Uncontrolled: The Surprising Payoff of Trial-and-Error for Business, Politics, and Society

Jim Manzi
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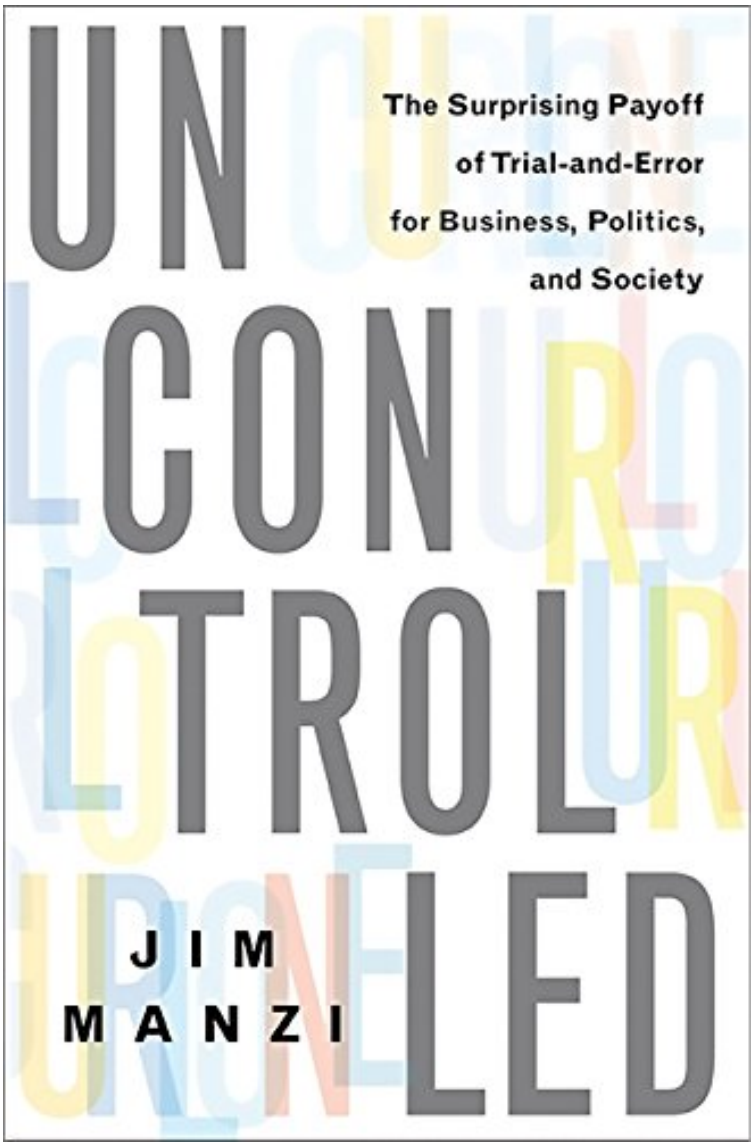

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Jim Manzi : Uncontrolled: The Surprising Payoff of Trial-and-Error for Business, Politics, and Society before purchasing it in order to gage whether or not it would be worth my time, and all praised Uncontrolled: The Surprising Payoff of Trial-and-Error for Business, Politics, and Society:

0 of 0 people found the following review helpful. An unexpected gem. The best social science book of the yearBy

Nelson AmayaManzi accomplished something remarkable with Uncontrolled. He put together an intellectually deep, lucid and constructive manifesto for how social sciences should help find "useful, reliable and non-obvious" solutions by drawing on epistemology, history, genetics, statistics, economics and business strategy - without ever losing its way in digressions, dropping the ball on rigor, or forgoing clarity. Carefully and comprehensively, Manzi builds his argument into a powerful dictum, close to the traditions of Adam Smith and Friedrich Hayek: "The foundation of social progress is the unconscious advance of trial and error through social evolution." (p. 242). Unpacking this insight is what Uncontrolled is all about.Manzi starts with the philosophical roots of induction in the writings of Francis Bacon and David Hume - and how they fared when Popper and Kuhn entered the picture. He describes the significant leap brought by three ideas. First, as the complexity of nature combines with humanity's pattern-seeking dispositions, experience and observation, the light in empiricism, become unreliable because we cast a shadow over them. Here is Manzi, quoting Bacon, on this: the human understanding is of its own nature prone to suppose the existence of more order and regularity in the world than it finds. (p. 6). Second, a departure from seeking ultimate causes towards searching practical, useful, knowledge fundamentally changed how progress in science is attained. Manzi summarizes this key point as a change in perspective: "The ultimate goal of Baconian science is not philosophical truth; it is improved engineering." (p. 8). And third, the mother of all induction problems: generalizability. As Hume noted, the reliability of inductions must necessarily be contingent, makeshift, as there will always be a chance that an undiscovered causal rule lurks behind whatever we gauged with our experience. These three ideas posit a challenge: "[] without rules that generalize from experience, we have nothing more than a catalog of data, but inductive evidence can never tell us with certainty that our generalizations are correct." (p. 15). Enter experimental science.Experimentation cuts through the three features that make our observations of nature so difficult: high causal density, that is, multiple causal relationships interacting in non-linear ways; holistic integration, how complex phenomena only arises, emerges, along the web of the interaction of a systems' components - but not in isolation; and motivated reasoning, as Bacon already foresaw. Statistician George Box put it sardonically: "To find out what happens when you change something, it is necessary to change it", and experimentation does precisely that. Since James Lind's 1747 allocation of treatments for scurvy in the British ship Salisbury, Pierce's 1884 randomized experiment on the perception of weights, and Neyman Fisher's field randomization of fertilizer, experimentation has fundamentally changed how we accumulate knowledge. By accounting for white-coat biases that can inadvertently assign treatments to non-comparable groups, and holding approximately equal the unobserved differences in the members of control and treatment groups, randomization opens a window to causality - despite the complexity of the environment and the motivated reasoning of experimenters. Randomization, therefore, "[] is another statement of epistemic humility." (p. 76).The promise of experimentation, however, is not without its caveats. Immediately after tracing the history and importance of randomization, Manzi jumps to the criticisms and limitations underlying experiments - drawing on Heckman's 1991 paper "Randomization and social policy evaluation" and other sources. The problems abound. Most notably, the generalizability from experimentation just doesnt do away with Hume's problem of induction: a single, well-run randomized experiment cannot convincingly show all hidden conditionals. Worse: the problem remains even after an experiment's replications. As Manzi asserts: "There is never an absolutely reliable probability distribution for external validity developed through replication." (p. 86). Even worse still: some phenomena, like macroeconomic shocks or epidemiological contagions, are not susceptible to experimentation and remain the arena of stories built around observational data. Experimentation can only tackle fundamentally local phenomena; econometrician Charles Manski (2011) puts it starkly: "A randomized experiment has no predictive power when interactions are global". So in areas like economics, as Manzi himself notes, "the maze of causation is now far beyond anything that physicists or biologists typically have had to address." (p. 102).Yet there is room for experimentation somewhere else, somewhere where it can actually yield practical, tangible, benefits: business. Manzi is the founder of Applied Predictive Technologies (APT), a firm that streamlines experimentation using software in the retail sector. He describes how a culture of experimentation rose in banking, and later moved to other sectors, changing the landscape of business strategy: "Though individual companies will surely come and go, the experimental revolution is likely to become a permanent feature of the business landscape. " (p. 148), and it has, as companies like Google or Netflix run thousands of experiments to improve their services using basically the same methods Neyman and Fisher devised decades ago. Manzi's practitioner's experience hits home here, showing what has come out of years of the experimental work in business: "First, innovative ideas rarely work. Second, those that do work typically create improvements that are small compared to the size of the strategic issues they are intended to address, or as compared to the size of the dreams of those who invent them." (p. 166). If experimentation becomes more widespread, this lesson will become even more valuable in the areas where randomization strategies are incipient, and even more where they have been already oversold.The fertile ground for experimentation in business is less so in the areas of public policy. Manzi notably summarizes the available randomized control trial (RCT) evidence in areas like crime, education, welfare, political science and economics in the U.S. as of 2011. From here he sets out a course of reform that puts his evolutionary epistemology to practice along existing U.S. institutions, suggesting how to experiment more by facilitating state waivers on federal policies; to introduce an agency similar to the FDA that would promote and standardize

experimentation at different levels of government; using immigration as recruitment of human capital; unbundling welfare to distinguish the effects of education, healthcare, and other policies; among other prescriptions."We need freedom because we are ignorant" proclaims Manzi in the introduction of the book. And right he is.Now, there is one aspect of the book that was deeply disappointing. Uncontrolled misses by an inch the 5th star for one simple reason: the unbalanced coverage in discussing experiments in business vis-a-vis experiments in science and policy. The sections of the book on business experimentation cannot help but sound like a sales pitch, as the rigorous tone disappears when talking about business experimentation. This seems like a missed opportunity to show the results of business experimentation, and its a shame that the reader walks out from reading the book without a balanced grasp of experimentation in science and business alike.Besides this, after at least 3 readings of the book, I still find Uncontrolled inspired, erudite, and relevant. An impressive accomplishment.Coda:Uncontrolled deserves a follow-up, or at least a second edition. In recent years, two important things happened that deserve to be seen through the lens of this book. First, the conversation on experimental social science has changed a lot since the book was written, as RCTs have become more and more frequent and influential, especially in development economics where they have fundamentally changed the discussion on issues like microfinance (see American Economic Journal: Applied Economics, Vol. 7, No. 1 January 2015) or how the poor allocate cash transfers (see Banerjee et. al. (2017) "Debunking the Stereotype of the Lazy Welfare Recipient: Evidence from Cash Transfer Programs Worldwide"). Quasi experimental evidence has also become more widespread, and natural experiments could also help bridge the observational/experimental divide - something the book doesnt touch upon. Second, the replication crisis in some subfields of experimental psychology, mostly (and fortunately) irrelevant outside of academia and the pop-psychology book market, has exposed big methodological and sociological problems in experimentation, and I for one would like to see these problems filtered through Manzi's clarifying lens.1 of 1 people found the following review helpful. Using Experiments in Social Science and Public PolicyBy IvanWJim Manzi tries to make a case for the use of randomized field trials as a basis for public policy making. His book starts with a good introduction to the scientific method. He has a discussion of Popper and Kuhn's work in the philosophy of science. He then moves through physics, astronomy and chemistry suggesting that theories can be developed in any way that is desired but convincing evidence for the correctness of a theory is only obtained through experimentation and replication. He suggests that in physics, astronomy and chemistry there is low causal density which makes the determination of cause and effect quite straightforward to demonstrate. He then moves to biological and medical research where causal density is substantially higher and how first pairing and then random assignment into test and control groups was found to resolve the high causal density problem and allow for a convincing determination of cause and effect. He next discusses his personal experience with business experimentation and the successes and problems with randomization field experiments. He rightly believes that with human behaviour cause and effect is very difficult to interpret. Then he moves to the social sciences which demonstrate high causal density and integrated holism. He suggests that although randomized field trials have not been used much to date, their use is increasing and should be welcomed. Finally, he extrapolates these ideas into the field of public policy. He shows how some well-known linear regression models and natural experiments have not survived the process of replication. The last part of the book discusses where he sees randomized field trials going into the future. He makes a good case for innovation in the marketplace and how this will lead growth through evolutionary and revolutionary processes. His case for the use of experimentation in the public policy process is more difficult to imagine being adopted. This does not deter Manzi from calling to wide-scale adoption of randomized field trials to support public policy decisions. He does however make a persuasive case for libertarianism as a means to an end.0 of 0 people found the following review helpful. Good StuffBy derwinI don't agree with everything the author says, but he has thought and researched very carefully about the scientific process in the social sciences and its flaws. Probably the best single book to articulate why scientists operate the way they do and why social scientists often fall short of that standard. For what could be dry material, interestingly written. Recommended.

How do we know which social and economic policies work, which should be continued, and which should be changed? Jim Manzi argues that throughout history, various methods have been attemptedexcept for controlled experimentation. Experiments provide the feedback loop that allows us, in certain limited ways, to identify error in our beliefs as a first step to correcting them. Over the course of the first half of the twentieth century, scientists invented a methodology for executing controlled experiments to evaluate certain kinds of proposed social interventions. This technique goes by many names in different contexts (randomized control trials, randomized field experiments, clinical trials, etc.). Over the past ten to twenty years this has been increasingly deployed in a wide variety of contexts, but it remains the red-haired step child of modern social science. This is starting to change, and this change should be encouraged and accelerated, even though the staggering complexity of human society creates severe limits to what social science could be realistically expected to achieve. Randomized trials have shown, for example, that work requirements for welfare recipients have succeeded like nothing else in encouraging employment, that charter school vouchers have been successful in increasing educational attainment for underprivileged children, and that community policing has worked to reduce crime, but also that programs like Head Start and Job Corps, which might be politically

attractive, fail to attain their intended objectives. Business leaders can also use experiments to test decisions in a controlled, low-risk environment before investing precious resources in large-scale changes the philosophy behind Manzi's own successful software company.In a powerful and masterfully-argued book, Manzi shows us how the methods of science can be applied to social and economic policy in order to ensure progress and prosperity.

David Brooks, New York Times[Manzi's] tour through the history of government learning is sobering, suggesting there may be a growing policy gap. The world is changing fast, producing enormous benefits and problems. Our ability to understand these problems is slow. Social policies designed to address them usually fail and almost always produce limited results. Most problems have too many interlocking causes to be explicable through modeling. Still, things don't have to be this bad. The first step to wisdom is admitting how little we know and constructing a trial-and-error process on the basis of our own ignorance. Inject controlled experiments throughout government. Feel your way forward. Fail less badly every day.Wall Street Journal[O]ffers much to digest.... Uncontrolled is at its most provocativewhen Mr. Manzi considers the largely unmet potential of controlled experimentation to improve outcomes in social science and government policy.... A vigorous book, pulsing with ideas.Arnold Kling, National The ideas in this book are important.... This is a provocative book for people who are interested in how social science relates to public policy.