results indicate that this split is considerable, where 65% experienced a "wow-moment" and 35% did not (or were not sure). In addition, participants observers noted a higher level of enthusiasm amongst staff, a point that also seems to apply across all 21 sessions observed in this research, as well as in other schools (e.g., interview with Patrick, GE lead at a primary school). The invited events reveal that the GE pioneer program is less of an educational enrichment strategy and more of a promotional marketing tour (even internally referred to as the "roadshow") for Google for Education, G Suite Apps for Education, and cloud services. Taken together, GE extends Google's platform universe, enrols committed users through freemium services, and demonstrates one of its strategies for building up its platform empire.

The Pioneer Program: Enrolling users

Steered by Jennifer Holland and Ben Schrom, GE product managers, the pioneer program was brought to 11 countries and over a million US students in 2015/2016.[56] Between its roll-out in September 2016, and its completion in the summer of 2017, the pioneer program had reached over a million UK students.[57]

The application process to become a pioneer was time-consuming and required applicants to invest considerable free labour — all repeatedly framed by the "possibility of selection" and "limited eligibility" to participate in a Google initiative. Beginning with the completion of an online application (September 2015), selected applicants were notified that they could be eligible (September 2016) — only if they submitted a completed Google Sheets form indicating they had signed up 400-600 people for 20-26 different 30-minute GE sessions. Some of the required information for this stage of application included names of participants, areas of study, and emails of participating staff (September 2016). Successful applicants were then notified of possible dates for the pioneer program to visit. Informal interviews with other GE participants from other institutions confirm that this is a common application process, likely designed for use in schools rather than higher education. Thus, while this research reports on only one instance of the pioneer program, many other likely similar instances were co-occurring across schools, educational institutions, and youth-related organizations from 2015-2017. Certainly, the application process enrolled users into the G Suite Apps for Education product universe, requiring investment of time and information.

The GE Experience: Contradictory User Dynamics

One of the most immediate observations is the intense excitement associated with Google — apparent from the application process to the eagerness to participate in the GE and subsequent events — a reaction explained by Hillis et al. as a response to "Google's consecrated status". For participants, GE provided an amazing opportunity to do something with Google and was an exciting technology with unknown potential. Both staff and students visibly demonstrated enthusiasm, curiosity, and expressed glee about being able to participate. Participants also appeared to demonstrate a genuine excitement about GE. All of the observers noted high levels of user enthusiasm, recording many positive expressions such as "that's so cool", "amazing" and "wow" being expressed throughout all 21 GE sessions. One survey respondent commented:

> I really enjoyed the immersive nature. The change of energy was exciting (that I wasn't sitting down watching a big screen) and I could move and explore independently.

Indeed, 65% of survey respondents said they experienced a "wow-moment" during their experience, which respondents described as the moment when they saw the "phenomenal mountains" or "seeing the Syrian refugee camp as if I was a part of it". Other survey respondents noted that the unique perspective GE enabled a sensation of "being there". For example, one survey respondent claimed their wow moment came with "seeing the wonders of the world from the vantage point you couldn't get if you were actually there". Another described the sensation of "feeling the space, being inside a never seen before space" while another mentioned the "feeling of height" — all comments which illustrate that the sensory element had an impact of a number of users.

In terms of education, only two survey respondents referenced education in their wow-moment. For example, one said:

> it came alive for me when the lectures and the content became one. Having a visual aid as well as an expert in that area really made it come alive and sparked much discussion.

This enthusiasm appears to also apply to Google as a company, and not just the GE experience. When asked about their views of Google as a company in an open question in the survey, many respondents described it as an "amazing" and "innovative" company, further supporting the idea of Google's almost divine status.[58] The majority of survey respondents were also active users of Google products, most frequently using YouTube (93%), Maps (88%), Search

(87%) and Chrome (84%). In terms of VR, 60.6% (N = 60) claimed they had never used VR prior to their experience with GE. The majority of survey respondents did say the GE experience was good or excellent (75%), yet a quarter of them said their overall perception of GE was poor or satisfactory (25%), as shown in figure 17.2 below. Similarly, 21% (N= 21) said they did not have a "wow-moment", 11% were not sure, and 3% selected "other". Thus, not all respondents were caught up in the excitement, as some of the 34% who did not have a "wow-moment" described their experience as "okay" or "slightly boring".

Figure 17.2: Survey responses to the question "please rate your overall perception of Google Expeditions"

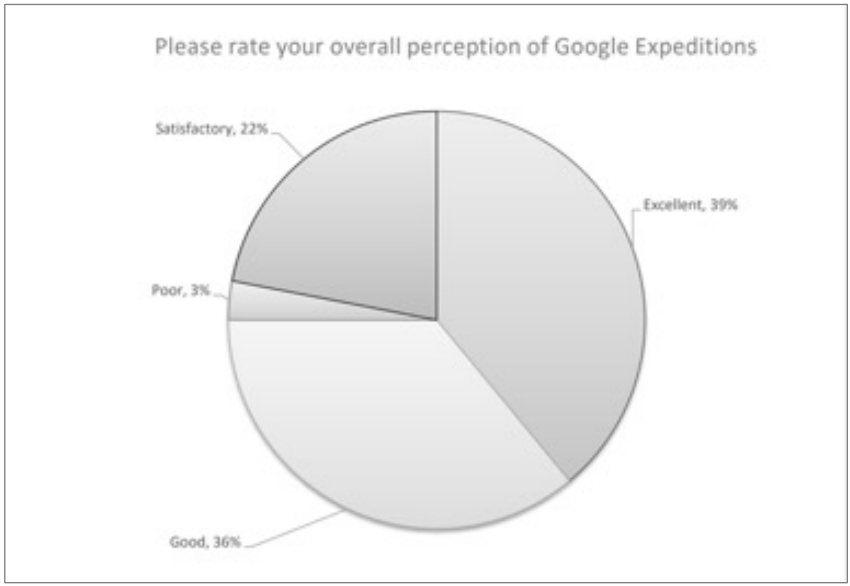


Figure 17.2 is important, because it seems that although only a slight majority, the 39% of respondents rating their experience as excellent — and as reflected in participant-observers — this was not representative. In contrast, to the educational optimism and technological excitement of GE, just over a third of survey respondents (39%) expressed confusion and disinterest in GE, correlating with all of the participant observers' log entries noting participants who appeared visibly disengaged.

These survey results are supported through the participant observation, which noted two groups of participants — excitable and reluctant users. All observers noted that every group session was different. Each session explored different expeditions, some looking at three to five different expeditions and

some looking at more. Every session was led by different staff members, some changing partway through, and some sessions involved students as expedition leaders. Some sessions were marked by distracted students and others by intensity and playfulness. Within this context, more reluctant users shared three primary motivations, namely resistance, discomfort, or distraction, discussed below in turn.

Beginning with resistance as a motivation, there were three sessions with individuals who appeared withdrawn. Respondents sat at their tables, holding the cardboard viewers on their laps or on the table in front of them and sitting quietly as if waiting for the experience to end. When approached, these respondents each spoke of particular issues. One student explained that she "did not see the point" or the purpose of GE for her work or areas of interest. For this student, GE specifically and VR more generally, made no sense in relation to her learning goals and discipline. The discussion was particularly striking as it was quite clear that it was not the technology that was confusing for her, but rather its purpose in a learning environment. Similarly, one staff member refused to lead the session she had signed up for, explaining that VR was unrelated to her subject area and that she didn't know (or want to know) "how to use the toolkit" and did not want to risk using it in front of her students.

In another session exploring underwater excursions, two students expressed discomfort and some awkwardness, made visible through body language and silence. These students sat facing the Expeditions leader with their HMDs beside them. When asked how they were doing by the PI, both students described visual impairments which made it impossible to use the viewer, highlighting the visual primacy of GE and the importance of visual ability for engaging VR content. These students expressed discomfort and appeared excluded from the experience. The GE experience was not inclusive and did not account for visual impairments or disabilities. In addition, many participants with ordinary visual capabilities also struggled with the viewers and the 360 content, complaining of eye strain, nausea, and headaches (e.g., rubbing of eyes and temples, verbal expressions, etc.). Indeed, 53% of the survey respondents claimed there were limitations to GE, 20% of whom directly mentioned visual issues, such as not being able to wear glasses and/or getting headaches, nausea, or dizziness. In this sense, discomfort, usability, and visual ability were issues for over half of the respondents.

In terms of distraction, a point Neil Selwyn has documented in numerous studies,[59] there were many instances where users appeared disengaged from the GE content. For example, one participant-observer noted that one session was filled with students who "talked the entire time, mostly to each other and concentrated most on taking pictures of the tool kit" (Observer Three, on the Underwater Excursions session). One expedition leader commented that "it is

difficult to teach students when they are excited about using a new technology. They talk and can't listen". Another respondent said, "there is a fine line between learning well and getting distracted". According to the survey, this issue impacted one in six respondents, as 14% expressed concerns about GE being "distracting". At times, these concerns accompanied positive opportunities, like allowing students to "actively visualize what they are learning about" (survey respondent). For some, the technology may be distracting because it was interesting and for others, because it was not interesting. Regardless of whether users found the experience engaging or positive, many identified "distraction" as both a risk and a benefit.

The final observation about the GE experience comes from the participant-observers, who noted that successful engagement had more to do with the personal characteristics and teaching techniques of "teachers" than of the GE toolkit. This points to the difficulty of properly assessing GE in terms of experiential or spatial learning and meaningful engagement. The observers described the lecturer's engagement — made visible through knowledge, tone, attitude, and connection with students — as far more important than the technology. For example, Observer Two described one staff member as "standing up instead of sitting down and making jokes in a dynamic tone" which meant that "the class was much more attentive to the speaker than in the previous session" (Observer Two, on Roman Ruins session). Observer Three made a similar observation about what she thought was the most engaged session because the lecturer was engaged — with students and with the content noting that the staff member's attitude "made a big difference in student engagement — students were fascinated as well as being highly responsive and taking part in a very active discussion" (Observer Three, on the "Life of Matriarchs" session).

Survey respondents also emphasized that the lecturer's engagement was directly related to any educational benefit. For example, in response to an open question on VR's educational value, survey respondents stated that "it really depends upon the skill of the lecturer" and another said, "it is down to the teacher". Based on these observations, the technology is secondary to the staff members, their knowledge, their competence and most importantly their connection with students. This observation leads to an important question about why GE was exciting for so many. Taken together, these findings — the organizational labour required to participate in GE, excitable and reluctant users, and the importance of engaged teachers — indicate that what I call "disruptive play" is a crucial factor shaping users' experiences.

The 30-minute GE sessions were highly disruptive organizationally, educationally, technologically, and socially. In terms of organization, the GE experience took staff and students outside of their classrooms disrupting not

only classroom routines, but also the ordinary flow of educational content to the content provided by GE. In terms of education, both staff and students became learners — studying a new technology and an innovative educational practice. Technologically, participants were exploring a new Google product, interacting with GE field assistants, 360 content, and the GE toolkit — all unfamiliar. Socially, participants were part of a bigger high-energy event. All of these were disruptive experiences. I argue that part of GE's excitement had less to do with the technology and more about this disruption.

Engaged educators demonstrate a capacity for managing these disruptions through an openness to the unfamiliar and a playful attitude to disruption. In response to the open survey question asking for any other comments, one staff member said, "I really enjoyed the opportunity, and it was good to see colleagues at play". This comment highlights the unusual nature of the GE events. The opportunity for staff and students to play was exceptional and offered huge experiential value. Thus, GE use reveals different patterns of engagement, both excitable and reluctant, pointing to the importance of engaged educators and their capacity to manage disruption and engage the technology and situation in a playful manner with better outcomes for themselves and for students.

However, in support of the application process, participant observation of GFE's follow-up activities illustrate that GE is not only just one freemium service, but its roll-out is also a sophisticated empire-building tactic, as explained below.

Platform Empires: The GE "Roadshow"

In the days and months following the end of the GE experience with the pioneer program, GFE began sending invitations to additional events related to Google and G Suite Apps for Education. Based on participation in five of these events, each followed a similar format. First, guests were invited to network with other educators, including staff from "Google schools" (institutions partnering with Google and exclusively using Google products like Chromebooks and G Suite Apps for Education), as well as other pioneer program participants. Event attendees came from all across the UK and sometimes, from other countries. Following the networking session, participants were invited to a large group session led by Google and Apps Events staff, where they were introduced to Google's successful innovations like Google X's stratospheric internet project Loon,[60] cloud services, and an inside view on working at Google. Participants borrowed a Chromebook to use in guided workshops focusing on G Suite products such as Classroom, Expeditions, and e-Portfolios. Following these product demonstrations and pitches, guests were offered prosecco and gourmet snacks, to be taken with

Google staff, AppsEvents teams and other participants, before being sent off home with a Google goody bag packed with branded stationary, stickers, and Google products like Google Cardboard.

It became immediately apparent that the purpose of these events was not to engage educators about their GE experience, but to feature GE as one of many GFE products available to educators for free. Some of these events did not even feature GE or its educational value, instead promoting Google's expertise in innovation and many other educational benefits.

Notably, these events were organized by AppsEvents, an independent company partnered with Google and responsible for providing G Suite training and certification across the globe. AppsEvents staff, like Expeditions staff, were not officially Google employees, instead, they were outsourced on freelance contracts. Despite this relative precarity, both AppsEvents and Expeditions staff were on hand to speak to guests and answer any questions about Google products or training, with great optimism and genuine enthusiasm for GFE and its products.[61] For example, AppsEvents' define their primary goal as providing "amazing Google PD [professional development] for Educators, to give them the tools and the inspiration to take their work to the next level".[62] It is notable that Google staff and partners maintain a high-level enthusiasm at every point of interaction with educators and learners, consistently promoting GFE's public facing educational values. This enthusiasm is perhaps best demonstrated by Jen Holland, one of GE's product managers, when she explained that they offer free products to educators because Google "believes education is important" and that they "love teachers and students".[63]

Lindh and Nolin refer to this positive framing as deliberate subterfuge, actively obscuring Google's business model by presenting altruistic motivations around the value of education and technological solutionism.[64] Indeed, the celebratory rhetoric of GE — whether bundled into G Suite Apps for Education or as its own standalone product — presents "Google as a free public service, divorced from marketplace contexts and concerns".[65] It was only during participant observation at these events that additional evidence of this deliberate disguising of Google's business model came to light. First, internally, Google staff and partners widely refer to the pioneer program as "the roadshow", which is a cross between celebrity performance and a touring set of promotional activities intended to sell products and secure buyers for G Suite Apps for Education products. The "roadshow" reference was not intended for public use, yet it lays bare the sophisticated marketing techniques used on participants from the very first moment of application.

The pioneer program and the roll-out of GE is extremely sophisticated. In addition to the value of disruptive play, many educators face increasingly extreme work conditions and are not only vulnerable to Google's seductive

and appealing overtures, but are also in need of help. For example, one interview respondent states:

> I do have to say, even if there is an angle from any company trying to get into the youth market and trying to embed it in classrooms as well to get teachers to be reliant on these different things, I have to say that if it helps learning, I have no problems with it whatsoever. As an experience it [GE] was phenomenal and it was all free. Considering the changes with money in education at the minute as well, the restrictions we have, the ability to go on expensive trips, this was a completely different way of doing things. It helped teachers, which is I guess the most important thing (Patrick, primary school teacher and GE lead, interview 2017).

Patrick, like many other educators, is aware of the ways in which Google may have "an angle" for providing GE for free, yet given diminishing resource and the impact of austerity on education, Patrick — like many others — literally cannot afford to be critical. The reality is this educator is willing to make this trade-off because the free "phenomenal experience" is worth it "if it helps teachers".

Conclusion

In summary, this paper examines the meaning and experience of GE for users and for its broader social and economic implications. The findings are both simple and complex.

They are simple because the GE experience as reported here demonstrates clear benefits — tremendous excitement and enthusiasm, educational enrichment, and many instances of engagement with new technologies — and playful approaches to learning. The findings are also complex because these dynamics are also contradictory. Just over a third of respondents (N = 35%) were more reluctant, less excitable, and less moved by Google's powerful status.[66] In terms of use, there are conflicting tensions about how GE works differently for some users. Yet, the dynamics of use also tell us a story about technological utopias. In this case, GE promoted by Google, reported by press, and reiterated by the majority of respondents in this case (65%) as exciting and innovative quickly becomes the dominant narrative.

Looking closely at the GE experience reveals the importance of non-technological factors — like human connection, knowledge, and competence in teaching and learning — as illustrated by disruptive play. Disrupting classroom routines and learning flows appears to be beneficial for those who are able to manage change, experiment with new tools and roles (e.g., students as teachers and/or teachers as learners), and encourage these approaches in learners and

others around them. Disruptive play shows that the technologies are secondary to the educators' skill sets and attitudes, particularly in managing the GE experience as one to aid rather than replace engagement with learners. In many ways, this marks the power of "disruptive play", especially effective for educators by implicitly breaking routines and forcing a kind of educational play with teaching strategies and techniques. This is important, and rests somewhat uneasily alongside the excitable use and seemingly high levels of engagement experienced by the majority of respondents.

Google's innovation rhetoric is also about creating particular kinds of subjects beginning with the internalization of Google's platform values (e.g., "Googleyness"). The GE roadshow is also about enrolling ordinary people to voluntarily extend the Google universe, for free. The 70 million GFE and GE users are also working for Google in exchange for the promise of educational and personal enrichment. This is the heart of GFE's expansion strategy, one that resonates with those outlined in existing literature addressing Google's soft power, platform and surveillance capitalism, and data colonialism.[67] Thus, GE is an amazing example of Google's power to make, push and define the terms of educational engagement and to stake claims on educational futures.

Google may or may not be instrumental in radically changing tomorrow's classrooms, but GE shows how Google is extending its product universe further and deeper into public institutions, while embedding younger audiences into early brand loyalty, path dependencies, as well as into Google as a social infrastructure. The educational landscape is facing brutal austerity, leaving gaps for tech giants like Google to fill, shape and colonize. In this sense, GFE's support of learners and educators comes at a time where play and excitement are desperately required.

So these findings are complex, because although we can see obvious between educational enrichment through additional resources, cost-savings, support for teachers and learners, and all the benefits of disruptive play, we can also see Google's aggressive platform colonialism. The GE roadshow is a seductive marketing tour for Google, thinly disguised as an altruistic educational initiative because Google 'loves teachers and students'.[68] The invite-only events were an important, although externally invisible part, of the GE roadshow, and it is here that educators were wined and dined not only with the promise of free Google products and services, but also with the promise of care and educational enrichment. In these ways, the roadshow is a brilliant way to encourage playful engagements while also extending the platform's scale, scope, and reach. It is only through participant observation of the pioneer program — before, during, and after — that the extent of GE as one tactic of Google's platform colonialism has become apparent.

In closing, this project documents one institution's experience with the pioneer program, finding real tensions between educational enrichment and platform colonialism. While this is a valuable contribution to education and technology studies, many more questions need to be asked, including the question of what is really at stake in this balance between enrichment and colonialism? What is Google extracting from schools, where does it go, and how are they making profit — economic or strategic — from this work? And most importantly, what are the real implications of extending Google's role into young people's lives and into public infrastructures and social institutions?

Notes

Introduction: Contemporary Children's Culture in Digital Space(s)

Steve Gennaro, Blair Miller

[1] Bernard Williams, *Ethics and the Limits of Philosophy* (London, UK: Fontana Press, 1985), 1. The passage Williams refers to from *Republic* is section 352d.

[2] By "moral" here and throughout this introduction we are referring to the sense of what of how one ought to act and live, in accordance with Classical Greek philosophy that positions a virtuous life as one that aspires to satisfy this ought for one's self. This framework survives in the work of key contemporary theorists like Williams, and stands in contrast to a more prescriptive application of morality that aligns with clashing youth experience up against stricter conservative directives which too easily result in negative spaces of moral panic in the face of new media technologies in the hands of children.

[3] For a full discussion on the historical roots of competing discourses of childhood, puritan and romantic, and how they re-emerge and underpin current narratives around moral panics and pedo-philic and pedo-phobic constructions of childhood, see Stephen Gennaro, "Making Kids Sexy: Sexualized Youth, Adult Anxieties, and Abercrombie and Fitch", in *Red Feather Journal* Volume 1, Issue 1 (Spring 2010), https://redfeatherjournal.org/vol-1-iss-1-spr-2010 2012.

[4] Philippe Ariès. *Centuries of Childhood: A Social History of Family Life* (New York: Vintage Books, 1962).

[5] Adam Alter, *Irresistible – The Rise of Addictive Technology and the Business of Keeping Us Hooked* (New York: Penguin Press, 2017), 2.

[6] Monica Anderson and Jingjing Jiang, "Teens, Social Media & Technology 2018", *Pew Research Center* online, May 31, 2018, 7, https://assets.pewresearch.org/wp-content/uploads/sites/14/2018/05/31102617/PI_2018.05.31_TeensTech_FINAL.pdf.

[7] Anderson and Jiang, 8.

[8] "Canada's Internet Factbook 2019", *CIRA* online, accessed February 10, 2021, https://www.cira.ca/resources/corporate/factbook/canadas-internet-factbook-2019.

[9] Daniel Kardefelt-Winther in collaboration with Jasmina Byrne, "Rethinking screen-time in the time of COVID-19", UNICEF Office of Research - Innocenti online (April 9, 2020), https://www.unicef.org/globalinsight/stories/rethinking-screen-time-time-covid-19.

[10] Amanda Third et al., "Young and Online: Children's Perspectives On Life In the Digital Age", *State of the World's Children: Companion Report*, (Sydney: Western Sydney University & UNICEF, 2017), https://gdc.unicef.org/resource/young-and-online-childrens-perspectives-life-digital-age.

[11] Sonia Livingstone, John Carr, and Jasmina Byrne, "One In Three: Internet Governance and Children's Rights", *Office of Research — Innocenti Discussion Paper 2016-01* (Florence, Italy: UNICEF, 2016).

[12] We say "involuntary" here because of the Pandora's box that is complicity in the context of kaleidoscopic user agreements that act as a proxy for invasion of privacy. This is a whole other, non-youth-specific discourse that deserves its own space.
[13] *Law & Order*, Season 17, Episode 2, "Avatar", directed by Vincent Misiano, aired September 29, 2006, on NBC Universal Television.
[14] Heather McGhee, *The Sum of Us — What Racism Costs Everyone and How We Can Prosper Together* (New York: One World, 2021).
[15] *Contact*, directed by Robert Zemeckis (1997; Burbank, CA: Warner Home Video, 1997), DVD.
[16] Stephen Gennaro, "Globalization, History, Theory, and Writing", *Society for the History of Childhood and Youth Newsletter* No. 16 (Winter 2010), accessed November 8, 2016, http://www.history.vt.edu/Jones/SHCY/Newsletter16/Pedagogy- GennaroArticle.html.
[17] For more on how marginalized individuals can speak back to dominant narratives, and in doing so reclaim their subjectivity as active agents in their own lives who both name the word, and in doing so, name the world around them, see Paulo Friere, *Pedagogy of the Oppressed 30th Anniversary Edition* (New York: Continuum, 2000).
[18] Linda Tuhiwai Smith, *Decolonizing Methodologies — Research and Indigenous Peoples* (London: Zed Book Ltd, and Dunedin: University of Otago Press, 1999), 19.
[19] Convention on the Rights of the Child resolution 44/25, United Nations, Human Rights Office of the High Commissioner online (1989), accessed February 17, 2021, https://www.ohchr.org/en/professionalinterest/pages/crc.aspx.
[20] Tuhiwai Smith, *Decolonizing Methodologies*, 173.
[21] Tuhiwai Smith, *Decolonizing Methodologies*, 193.
[22] Stephen Gennaro, "Making Kids Sexy: Sexualized Youth, Adult Anxieties, and Abercrombie and Fitch", in *Red Feather Journal* Volume 1, Issue 1 (Spring 2010), https://redfeatherjournal.org/vol-1-iss-1-spr-2010 2012.
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[24] "The United Nations Convention on the Rights of the Child, or UNCRC, is the basis of all of Unicef's work. It is the most complete statement of children's rights ever produced and is the most widely-ratified international human rights treaty in history". "How We Protect Children's Rights With the UN Convention of the Rights of the Child", UNICEF online, accessed February 17, 2021, https://www.unicef.org.uk/what-we-do/un-convention-child-rights/.
[25] "Youth", United Nations online, accessed February 13, 2021, https://www.un.org/en/sections/issues-depth/youth-0/.
[26] Plato, *Republic*, in *Plato in Twelve Volumes*, Vols. 5 & 6 translated by Paul Shorey (Cambridge, MA.: Harvard University Press; London: William Heinemann Ltd., 1969), 352d.

Growing Up in a Connected World

UNICEF Office of Research – Innocenti
(Sonia Livingstone, Marium Saeed, Daniel Kardefelt Winther)

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Understanding the Relationship Between Young People and Social Media: What Role do Rights Play?

John Tobin

[1] Francine V. McNiff Chair in International Human Rights Law, Melbourne Law School, University of Melbourne.

[2] Jill Lepore, "How We Got to Sesame Street", *The New Yorker*, May 4, 2020, https://www.newyorker.com/magazine/2020/05/11/how-we-got-to-sesame-street.

[3] Ibid.

[4] Ibid.

[5] Ibid.

[6] See generally: Council of Europe, *Guidelines to respect, protect and fulfill the rights of the child in the digital environment — Recommendation*, CM/Rec (2018) 7 of the Committee of Ministers (2018); UNICEF, *The State of the World's Children 2017: Children in a Digital World* (New York: UNICEF, 2017); Eva Lievens et al., "Children's Rights and Digital Technologies" in *International Human Rights of Children*, ed. Ursula Kilkelly and Ton Liefaard (New York: Springer, 2019), 487-513; Sonia Livingstone, "Realizing Children's Rights in Relation to the Digital Environment", *European Review* online advance article (April 23, 2020); Sonia Livingstone, "Claiming Rights and Righting Wrongs: Children's Rights in the Digital Environment" in *Exploring Key Issues in Early Childhood and Technology: Evolving Perspectives and Innovative Approaches*, ed. Chip Donohue (New York: Routledge, 2019), 42-48; "Special Issue on Children and Digital Rights", *Communications Law* 23(1) (2018), includes papers on sharenting; privacy and data protection for children; and general legislative protection; Anna Brosch, "Children's Rights in Digital Environment: Cultural and Geographical Contexts across Europe and Africa", *New Educational Review* 56 (2019): 215-229; Leila Green et al.,*The Routledge Companion to Digital Media and Children* (New York: Routledge, 2020); "Special Issue: Children's and Young People's Rights in the Digital Age", *New Media & Society* 19, Issue 5 (2019); Sonia Livingstone, John Carr, and Jasmina Byrne, *One in Three: Internet Governance and Children's Rights* Innocenti Discussion Paper No. 2016-01 (Florence, Italy: UNICEF Office of Research, 2016).

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[9] *How Does the Time Children Spend Using Digital Technology Impact Their Mental Well-Being, Social Relationships and Physical Activity?* UNICEF Office of Research, Florence Innocenti Discussion Paper 2017-02 (Florence, Italy: UNICEF Office of Research, 2017).

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[12] UN General Assembly, "Convention on the Rights of the Child", *United Nations Treaty Collection* vol. 1577 (opened for signature, ratification and accession by General Assembly resolution 44/25 of November 20, 1989; entered into force on September 2, 1990).

[13] "Every Treaty in Force is Binding Upon the Parties to it and Must be Performed by Them in Good Faith", in "Vienna Convention on the Law of Treaties 1969", *United Nations Treaty Collection* vol. 1155, (opened for signature on May 23, 1969; Entered into force on January 27, 1980), 331, *article 26*.

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"School Strike 4 Climate": Social Media and the International Youth Protest on Climate Change

Shelley Boulianne, David Ilkiw, Mireille Lalancette

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Resisting Youth: From Occupy through Black Lives Matter to the Trump Resistance

Douglas Kellner, Roslyn M. Satchel

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Trauma, Resilience, and #BlackLivesMatter How do Racism and Trauma Intersect in Social Media Conversations?

Berkeley Media Studies Group

Authors note: This report was written by Laura Nixon, MPH, Sarah Han, BA, Pamela Mejia, MS, MPH, and Lori Dorfman, DrPH. Thanks to our colleagues at Berkeley Media Studies Group for their research and writing support, especially Heather Gehlert and Lauryn Claassen. Thank you to Daphne Marvel, BA, and Vanessa Palzes, MPH, for research assistance, and to Alex Estes, Ph.D., and Vanessa Palzes, MPH, for their assistance with the data analysis.
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Youth's Relationship with Social Media: Identity Formation through Self-Expression and Activism

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Living Their Best Life: Instagram, Social Comparison and Young Women

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The Selfie Generation: Examining the Relation Between Social Media Use and Adolescent Body Image

Ilyssa Salomon, Christia Spears Brown

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The *Video Kids* are All Right: A Comparative Analysis of Moral Panics Around Youth and Social Gaming Containment and Resistance

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[13] Steven L. Kent, *The Ultimate History of Video Games* (New York: Three Rivers Press, 2001), 288.
[14] See: Nicholas D. Bowman, "The Rise (and Refinement) of Moral Panic", in *The Video Game Debate: Unravelling the Physical, Social, and Psychological Effects of Digital Games*, ed. Rachel Kowert and Thorsten Quandt (New York: Routlegde, 2016), 22-38. Specifically, pages 28-30 outline the concerns over violent video games from the period between 1978 and 1994.
[15] Kent, *The Ultimate History of Video Games*, 470.
[16] Ibid., 468.

[17] Ibid., 470.
[18] It should also be noted that Provenzo based his statement to the Senate committee work specifically with Nintendo games. This distinction is relevant, as Nintendo representative Howard Lincoln not only had Senator Lieberman's ear coming into the hearings (see: Kent, 468), but also took the position of Nintendo as family-friendly in opposition to companies such as Sega (see: Kent, 474-478).
[19] Gerard Jones, *Men of Tomorrow: Geeks, Gangsters, and the Birth of the Comic Book* (New York: Basic Books, 2004), 270-271.
[20] Ibid., 273.
[21] Chris Kohler, *Power+Up: How Japanese Games Gave the World an Extra Life* (Indianapolis: BradyGAMES Publishing, 2005), 9.
[22] Provenzo Jr., *Video Kids*, xi.
[23] Ibid., 7, 10, 76.
[24] Ibid., 9. See: Kent, *The Ultimate History of Video Games*, 45-48 for an in-depth discussion of the Odyssey's release.
[25] Provenzo Jr., *Video Kids*, 11.
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[27] Ibid., 76.
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[41] Provenzo, Jr. *Video Kids*, 110.
[42] Ibid.
[43] Ibid., 58-60.
[44] Ibid., 65-69.

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[46] Ibid., 92.
[47] Ibid., 94-96.
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Playing with Pets, Playing with Machines, Playing with Futures

Jody Berland

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possible; the Social Sciences and Humanities Research Council of Canada, for supporting the research project Digital Animalities; and the editors of this volume for invaluable advice, encouragement, and patience.

[1] Tamagotchi is widely hailed as the first digital pet. In fact the first digital pet was Dogz, launched in 1995. Dogz was a robotic puppy.

[2] Peter H. Kahn Jr., Heather E. Garry, Solace Shen, "Children's Social Relationships with Current and Near-Future Robots", *Child Development Perspectives*, 7(1) (2013): 33, https://doi.org/10.1111/cdep.12011.

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[12] When my mother had dementia she shared with other residents a number of toy dolls and pets. They loved their inert companions and did not notice their lack of intelligence. However, robot attendants are becoming increasingly popular, in part because they represent less work and cleanup for the famously understaffed workforce of residences for the aged. "Ageless Innovation | Joy For All Companion Pets | Black & White Tuxedo Cat | Lifelike And Realistic | for Older Adults, Alzheimer's Disease, Dementia & Memory Loss", Amazon, accessed November 14, 2020, https://www.amazon.ca/Joy-All-Black-White-Tuxedo/dp/B078FFX7Q8/ref=asc_df_B078FFX7Q8/?tag=googleshopc0c-20&linkCode=df0&hvadid=292997020056&hvpos=&hvnetw=g&hvrand=17813181190053782205&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=9061009&hvtargid=pla-761395324232&psc=1.

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[15] Ibid., 470.

[16] Ibid., 39, emphasis added.

[17] As Francois Michaud et al. explain in "Artificial Emotion and Social Robotics", for instance, "Emotion is a concept increasingly used in designing robotic agents, especially for allowing the satisfaction of basic conditions for the robot survival, for responding emotionally to situations experienced in the world and to humans interacting with it. But psychological evidence also suggests that emotion plays an important role in managing social interactions in groups". One can't help wondering about the methodology for producing "psychological evidence" acceptable to robotics engineering and more crucially why it was needed in the first place. François Michaud et al., "Artificial Emotion and Social Robotics", in *Distributed Autonomous Robotic Systems* 4, ed. Lynne E. Parker, George Bekey, and Jacob Barhen (Tokyo: Springer, 2000), 121-130, https://doi.org/10.1007/978-4-431-67919-6_12.

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Connected or Disconnected?: Parent-Adolescent Relationships and Interactive Technology

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Young People and their Engagement with Health-related Social Media: New Perspectives

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Smartphones, Social Media Use, and Youth Mental Health

Elia Abi-Jaoude, Karline Treurnicht Naylor, Antonio Pignatiello

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Examining Parent versus Child Reviews of Parental Control Apps on Google Play

Turki Alelyani, Arup Kumar Ghosh, Larry Moralez, Shion Guha, Pamela Wisniewski

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Disruptive Play or Platform Colonialism? The Contradictory Dynamics of Google Expeditions and Educational Virtual Reality

Zoetanya Sujon

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"Good Social Media"?: Underrepresented Youth Perspectives on the Ethical and Equitable Design of Social Media Platforms

Melissa Brough, Ioana Literat, Amanda Ikin

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Zoetanya Sujon, London College of Communication, University of the Arts London

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