Fixation

by Christo Sims

American ingenuity, built on a foundation of science and engineering, has led our country to the forefront of innovation and discovery in the 19th and 20th centuries and has changed the basis of our economy. In the 21st century, scientific and technological innovations have become increasingly important as we face the benefits and challenges of both globalization and a knowledge-based economy. To succeed in this new information-based and highly technological society, all students need to develop their capabilities in STEM to levels much beyond what was considered acceptable in the past. A particular need exists for an increased emphasis on technology and engineering at all levels in our Nation's education system.

A National Action Plan for Addressing the Critical Needs of the U.S.
Science, Technology, Engineering, and Mathematics Education System
National Science Board, The National Science Foundation[1]

To prepare Americans for the jobs of the future and help restore middle-class security, we have to out-educate the world… The Obama Administration stands committed to providing students at every level with the skills they need to excel in the high-paid, highly-rewarding fields of science, technology, engineering, and math.

"Educate to Innovate" WhiteHouse.gov[2]

There are no "developed" and "developing" countries anymore. There are only H.I.E.'s (high imagination-enabling countries) and L.I.E.'s (low imagination-enabling countries). That is, countries that nurture innovation and innovators and those that don't.

Thomas Friedman[3]

Occupations with the Most Projected Job Growth between 2012-2022

Bureau of Labor Statistics, United States Department of Labor[4]

2012 median annual wage (dollars)

1. Personal care aides 19,910
2. Registered nurses 65,470
3. Retail salespersons 21,110
4. Home health aides 20,820
5. Combined food preparation and serving workers,
   including fast food 18,260
6. Nursing assistants 24,420
7. Secretaries and administrative assistants, except legal,
   medical, and executive 32,410
8. Customer service representatives 30,580
9. Janitors and cleaners, except maids and housekeeping cleaners 22,320
10. Construction laborers 29,990
11. General and operations managers 95,440
12. Laborers and freight, stock, and material movers, hand 23,890
13. Carpenters 39,940
14. Bookkeeping, accounting, and auditing clerks 35,170
15. Heavy and tractor-trailer truck drivers 38,200
16. Medical secretaries 31,350
17. Childcare workers 19,510
18. Office clerks, general 27,470
19. Maids and housekeeping cleaners 19,570
20. Licensed practical and licensed vocational nurses 41,540
21. First-line supervisors of office and administrative
    support workers 49,330
22. Elementary school teachers, except special education 53,400
23. Accountants and auditors 63,550
24. Medical assistants 29,370
25. Cooks, restaurant 22,030
26. **Software developers, applications** **90,060**
27. Landscaping and groundskeeping workers 23,570
28. Receptionists and information clerks 25,990
29. Management analysts 78,600
30. Sales representatives, wholesale and manufacturing, except
    technical and scientific products 54,230

Contents

1| Introduction

We are familiar with social reformers who promise "cutting-edge" technological and educational remedies for entrenched social problems. We are, for example, accustomed to arguments, like those quoted at the opening of this book, that prescribe educational interventions focused on science, technology, and innovation in order to combat the fallouts of economic globalization. Perhaps we have also heard about how Massively Open Online Courses will radically democratize access to knowledge and hence opportunities, or about how low-cost laptops and cell phones will launch impoverished nations and persons into the "digital age," or how internet-enabled peer-production will democratize economics, politics, and culture, or, further into the past, how computers will "blow up the school," or how the United States' mediocre educational system has put the "nation at risk," or how the motion picture will make a perfectly efficient educational system possible, and so on.[5] If we are familiar with claims of this sort, then we are equally aware that actual educational and technological reform projects have rarely matched reformers' lofty aspirations.[6] It is thus not surprising when a "cutting-edge" technological or educational remedy is unable to fulfill the good intentions of those who designed and proselytized it. What is puzzling is how so many of us hope, and even demand, that this time will be different.

This book is based on a multi-year ethnographic study of the design and launch of one of the more ambitious and well-supported American educational reform projects during the first decades of the new millennium, a project that aimed to reinvent schooling for the twenty-first century. The "Downtown School for Design, Media and Technology"

(henceforth the Downtown School) opened in lower Manhattan in the fall of 2009 after years of planning by a team of accomplished designers of media technologies, progressive educational reformers, scholars, and officers from major philanthropic foundations.[7] The school's founders had designed the school as a new model for education, one tailored for the increasingly interconnected and technologically saturated world of the twenty-first century. According to their planning documents, both the world and children had changed in dramatic ways, but conventional schooling had not kept up. The Downtown School would overcome this disconnect by meeting students where they presumably lived their lives, it would be a "school for digital kids," as the school's tagline read, and the entire pedagogy would be organized like a game. Instead of the rote and boring activities that were common at conventional schools, students at the Downtown School would spend their days actively engaged as they creatively worked through complex challenges in designed game worlds. Rather than passively consuming media, technology, and knowledge, students at the Downtown School would learn to be creative "makers" and "innovators" of the latest media, technology, and knowledge. In doing so they would learn to "take on" the identities of scientists, designers, inventors, programmers, entrepreneurs and other creative and tech-savvy professionals. What is more, the school would offer its services to students from any background. Thus the school would equitably and engagingly prepare young people for the increasingly interconnected and competitive world and job market of the twenty-first century.

This book pursues two central aims. First, the book offers an ethnographic perspective on a family of prescriptions for social change that has become especially popular and influential in the early decades of the twenty-first century, and not just for the West, but also for many other parts of the world. These pervasive and diverse prescriptions share

the assumption that economic opportunities can be made plentiful, entrenched social divisions can be uprooted, and personal capacities and fulfillments can be unleashed by propagating the success strategies of Silicon Valley and other high-tech hubs of "innovation." As with modernizing reformers of the nineteenth and twentieth centuries, many of these contemporary reformers hope to transform society through the development and deployment of seemingly novel educational and technological remedies. And like before, many of us who do not work on the frontlines of reform expect these reformers to succeed while also sometimes questioning their relevance. A good portion of this book examines the somewhat counter-intuitive ways in which a highly trained and well-resourced group of cutting-edge reformers not only helped remake the organizational forms that they aimed to transform, but also helped entrench more deeply the very social hierarchies they hoped to uproot.

Second, this book also explores how the remaking of political and economic orders – and especially class relations – depends in part on the ongoing production of enthusiasms for new rounds of cutting-edge reform, even amongst many of those who witness the shortcomings of their efforts firsthand, and thanks in part to a more general tendency to delegate the responsibility for "fixing" society to educational reformers and technologists.[8] Many analysts in the social and human sciences account for the perpetuation and expansion of political and economic arrangements by pointing out that so many aspects of social life – careers and professions, institutions and bureaucracies, disciplines and knowledges, infrastructures and technologies, states and corporations – are entangled in relations that sustain and often spread these larger systems. It is because of the vast, interwoven, and heterogeneous character of these relations that analysts often allude to capitalism and the state, or more recently an apparatus, a complex, or a discipline, as

having a life of its own.[9] While such systemic and epochal accounts provide helpful insight into the persistence and expansion of structural relations, they do not adequately account for how these settlements are made, remade, and lived in what anthropologist Anna Tsing refers to as the "sticky materiality of practical encounters."[10] Sedimented institutional arrangements endure and spread in part because many smart and well-intentioned people devote much of their lives not only to keeping aspects of these systems running, but also to advocating for their perpetual reinvention. Moreover, in societies that aspire to liberal democratic ideals, the reproduction and expansion of structural relations depends in part on many others hoping and demanding that contemporary reformers succeed where their predecessors did not. Yet many grand theoretical accounts of systemic endurance reduce these reformers to either cultural dopes or conspirators or both.[11] From such perspectives, either reformers do not know the consequences of what they do, or they know of these consequences but conceal them in order to protect their "real" interests. While there is of course some truth to these explanations – all people are naive, self-interested, and duplicitous to some degree – neither is an adequate account on its own, nor are they convincing in combination. Many reformers are neither mindless "cogs in the machine," nor "specialists without spirit," nor agents of the state, nor soldiers of capitalism, nor cynical peddlers of remedies that they know will not work. Rather, many reformers carry out their work not only willingly but also enthusiastically. Many are highly educated, know something of the challenges they face, and have sincere yearnings to make a "positive" contribution to the world.[12]

This book examines these issues through several lines of analysis that entwine in what I call "fixation." The term can be a helpful analytic lens when it is considered in two interdependent ways. In one sense, the term draws attention to how advocates and

4

executors of reform often become fixated on particular remedies, as well as particular loci for remedial behavior, once a social problem has been identified. In this sense, the term fixation refers to a more subjective experience that directs intense attention, interpretive resources, feelings, and values towards something rather narrow, and often at the expense of just about everything else. The enduring expectation that we can fix society by fixing our schools, and that new technological innovations provide unprecedented opportunities for doing so, can be seen as a collective fixation in this sense.[13] While such an account can be illuminating, it is also profoundly limited in that it does not explain how attachments to certain means and loci of remediation take root in material life, nor how these attachments often manage to mostly survive encounters that should seemingly undermine them. Here, a second interpretation of the term fixation is helpful, one that is older, less psychological, and also less pejorative. With roots in alchemic practices, the term fixation can also refer to processes that transform volatile energies and forces into something more settled and stable. In this sense, fixation suggests material practices of trying to make order from apparent disorder, of trying to tame a world that seems out of control. The main argument of this book is that it is through concerted efforts to stabilize volatile and unwieldy forces, and especially attempts to "fix" worlds that appear to be broken, that more ideological fixations tend to grip well-intentioned people in ways that contribute to unexpected and often counter-productive outcomes. Paradoxically, this fixation helps lock social processes into an enduring and regressive form while also renewing faith in the promise of similar remedies. Exploring how this happens is the second main purpose of this book.

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This book is organized so as to move back and forth between fixations about particular social remedies and the processes by which reformers try to stabilize the unruly worlds they help produce by way of their interventions. Chapter 2 traces the ideological contours and historical antecedents of calls to use new educational and technological interventions so as to "fix" society, and in particular the enduring problem, from the standpoint of democratic ideals, of entrenched social inequities. It describes how the Downtown School was imagined and planned from the confluence of several educational and technological reform traditions so as to become a much supported and celebrated model of social transformation for the "connected age." Chapter 3 is the first in a series of chapters that explores how attachments to particular remedies bracket reformers' understandings and thus shape their plans, how unanticipated forces routinely perforate these brackets and torque the intervention in unexpected ways, and yet how reformers tend to respond to these turbulent forces not so much by questioning the premises of their remedies as by reaching for stabilizing resources, even though doing so often undermines reformers' stated values and political-moral commitments. The first in this series of chapters, chapter 3, focuses on how remedial bracketing limits and distorts how reformers conceptualize the role of space in their projects. The chapter does so by contrasting the reformers' perspectives on designing loci for "learning" with the ways that the parents and caregivers of students understood and navigated those same spaces. Chapter 4 examines how the reformers' planned pedagogic innovations worked in practice. The chapter details and analyzes the surprising disparity between the limited role of the school's innovative practices in everyday routines and yet their prominence in community rituals

6

and discourses. Chapter 5 focuses on how remedial bracketing shaped the ways in which reformers imagined subjects that would be amenable to and tractable with their proposed intervention. It contrasts reformers' assumptions about contemporary young people's identification with new media technologies with the ways that students negotiated identification and division with each other in adult-controlled educator spaces and online. Chapter 6 explores how powerful local participants, in this case privileged parents, exerted unanticipated pressures on reformers by both torqueing the project toward collapse while simultaneously offering relief and support in exchange for power sharing. The conclusion, chapter 7, addresses the questions raised above in a more comprehensive manner. It does so by knotting together the main processes analyzed in the earlier chapters – remedial bracketing, torqueing, stabilizing, and sanctioned counter-practices – into a process I call "fixation." It also offers some provisional ideas about how differently positioned persons could potentially respond to the challenges the book raises. The appendix offers a reflection on the theoretical and methodological approach that guided this investigation, its analysis, and its dilemmas.

While the specific details of the case examined in this book will be of greatest interest to readers who are concerned with technological change, the future of education, and privilege, the analyses developed may be of a more general interest. Many of the ideas that follow benefited not only from reading historical and ethnographic accounts of ill-fated attempts to fix society through education reform, but also, and even more so, from learning about the many failed attempts to fix social and political problems through the design and dissemination of new technologies, or through "development" projects, or through transnational humanitarian interventions, or through military escapades, and so forth.[14] In reading about the foundering of planned interventions in different domains,

common themes emerged that also helped me better understand puzzling aspects about my own case. For one, the architects and executors of ill-fated interventions often believed, or at least claimed to believe, that they could transform the world for the "better." The people who designed and undertook such projects were not simply out to make money or accrue power and status, although they may also have done so. In many cases, they and many others understood their work as a morally sanctioned project, or, more colloquially, as an attempt to "do good." Yet time and again reformers were unable to fulfill these good intentions in large part because they relied on especially thin simplifications of the people they aimed to help as well as of the circumstances into which they attempted to intervene. All relied on simplifying resources and assumptions in order to plan their interventions, were subsequently blindsided by unanticipated realities on the ground, and often ended up producing consequences that were not only unintended but also often antithetical to their stated aims. While the successes and failures of a planned intervention undoubtedly vary depending on the character of the intervention and the contingencies of the circumstances, the similarities across these various domains suggests that aspects of the social processes analyzed in the following chapters may be more general if certain conditions are in place. The book may also be of interest to reflexively inclined scholars writ large. After all, the social organization of scholarly labor encourages scholars to "fixate" on some aspects of the world at the expense of many others, and all scholars are entangled in various attempts to transform the world in ways that they imagine will be beneficial.

Finally, since much of this book focuses on the limitations of planned interventions, I want to caution against several hasty conclusions that a more careful reading would hopefully disabuse. First, the book is not attempting to argue that new educational and

technological forms should play no role in attempts to make emancipatory social change. Schools and new technologies are inextricable aspects of contemporary life and thus their design and organization will continue to have important political and social consequences. The book does not so much argue that educational reformers and technology designers should play no role in emancipatory struggles as try to show how reformers and technologists often play a limiting and even counter-productive role in these efforts. Second, in examining how planned interventions often "fail" the book is not making an argument in favor of neoliberal or market solutions as a supposedly preferable alternative to the top-down planning of statecraft. As the book shows, it was in part because of neoliberal rhetorics and policies – especially about "choice" and the virtues of entrepreneurialism – that reformers not only fell short of their stated aims but also contributed to remaking that which they hoped to change. Neoliberal rhetorics and policies do not escape the problems that this book addresses; rather, they make reformers accountable to even more centralized, and often thinner, simplifications while also shifting the responsibility for (not) uprooting entrenched social problems, like widening inequality, downward onto idealistic reformers and citizens. Finally, in examining the follies of planned interventions the book could be read as an endorsement of simplified libertarian or anarchistic principles. Again, I believe that a careful reading shows that it was in part because of idealizations about anti-authoritarianism that many people in positions of relative power were able to overlook and legitimate the ways in which they helped remake hierarchical divisions.

Notes

[1] National Science Board, the National Science Foundation (2007:2), "A national action plan for addressing the critical needs of the U.S. science, technology, and mathematics education system," accessed December 15, 2014, http://www.nsf.gov/nsb/documents/2007/stem_action.pdf

[2] See "Educate to Innovate," on WhiteHouse.gov, retrieved on September 6, 2013 from http://www.whitehouse.gov/issues/education/k-12/educate-innovate.

[3] Thomas Friedman "Obama, Snowden and Putin," *New York Times*, August 13, 2013, accessed August 15th, 2013, http://www.nytimes.com/2013/08/14/opinion/friedman-obama-snowden-and-putin.html?smid=pl-share.

[4] See "Table 1.4 Occupations with most job growth, 2012 and projected 2022," *Bureau of Labor Statistics, United States Department of Labor*, accessed May 20th, 2014, http://www.bls.gov/emp/ep_table_104.htm.

[5] On the democratizing potential of Massively Open Online Courses see Daphne Koller's 2012 TED talk, retrieved on November 24, 2014, http://www.ted.com/talks/daphne_koller_what_we_re_learning_from_online_education?language=en. On the promise of helping impoverished people from around the world with laptops see Nicholas Negroponte's 2006 TED talk on One Laptop Per Child, retrieved on November 24, 2014, http://www.ted.com/talks/nicholas_negroponte_on_one_laptop_per_child?language=en. On the promise of cell phones for economic development see Jensen (2007). On the prediction that the computer would blow up the school, see Papert (1984). For a similar claim about motion pictures see Thomas Edison, quoted in Buckingham (2007: 50). The claim that the educational system has put the "nation at risk" was famously made by the National Commission on Excellence in Education in 1983. For a review of recurring promises about "new" educational technology, see Cuban (1986) and Buckingham (2007: 50-74). For a critical review of the promises that have been made about the democratizing potential of internet-enabled "peer-production," see Kreiss, Finn, and Turner (2010).

[6] See Tyack and Cuban (1995), Cuban (1986; 1990; 1996; 2001), and Buckingham (2007).

[7] I am using pseudonyms for the school and all participants in my study. Given the school's uniqueness, I am not able to preserve its anonymity from readers who wish to identify it. I have, however, made extensive efforts to preserve the anonymity of study participants.

[8] What used to be called "social reproduction" addressed many of these themes. As Willis (1981: 49) defines the term, "*Structural Reproduction* I take to refer to the replacement of that *relationship* between the classes (i.e. *not* the classes themselves) which is necessary for the continuance of the capitalist mode of production" (emphasis in original). Interestingly, "social reproduction" emerged as a major nexus of concern in the 1960s and 1970s in the United States (e.g. Bowles and Gintis 1976), Britain (e.g. Willis 1977), and France (e.g. Althusser 1971; Bourdieu and Passeron 1977) only to largely disappear during the 1990s (see Collins 2009). Most social reproduction theorists from the 1960s and 1970s focused on how schooling contributed to the reproduction of structural domination, and particularly class relations under capitalism. As such, social reproduction arguments inverted "official" liberal arguments and assumptions that figured schooling as a mechanism for meritocracy and equal opportunity. From the liberal perspective, schooling might not yet have achieved this ideal function, but it could be reinvented to do so. By contrast, social reproduction theorists argued that entrenched class divisions were a feature of capitalism and that schooling helped reproduce and legitimate those divisions. The main criticisms of social reproduction theories were that they were too economically deterministic, and hence left no room for maneuver on behalf of ordinary actors, and that they were too focused on class relations at the expense of other intersecting forms of domination (for a review of the responses to social reproduction theorists, see Levinson and Holland 1996). Willis' (1977) *Learning to Labor* was something of an exception in this regard as he explicitly set out to show how it was in part through the creative cultural productions of working class youth – some of which "penetrated" the

official ideology of schooling and its role in reproducing class divisions, while other cultural forms, such as sexist masculinity and racism, limited this recognition – that social reproduction was ironically secured (see Willis 1981 for a response to his critics). With the economic collapse of 2008, arguments about the structural dynamics of social reproduction have once again garnered broad interest (e.g. Piketty 2014), suggesting that non-deterministic accounts of social reproduction are crucially needed in both academic and popular debates.

[9] Here I have in mind all theoretical analyses that tend towards what C. Wright Mills ([1959] 2000) famously called "grand theory" and what Bourdieu (1977) criticized as the "objectivist" mode of theoretical knowledge. Fashions in theorizing have of course changed since Mills wrote his critique, but the proclivity for grand theorizing appears to be a rather enduring and influential aspect of not just academic debates but also of many popular social explanations. The new information and communication technologies of a given historical moment also appear to reliably inspire new rounds of techno-centric versions of grand theorizing. For example, Kevin Kelly, a founder of *Wired* magazine and influential commentator on technological change, recently introduced the notion of the "technium" (Kelly 2010), which he defined as "the greater, global, massively interconnected system of technology vibrating around us." Kelly's technium is a heterogeneous system that, "extends beyond shiny hardware to include culture, art, social institutions, and intellectual creations of all types," and a "self-reinforcing system of creation" (Ibid: 11-12). Kelly is hardly alone. See, for example, design theorist Benjamin Bratton's notion of "the stack," which Bratton (2014) describes as a new "accidental megastructure."

[10] Tsing's (2005) perspective has much in common with the methodological and theoretical problematic that guided this study and this book, an empirical/theoretical tradition that Lave (2011) and Holland and Lave (2001; 2009) refer to as "social practice theory" (see appendix).

[11] On the tendency of structural and structural-functionalist theories to reduce non-academics to "cultural dopes" see Hall (1981). A corollary of these "dope" argument are conspiratorial arguments in which various powerful actors or groups manipulate the masses and manage to get many lieutenants to do their bidding. For a critique of these conspiratorial arguments see Ferguson (1994).

[12] I wish to thank Lashaw (2008; 2010; personal correspondence) and Lave (personal correspondence) for first drawing my attention to the puzzling question of how progressive educational reformers manage to keep their hopes intact despite decades of "failed" reforms. I do not know of ethnographers other than Lashaw who have addressed this question in the context of educational reform.

[13] On the enduring character of this assumption see Cuban (1986; 2001), and Tyack and Cuban (1995).

[14] Exemplary scholarly work of perpetual education reform include Cuban (1990), Tyack and Cuban (1995), and Varenne and McDermott (1999). See also more recent work by Grubb and Lazerson (2004), which draws attention to the increasingly tight entwinement between schooling and workforce preparation, Payne (2008), and Mehta (2013). On the tendency to promise technological solutions for complex social and political issues, see Akrich (1992), Barbrook and Cameron (1996), Duguid (1996), Brown & Duguid (2000), Turner (2006), Dourish (2007), and Marx (2010), as well as the more public-facing Packer (2013) and Morozov (2013). On the recurring attempt to rely on technological remedies in order to fix schooling, and hence fix society, see Cuban (1986; 1996; 2001), and Buckingham (2000; 2007). On the failure of state-driven attempts to improve the human condition see (Scott 1999). On the ineffective yet depoliticizing effects of the "development industries" see Ferguson (1994). For a review of anthropological research on transnational humanitarianism see Ticktin (2014) and Mosse, ed. (2011). On militaristic fixations, see Errol Morris' documentaries on United States Secretaries of Defense Robert McNamara (2003) and Donald Rumsfeld (2013).