RSM 2040: Progress, or How Big Things Get Done

University of Toronto Rotman | Fall 2026 | Graduate Seminar

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Course held 145-345pm Tuesdays in RSM 127, 105 St George)
First class Sep 15, Final class Dec 1

Course Scope

This seminar investigates why at *rare* times, places, and organizations, big things happen. We mix economic history, economic theory, history of technology, history of thought, and philosophy. You will learn what causes new things to be *possible*, what causes someone to *attempt* to do them once possible, and what causes them to be *adopted* and to spread. In this class, you are treated as serious scholars; reading is fairly intense, but very interesting, and you are expected to contribute to our discussions. We will learn from each other.

Why is this class in a university? Because if you are very lucky, you will be the decisionmaker on something that matters. Day-to-day management of organizations is a perfectly acceptable way to spend your life. Making something new, such that when people in the future look out the window, they see your handiwork, is better. Understanding how new things, especially big new things, happen is required if you actually want to effect that. By the end of the term, you will understand what progress "is", why the modern world became modern, whether liberty, or science, or cities, or certain organizational forms are required for progress, the extent to which cultural or economic factors matter, how we balance progress against risks, and how we balance coordination against local knowledge.

Required Readings

All readings will be made available on Quercus. The optional readings are for your interest. The mandatory ones are **mandatory** - I will provide notes on what to look out for. If you are not willing to do the readings required, this is not a good elective for you to take.

Phones and Laptops

This is a seminar-style class. For this reason, you **may not** take out phones or use laptops during class. Trust me - there is good empirical reason to believe this will help your learning, and that of your classmates.

Weekly Schedule

Week 1 – SEP 15 – What is "progress"?

Summary What is 'progress'? Why is the idea of progress novel in human history? How surprisingly much progress have we achieved in some domains? What is the benefit of progress? Who opposes progress?

Readings
J. B. Bury, *The Idea of Progress* (1920), **Introduction**
Marquis de Condorcet, *Sketch for a Historical Picture of the Progress of the Human Mind* (1795), **Introduction**
Robert Nisbet, *History of the Idea of Progress* (1980), **Introduction**
Paul A. David (1990), "The Dynamo and the Computer", *AER P&P*

Optional
Hans Rosling, *Factfulness*, **Ch. 1–3**
William D. Nordhaus (1996), "Do Real-Output and Real-Income Measures Capture Reality? The History of Lighting" in *The Economics of New Goods*
Marquis de Condorcet, *Sketch for a Historical Picture of the Progress of the Human Mind* (1795), **remaining chapters**
Stanford Encyclopedia of Philosophy, "Progress" (online)
Schumacher, *Small is Beautiful*

Week 2 – SEP 22 – What's Possible: The Industrial Revolution

Summary Why is the Industrial Revolution the cutoff between the Malthusian and post-Malthusian world? What was daily life like in even rich societies prior? What did people think was happening during the IR? How did it happen, anyway?

Readings
Joel Mokyr (2021), "The Holy Land of Industrialism", *JBA*
Robert C. Allen (2017), *The Industrial Revolution: A Very Short Introduction*, **Ch. 1-3**
Engels (1844), *The Condition of the Working Class in England*, **Ch. 7**
Deirdre N. McCloskey (2016), "The Great Enrichment: A Humanistic and Social Scientific Account", *SSH*

Optional
Almelhem et al (2026), "Enlightenment Ideals and Belief in Progress…", *QJE*
Jérôme Carcopino, *Daily Life in Ancient Rome*, **Ch. 1–2**
Charles I. Jones (2001), "Was an Industrial Revolution Inevitable? Economic Growth over the Very Long Run.", *BEJ:Macro*
Peter Temin (1997), "Two Views of the British Industrial Revolution", *JEH*
Kenneth Pomeranz, *The Great Divergence*, **Ch. 6**

Week 3 – SEP 29 – What's Possible: Is Science Necessary?

Summary Is basic science necessary for progress? If so, what kind? How do we know? Can the private sector provide this?

Readings Vannevar Bush (1945), *Science: The Endless Frontier*, **Ch. 1-5**
Michael Polanyi (1962), "The Republic of Science", *Minerva*
Bruno Latour, *Laboratory Life* (1979), **Ch. 2**
Nathan Rosenberg (1990), "Why Do Firms Do Basic Research?", *RP*
Daniel Gross & Bhaven Sampat (2023), "America, Jump-Started: World War II R&D and the Takeoff of the U.S. Innovation System", *AER*

Optional David A. Hounshell (1988), *Science and Corporate Strategy: DuPont R&D*

Week 4 – OCT 6 – What's Possible: Are Cities Necessary?

Summary Why does progress occur in lumpy bursts rather than being more evenly spread across space? What exactly do agglomerations do? How can we create new ones?

Readings AnnaLee Saxenian (1994), *Regional Advantage*, **Intro & Ch. 1**
Paul Krugman (1991), "Increasing Returns and Economic Geography", *JPE*
Josh Lerner (2009), *Boulevard of Broken Dreams*, **Ch. 2**
Tom Wolfe (1983), "The Tinkerings of Robert Noyce", *Esquire*
Rajkumar et al. (2022), "A Causal Test of the Strength of Weak Ties," *Science*

Optional Enrico Moretti (2012), *The New Geography of Jobs*
Edward Glaeser (2005), "Reinventing Boston: 1630-2003", *JEG*
Serafinelli & Tabellini (2022), "Creativity over Time and Space", *JEG*

Week 5 – OCT 13 – What's Attempted: Is Liberty Necessary?

Summary What role does central planning play in progress? Can illiberal societies fundamentally contribute? How does this explain California?

Readings F. A. Hayek (1945), "The Use of Knowledge in Society", *AER*
Amartya Sen (1999), *Development as Freedom*, **Ch. 2**
James C. Scott (1998), *Seeing Like a State*, **Ch. 1**
Yuen Yuen Ang (2016), *How China Escaped the Poverty Trap*, **Ch. 2**
Stewart Brand (1995), "We Owe It All to the Hippies", *Time*

Optional James C. Scott, *Seeing Like a State*, **Introduction**
John Markoff (2005), *What the Dormouse Said*

Week 6 – OCT 20 – What's Attempted: Great Man Theory

Summary Is progress driven by great men and women, or by great institutions? Are there important tradeoffs here?

Readings Thomas Carlyle (1840), *The Hero as Divinity*, **Selection**
William Ogburn (1926), "The Great Man versus Social Forces", *Social Forces*
Leo Tolstoy (1869), *War and Peace*, Second Epilogue
Benjamin F. Jones (2009), "The Burden of Knowledge and the Death of the Renaissance Man", *RESTUD*
Michael Bliss (2007), "Who Discovered Insulin?" in *The Discovery of Insulin*

Optional Alfred D. Chandler (1990), *Scale and Scope*, **Ch. 2**
Alex Bell et al (2019), "Who Becomes an Inventor in America?", *QJE*
Joseph Schumpeter (1942), *Capitalism, Socialism & Democracy*, **Ch. 7**
Thomas P. Hughes, *American Genesis*

Week 7 – OCT 27 – What's Attempted: Why does Ambition Vary?

Summary Holding incentives constant, why do places, times, and orgs differ in their ambition toward progress? What do ambitious people do?

Readings Max Weber (1905), *The Protestant Ethic*, **Ch. 1**.
William J. Baumol (1990), "Entrepreneurship: Productive, Unproductive, and Destructive", *JPE*
Dan Chiasson (2019), "The Man Who Built the Bauhaus", *New Yorker*
Bazzi et al (2020), "Frontier Culture: The Roots and Persistence of Rugged Individualism in the United States", *Ecta*

Optional Howard S. Becker (1982), *Art Worlds*, **Ch. 1**.
Alexis de Tocqueville, *Democracy in America*, **Vol. II, Book 2, Ch. 5**
Brian Cowan, *The Social Life of Coffee*
Randall Collins, *The Sociology of Philosophies* (Vienna passage)

Week 8 – NOV 3 – What's Attempted: Do Incentives Matter?

Summary Does 'progress' respond to incentives? How do you get scientists, and policymakers, and CEOs, and students, to pursue risky, high-reward projects?

Readings Gustavo Manso (2011), "Motivating Innovation", *JF*
Pierre Azoulay, Joshua Graff Zivin & Gustavo Manso (2011), "Incentives and Creativity: Evidence from the Academic Life Sciences", *RAND*
B. Zorina Khan (2015), "Inventing Prizes: A Historical Perspective on Innovation Awards and Technology Policy", *BHR*
Bloom et al (2019), "A Toolkit of Policies to Promote Innovation", *JEP*
Andrew Russell and Lee Vinsel (2016), "Hail the Maintainers", *Aeon*

Optional Nathan Rosenberg, *Inside the Black Box*, **Ch. 6**
Morgan Kelly & Cormac Ó Gráda (2016), "Adam Smith, Watch Prices, and the Industrial Revolution", *QJE*
Hopenhayn et al (2006), "Rewarding Sequential Innovators: Prizes, Patents, and Buyouts", *JPE*

Week 9 – NOV 10 – What's Adopted: What organizations work?

Summary Why do firms and governments have 'bureaucracies' if they hinder progress? Do they actually do so? If yes, do we have the tradeoff right? Which organizations diffuse new things?

Readings Rebecca Henderson & Kim B. Clark (1990), "Architectural Innovation", *ASQ*
Statecraft interview, "How to Replicate Operation Warp Speed"
Ashish Arora, Sharon Belenzon & Andrea Patacconi (2018), "The Decline of Science in Corporate R&D", *SMJ*
Ben Rich & Leo Janos (1994), *Skunk Works*, **Ch. 2 and 3**
James March (1991), "Exploration and Exploitation in Organizational Learning", *Org Sci*

Optional William R. Kerr, Ramana Nanda & Matthew Rhodes-Kropf (2014), "Entrepreneurship as Experimentation," *JEP*
Daron Acemoglu, Philippe Aghion & Fabrizio Zilibotti (2006), "Distance to Frontier, Selection, and Economic Growth", *JEEA*
William B. Bonvillian & Richard Van Atta (eds.), *The DARPA Model for Transformative Innovation*
Statecraft, Interview with Jen Pahlka

Week 10 – NOV 17 – What's Adopted: When is Progress Slow?

Summary When should we slow progress down? When is it slow though we don't want it to be? How do we decide on risk? Why is progress sometimes so hard?

Readings W. J. Baumol and W. G. Bowen (1965), "On the Performing Arts", *AER*
Atul Gawande (2013), "Slow Ideas", *The New Yorker*
Austan Goolsbee & Chad Syverson (2023), "The Strange and Awful Path of Productivity in the U.S. Construction Sector", *Working Paper*
Leopold Aschenbrenner, *Situational Awareness* (2024), **Ch. 1**
Albert O. Hirschman (1967), "The Principle of the Hiding Hand", *The Public Interest*

Optional Cass R. Sunstein, "Laws of Fear", *2001 working paper*
Diane Vaughan (1996), Chapter 8: The Eve of the Launch Revisited, in *The Challenger Launch Decision*
Wendell Berry (1997), "Damage", *UC Law Env J*
Bill Bonvillian (2024), "Operation Warp Speed", *SPP*

Chang-Tai Hsieh & Enrico Moretti (2019), "Housing Constraints and Spatial Misallocation", *AEJ:Macro*
The Transit Costs Project Final Report (esp. Introduction)

Week 11 – NOV 24 – What's Adopted: Missions and Industrial Policy?

Summary Should we coordinate on big things? How? When do big industrial policy pushes work and when do they fail? What is their theoretical basis?

Readings Chalmers Johnson (1982), *MITI and the Japanese Miracle*, **Ch. 1**
Leia Wang (2026), "Why China's AI Bubble is Also Industrial Policy", *ChinaTalk*
Pierre Azoulay et al (2019), "Funding Breakthrough Research: Promises and Challenges of the ARPA Model", *IPE*
Kantor and Whalley (2025), "Moonshot: Public R&D and Growth", *AER*
The Heilmeier Catechism

Optional Kenneth Arrow (1962), "The Economic Implications of Learning by Doing", *RESTUD*
Ernest Liu (2019), "Industrial Policy in Production Networks", *QJE*
Shantayanan Devarajan (2016), "Three Reasons Why Industrial Policy Fails", *Brookings*
Tishara Garg (2025), "Can Industrial Policy Overcome Coordination Failures", *Working Paper*

Week 12 – DEC 1 – Conclusion

Summary Let's hear from your term papers…and decide where to go from here

Readings Thomas Pynchon (1984), "Is It O.K. to Be a Luddite?" *NYTBR*
Patrick Collison & Tyler Cowen (2019), "We Need a New Science of Progress," *The Atlantic*
One paragraph summary of each term paper

Grading

Grading is based on three factors: a weekly one paragraph writeup you will submit alongside a simple "you get the points if you do it" quiz (20% total, due before each of classes 2 to 11), participation (10%), and a term paper (10% for proposal due by Class 5; 10% for a 3 page update by Class 8; 50% for the final paper). The term paper is intended to be a graduate term paper: you will pick a *specific* topic related to progress (e.g., "Why don't we build all houses in factories?", "How did solar power become so cheap?", "Are factory labor laws harmful or beneficial for developing countries?", "Why do some countries see faster AI adoption?"). **All papers will be circulated among the class, and with your permission, to my colleagues in the think tank and private sector world. A great term paper is one that gets you a job on the basis of its quality.**

On due dates: the proposal is due *before the beginning of Class 5.* The 3 page update, where the main ideas you are exploring are showing development, is due *before the beginning of Class 8.* A one paragraph description of your most interesting result is due *on the Friday before our final class.* You will be chosen, if time permits, to present for 3 to 5 minutes what you have found in our final class. Finally, the term paper itself, for which I expect roughly 20 pages, is due *on the Friday after our final class.*

On grading for the final paper, **undisclosed use of AI contrary to the policy below will result in a grade of zero.** I reserve the right to request a 15 minute oral examination of your paper after submission. A great term paper requires going deep into the library stacks, visiting physical locations, getting on the phone with experts, or compiling data no one has compiled before, to answer a novel question about how progress works in a very specific area.

AI Policy

You may use AI in this course. If you use AI to write, you must specify in an attached note precisely what AI assisted with. Understand that with AI, my expectation for the quality of your ideas and writing is higher than it used to be - you need to show that you are able to provide value above and beyond AI.

For readings, you must read them first yourself! Do not summarize them with AI. It will be very obvious in class if you do. I want your ideas; I can ask GPT for its thoughts without coming to class, as can your classmates.

An AI tutor will be made available for class at the following address to assist your studying: https://app.alldayta.com/university-of-toronto/progress-munk

Academic Integrity

Below is the standard boilerplate about not cheating. I should warn you that I take cheating in my course very seriously. In the broadest sense, cheating means representing the work of others as your own, whether on exams or on homework. **DO NOT CHEAT IN THIS COURSE.**

Academic Integrity is a fundamental value essential to the pursuit of learning and scholarship at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the UofT degree that you earn will continue to be valued and respected as a true signifier of a student's individual work and academic achievement. As a result, the University treats cases of academic misconduct very seriously.

The University of Toronto's Code of Behaviour on Academic Matters outlines the behaviours that constitute academic misconduct, the process for addressing academic offences, and the penalties that may be imposed. You are expected to be familiar with the contents of this document. Potential offences include, but are not limited to:

In papers and assignments:

- Using someone else's ideas or words without appropriate acknowledgement.
- Submitting your own work in more than one course without the permission of the instructor.
- Making up sources or facts.
- Obtaining or providing unauthorized assistance on any assignment (this includes collaborating with others on assignments that are supposed to be completed individually).

On tests and exams:

- Using or possessing any unauthorized aid, including a cell phone.
- Looking at someone else's answers.
- Misrepresenting your identity.
- Submitting an altered test for re-grading.

Misrepresentation:

- Falsifying institutional documents or grades.
- Falsifying or altering any documentation required by the University, including (but not limited to) medical notes.

All suspected cases of academic dishonesty will be investigated by the following procedures outlined in the Code of Behaviour on Academic Matters. If you have any question about what is or is not permitted in the course, please do not hesitate to contact the course instructor. If you have any questions about appropriate research and citation methods, you are expected to seek out additional information from the instructor or other UofT resources such as College Writing Centres or the Academic Success Centre.