The Improvisational Public

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Note to NYU colloquium participants:

These are early drafts of an introduction and two chapters of a book manuscript I am writing, on the nature of the "public" in a variety of domains. In the book I hope to make sense of a number of substantive and methodological issues that have preoccupied me over my career. I am also trying to write for a broader audience, people who are not specialists in political philosophy. Here I provide an extended discussion of climate policy and public education, as case studies in demonstrating the central claim I make, that political philosophy needs to engage more deeply with concrete, psychological and institutional detail. I welcome all comments and suggestions and am really grateful for your attention.

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Introduction: What is a public?

> It's the group sound that's important, even when you're playing a solo. You not only have to know your own instrument, you must know the others and how to back them up at all times. That's jazz.
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> --Oscar Peterson

One of the thrills of live music, which we are together rediscovering in 2021, is improvisation. The artists start with a commonplace, then transform it into something no one has heard before. Improvisational music unites intellect with emotion, tradition with innovation. It is a central feature of jazz, but improvisation and spontaneous interpretation are a part of all forms of music, from baroque to salsa to hip hop. In the alchemy of audience and artist, room and occasion, a public takes form that is local and contextual, alive to the moment.

Live music is not, of course, the only time we create a public. But it is one of the rare times we notice we are doing so. Virtually every subject of shared governance, at grand and mundane levels, takes as its ground an idea of the public. We talk explicitly about public education, public interest, public transit, public resources, public safety, and public health. When we talk about the environment, or democratic procedure, or war, we rely implicitly on a conception of the public: a set of assumptions about who is acting, on whose behalf they act, and towards what ends. The public is all of these things: the agent of our collective will, the basis of authority, and the object of concern. But because each of these subjects rests on different, even incommensurable values, we confuse ourselves when we fail to specify what we mean by a public – or, worse, we use the word to cover a multitude of sins, ranging from lazy thought to self-serving justification.

The pandemic has cast an unforgiving light on our negligent approach to public life, especially, but by no means exclusively, with regard to public health. A conception of the public focused primarily at the regional or even national level is no match for a pandemic that cares nothing for borders. The only effective, as well as morally required, conception of the public as both agent and object must be borderless itself and global in scope. Only when we define the public of "public health" in terms that expose its lack of borders can we focus on and realize the goals inherent in the project of protecting human well-being. Only when the public understands itself as the agent of its own health, through masking and vaccination, can the pandemic be overcome. And only when we come to see nominally "private" health care workers, grocery clerks, and delivery drivers as part of the public infrastructure, and support them in their work and lives, can we make the social and economic changes necessary to survive the next pandemic. All this in a single word. By challenging its hidden assumptions, we do political theory.

Conceptions of the public are irreducibly contextual, each reflecting a distinctive ideal of social and political community, anchored in the particulars of the goods or resources to be promoted, protected, or distributed. While individual acts obviously take on social meaning and resonance from the multiple communities in which they participate, both moral action and political choice rest upon rationally-grounded, individualist foundations. The philosophical puzzle is how to reconcile the fact that nearly all significant, positive efforts towards a better social world require structural, collective methods, with the fundamental questions faced by each individual: what should *I* do? How do *I* justify my acts, my life? Answering these questions requires locating individual reflective agency in a social world – locating the self in its many publics.

A lot of social and political thought and policy-making is governed by mathematical models. Economists sit atop the academic-political consulting edifice, typically as the primary experts giving advice across a range of social policy topics, from labor to health to climate policy. Their fluency in mathematics and models is key to their prestige, notwithstanding stunning failures of prediction, grounded in basic theoretical assumptions.[1] Worse, at the level of basic values, economics either pretends to a spurious neutrality, taking welfare just to be a matter of what people prefer, whatever that may be; or it makes strong claims about values and their measurement, leaving the defense of those values to others.

[1] See, e.g., Paul Krugman, "How Did Economists Get it so Wrong?," *NY Times Magazine* (Sept. 2, 2009); Joseph Stiglitz, "Where modern macroeconomics went wrong," Oxford Review of Economic Policy 34: 70-106 (2018).

By contrast, political philosophers have rarely, if ever, had a direct seat at the planning table, especially in the US.[2] This lack of influence is partly self-inflicted. Anglo-American political philosophy has oscillated between a bloodless utilitarianism that is essentially a non-technical version of welfare economics and so of no independent value as counsel; and a highly idealized image, inspired by Immanuel Kant and Jean-Jacques Rousseau, of society as rational, autonomous individuals seeking fair terms for social cooperation. The latter can be an inspiring way of articulating broad ideals of social equality, but it does little more than point in the direction of justice, leaving the hardest questions of construction and allocation for others to resolve.

The fundamental problem with both economics and mainstream political theory is that on the one hand, they aspire to a false precision in social and political choice, treating politics and justice as an equation with a hidden solution. On the other, they leave open as a matter of substance the hardest questions of political and social life. Political choice is both necessarily specific and inherently imprecise. That imprecision, or underdetermination, reflects the essential and unpredictable *agency* of the people and groups in the story. Those actors, the "we" and "us" of politics, are in constant mutual adjustment and negotiation. Elements of collective life and value can become sedimented and stable, for instance the fundamental consensus in every wealthy nation apart from the US that health care is a basic right of citizenship. But much at the margins and at the core of shared life remains in constant motion and transformation. This renegotiation is not a matter of what philosophers call "non-ideal" practice trying to take its bearings from a fixed ideal of political order. It is, rather, the organic ideal of ethical life itself. The public is not just the object of political and economic theory, but its subject as well. We need a way of thinking about politics and values that reflects the complexity of the "we" doing the thinking, as much as the contested nature of the interests we share.

I argue in this book that public life is more like jazz than math: individual or ensemble improvisation within shared thematic structures.[3] The performers interpret, transform, and transgress expectations; the overall structure gives direction and coherence to their joint performance. Jazz includes mathematics at its foundation: its harmonies, chord progressions, and dissonances operate under the physical laws of acoustics. But, when it works, jazz overflows those mathematical parameters.

Models of collective action, including my own, often rely on the trope of the string quartet, playing together without a leader but in constant adjustment.[4] But such models

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[2] While bioethicists play prominent roles in health policy discussions, outside that area William Galston, who served as deputy assistant for domestic policy in the Clinton administration is a rare exception, comparable perhaps to Isaiah Berlin's wartime role in the UK as a high-level diplomat. While many, if not most, US and UK policy makers have encountered John Rawls' *Theory of Justice* at some point in their education, there is little evidence of its effect. Indeed, Rawls himself seems to have been strongly influenced by 1950s British Labour policy. Katrina Forrester, *In the Shadow of Justice* (Princeton, 2020).

[3] [I discuss the jazz-not-math metaphor in a recent essay review for the LA Review of Books of two important books in political philosophy, by Hélène Landemore and Chiara Cordelli.]

[4] See, among others, Michael Bratman, *Shared Agency* (Oxford, 2014); Margaret Gilbert, *Joint Commitment: How We Make the Social World* (Oxford, 2013); and my *Complicity: Ethics and Law for a Collective Age* (Cambridge, 2000).

presuppose something very close to the ethical or economic theory model I criticize above, which presumes that theory delivers a right answer, and that it is our job, as individual moral agents, to realize that answer in our actions. Musicologists refer to the musical analogue of that theoretical model as the modernist model of Western musical aesthetics, which understands music to be essentially contained in a score, realized accurately and virtuosically by players, and enjoyed by a disinterested audience.[5] Jazz operates on a different model, descended from the African/Blues conception of a musical note -- not a specific pitch but a zone of sound to be played with and around -- to the notion of a performance as a singular fusion of players and scene.[6] Think of deliberative consultation as a form of improvisation, in which listening is essential -- having "big ears" is a defining compliment for a jazz player – and then collaboratively responding to the scene and moment in all their particularity.[7] At the level of politics, an analogy between jazz and democracy is a commonplace, featured for instance by Wynton Marsalis in his mission statement for Jazz at Lincoln Center.[8] But Marsalis uses it to describe the orchestral idea of an ensemble with a distinct leader and a unity of action that nonetheless profits from the individuality and space of experimentation given to its "sidemen." Here I mean here to emphasize the smaller, more egalitarian ensembles where leadership shifts and radical sounds emerge – think Ornette Coleman, and the jazz collectives he inspired in the 1960s.

This book develops the following claims: political theory must encompass the irreducibly contextual conception of a public, and the agency and activity of those creating it, reflecting a spirit of improvisation rather than replication. I take up a number of different topics, including climate, natural resources, education, public safety and order, the privatization of public services, and free speech and the constitution of the public sphere. A central part of the model of political thought I offer is reliance on international comparisons, as a way of demonstrating not just the fact of irreducibly varied thought, but also the possibility of making use of that variation as a resource for theory. I pay special attention to the history and politics of the US (especially California), France, Norway, and Germany, because these represent contrasting conceptions of the concept of liberal democracy; I aim to play their differences against their similarities. All are also, incidentally, places where jazz thrives.

[5] Garry Hagberg's "Ensemble Improvisation, Collective Intention, and Group Attention," *Oxford Handbook of Critical Improvisation Studies*, vol. 1 (Oxford, 2016) has been especially helpful here, but I was especially struck by a pre-performance lecture by pianist and composer, Myra Melford. See also the valuable article by Philip Alperson, "Improvisation and the Philosophy of Music," also in the *Handbook of Critical Improvisation Studies.*
[6] Ted Gioia, *How to Listen to Jazz* (Basic Books, 2016), pp. 81-82.
[7] Hagberg, "Ensemble Improvisation," p. 490.
[8] Lincoln Center's mission statement is here.

Chapter 2. Climate's public

1. Introduction

The climate crisis is a public crisis. There is no greater existential threat to us and the planet we live on, from rising seas, catastrophic flooding and fires, mass extinctions, droughts, and the human conflicts these will engender.[9] Because the greenhouse gas emissions responsible for the crisis don't stay within national borders, all nations need to act now in concert and to commit substantial resources – perhaps as much as 2-3% of GDP for wealthy nations – in order to avert the worst catastrophes.[10] Much of this spending may be returned, with interest, in the form of new economic opportunities and technologies. In the meantime, however, the costs of reducing our emissions and protecting ourselves from climate damage, which include paying the costs of poor nations at greatest risk, will loom very large in national, industrial, and individual budgets, in the form of taxes, higher prices, and costs involved in installing new technologies. The space of feasible international cooperation is limited by both strategic considerations and by differing national conceptions of the scope of our shared responsibilities as members of a global public. To whom do we owe these protective duties – co-nationals or non-nationals? Immediate successors or long-horizon future generations? Only humans or also non-human life (or even non-living parts of nature)? How little sacrifice is too little, and how much is too much?

While answers to these questions are partly a matter of the policies we can enact and sustain politically, they are at base matters of principle. But how do we discern and defend the principles that will resolve them?

Economic arguments play a crucial role in debates about how much we should do to slow or mitigate the crisis, ostensibly with rigorous empirical bases. Yet there has been little empirical research into how individuals, communities and nations differ across these relevant dimensions of value: shared commitments, faiths, orientations, conceptions of political history, or inclinations to altruism. The current policy debate has revolved largely around the reductive, technocratic term of a "social discount rate" and a derived "social cost of carbon," which mask the difficulty in resolving the underlying value disputes. In this chapter, I argue that an exclusively theoretical approach to the basic "how much?" question of climate policy cannot succeed except by relying on unarticulated value commitments and assumptions. To make progress on urgent questions of practice, we must move from a theoretical debate to one that engages directly in different views of these questions, in an example of improvisatory ethical and political dialogue. I argue that a more historically and empirically sensitive approach, which directly engages in the plurality of views and values, can provide the specificity we need to define our public commitments. Moreover, we leave behind the stance of pure theory with its spurious claim to a god's-eye view and realize ourselves as a public.

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[9] The World Economic Forum, no hotbed of alarmists, so described the climate crisis. *World Economic Risks Report* (2019).

[10] I derive this figure from the upper range of proposed "social costs of carbon," at $100/ton, total US greenhouse gas emissions (5,800 million tons in 2019) and US GDP. Percentages are comparable for other advanced economies. It reflects an estimate of the taxes needed to reduce emissions sufficient to keep global warming under 1.5 degrees C. Since, ideally, much of the tax revenue would be rebated to lower income individuals, or would offset other taxes, or would pay for new economic activity, this cost estimate is illusory. But the illusion has powerful political effects. See Nicholas Stern and Stiglitz, "The Social Cost of Carbon, Risk, Distribution, and Market Failures: An Alternative Approach." NBER Working Paper 28472 (2021).

2. The climate crisis as a question of publics

Until recently, the ethical question of climate change was a question about how to persuade a present generation enjoying the benefits of carbon-intensive activity – jet travel, meat consumption, construction, interior climate control – to take on some of the costs that their activities impose on future generations. This was almost entirely a question of intergenerational justice. Things have changed: the current generation now enjoys the benefits of carbon-intensive activities while at the same time choking on smoke, drowning in mud and rain, passing out from heat, or watching homes and businesses go up in flames. An economist might call this a triumph of internalization, except that many of those now suffering from climate change, especially in the developing world, have captured only the costs and none of the benefits.

All the current harms are on a steep upward slope, not compensated by easier Arctic shipping. Future people will suffer more, unless we significantly reduce carbon atmospheric emissions, invest in higher sea walls, fire-resistant habitats, new water supplies, and more efficient forms of agriculture. With greater-yet temperature increases, associated with greater-yet carbon-emissions levels, truly catastrophic harms are possible.[11] For instance, if temperatures were to rise by as much as 5 degrees Celsius, human life would be impossible in many currently inhabited areas – we could not metabolically dissipate the increased heat. The same would be true for many domesticated animals. Widespread failure of crops and fisheries would be likely. Large areas of today's lands would be underwater, putting surviving populations on the move, leading to civil conflict.[12] Disease patterns would transform. Many lives would be shortened or ended, and quality of life would plunge around the globe. As always, the poorest and most invulnerable would suffer the most: climate change is an accelerant of domestic and global inequalities.

To avoid the worst of these harms, we know that we need to dramatically reduce our emissions today, discover how to remove carbon already in the atmosphere, and protect people from the changes that are already baked into our warming planet. These costs cannot be handled just in the form of taxes on the very wealthy and the oil companies. The transformations associated with a decarbonizing economy are profound enough that they will be widely shared, not just in higher taxes, but also in much more restricted consumption choices: less travel, denser housing, less meat, less heating and cooling.

In responding to these realities, how high a value should we place on future interests or those of people living beyond our borders? Setting a high value on future interests, for instance, entails much more aggressive emissions reductions in the near future, as would setting a much higher priority on the welfare and protection of residents of island or low-lying nations, as opposed to deferring these efforts until a theoretical wealthier future. Current national policies, which mostly do very little to limit emissions, indicate a very low priority on the future, and little

[11] The most complete recitation of climate risks is in the Intergovernmental Panel on Climate Change Reports, including Volume II of the 2014 5th Assessment Report, and leaked versions of Volume II of the 6th Assessment Report, due to be released in February 2022. See also David Wallace-Wells, *The Uninhabitable Earth* (Tim Duggan Books, 2019).

[12] See Andrew Guzman's *Overheated* (Oxford 2013) for a powerful overview of the social effects of climate change.

consideration for the interests of non-nationals, who would receive many of the benefits paid for by the wealthy.

Philosophers concerned with the climate emergency have put most of their effort into arguing for action. They have sought to induce public and elite interest in taking the emergency seriously. Given the willful blindness or venal self-interest of many nations' politicians and special interests, these efforts are important, and I don't mean to disdain them. Building the intellectual capital to move the major national carbon emitters – the US, China, India, Brazil, Western Europe – to do something rather than nothing would be a significant accomplishment.

Perhaps it is enough for philosophers to join scientists in making clear the urgency of the situation, especially since proposals to restrain emissions to limit temperature gains to 1.5 degrees already seem quaint. But I think we can ask more of philosophy than showing the ethical and prudential unreasonableness of business as usual. Once we accept the urgency of public action, we still must face the question of what acts the public should take – how much, for whom, and how. These are questions of value choices amid scarcity, not the technical questions in the bailiwick of planetary scientists and engineers, and as such they call for the skills of philosophers. These subordinate normative questions about the extent of our appropriate commitment to the future and to non-nationals are substantially more complex than the binary moral question whether to do something rather than nothing. [13]

3. Economics' inadequacy to resolve the question

Much ink has been spilled outside philosophy in consideration of how much we should spend in order to alleviate the effects of climate change for the future. This debate has taken place in the context of welfare and environmental economics, and centers on the concept of the "discount rate" we can apply to benefits that our descendants will enjoy.

The idea of a discount rate expresses a kind of prudential common sense. We routinely prefer the certainty of a lower-value sure thing now to a higher-valued future possibility – the old saying about a bird in the hand. The adage discounts the future as compared with the present. And it works in the other direction. When we save for retirement, we don't need to salt away the full amount we foresee needing in retirement, but can instead take advantage of the magic of compound investment interest to increase our smaller contributions now to the needed sum ahead. We would be worse off now than we need to be were we to try to save more than the interest-discounted amount.

[13] Henry Shue's work has been a notable exception, and is especially powerful both in regard to sounding the alarm and in trying to apply philosophy to the more specific questions that remain once rescue is underway. See, e.g., his "Environmental Change and the Varieties of Justice," in *Earthly Goods: Environmental Change and Social Justice*, ed. Fen Osler Hampson and Judith Reppy (Cornell University Press, 1996), pp. 9-29; and "Historical Responsibility, Harm Prohibition and the Preservation Requirement," Moral Philosophy and Politics 2015; 2(1): 7–31. Dale Jamieson's early skepticism about techno-economic approaches to climate change is also important, in his "Ethics, Public Policy and Global Warming," *Science, Technology and Human Values* 17: 139-153.

Economists apply the logic of time-based discounting straightforwardly in their social analyses and models. They make use of the idea of a social discount rate to express the view that it would be irrational for us collectively to save more now than the future calls for. The notion that we should apply a social discount rate does not necessarily depend on devaluing the interests of future persons. An economist evaluating a project to build a roadway might, for example, foresee that it will bring $100 million in benefits per year over the next 20 years. But they will not simply multiply $100 million by 20 to get the sum of benefits, and then compare it to the construction cost. Rather, they will apply a discount factor (in the US, 7% annually) to those future benefits, to estimate the "net present value" of the investment. This discount rate reflects assumptions outlined by the pioneering economist-philosopher Frank Ramsey, first that the greater wealth (given economic growth) of people 20 years hence diminishes the marginal contribution to their net welfare of a given dollar; and second, that rational individuals tend to prefer current consumption over later consumption, within their own lives, for a further discount.[14] This latter assumption arguably confirms the view that applying a social discount rate doesn't mean treating the welfare of future beneficiaries as intrinsically less significant, because individuals discount their own future welfare.[15] A final standard argument for social discounting reflects the possibility that simply putting the money in a 20 year savings bond and giving it to future persons later might put them in an even better position than spending it now on sea walls; they might use the money to buy a hovercar or a seat on the Mayflower to Mars.

When applied to the problem of climate change, the normally uncontroversial practice of social discount rates takes on a new and less benevolent aspect. Say the costs to the world in 100 years from climate damage will be $1 trillion dollars in inflation-adjusted costs of personal and property loss, and we could alleviate those harms by investing now in massive windfarms, batteries, electric cars and sea walls. How much should we spend? Almost no economist would say we should spend $1 trillion dollars now, even though that would avoid the harm to be faced by our future descendants – a harm for which we, not they, are responsible. Instead, they say, we should invest only the discounted present value of that $1 trillion cost -- perhaps as little as $70 billion in this example. Anything else would harm us more than it benefits them, and therefore be an inefficient transfer of resources from us to them.

Those economists advocating a higher discount rate, notably William Nordhaus, argue that money invested today in financial investments will earn an income – say, conservatively, 3% per year.[16] If we were simply to put $75 billion into a money market fund for 100 years, we

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[14] For helpful theoretical and empirical discussions of social discounting, see Norman Henderson and Ian Bateman, "Empirical and Public Choice Evidence for Hyperbolic Discount Rates and Implications for Intergenerational Discounting," *Environmental and Resource Economics* 5: 413-423 (1995); Kenneth Arrow, "Intergenerational Equity and the Rate of Discount in Long-Term Social Investment," *IEA World Congress* (1995); Kian Mintz-Woo, "A Philosopher's Guide to Discounting," in Mark Budolfson et al., *Philosophy and Climate Change* (Oxford 2021), pp. 90-110. Ramsey's classic discussion is in "A Mathematical Theory of Saving," *Economic Journal* 38: 543-559 (1928). Ramsey himself thought that discounting of one's own individual future utility was a psychological tendency, even if "it is a practice which is ethically indefensible and arises merely from the weakness of the imagination." *Id.* at 543.

[15] Arguably, discounting our own future welfare is not ethically distinct from discounting the welfare of future others. See Derek Parfit, *Reasons and Persons* (Oxford, 1984), chs. 62, 69.

[16] See, e.g., William Nordhaus, "A Review of the Stern Review on the Economics of Climate Change," *Journal of Economic Literature* 45: 686–702, 692 (2007).

could give our descendants much more than $1 trillion when the time comes, which they can spend to make themselves happier then – and save ourselves $925 billion for our own consumption. Furthermore, future generations have generally been better off than earlier ones, and so have derived less welfare from the same increments of income, so we would wrong ourselves in forgoing consumption that would bring us greater welfare than them, as a matter of distributive justice between richer them and poorer us. There is also a lot of uncertainty about the future, about how bad things will be and the likelihood of our success in translating our investment to their benefit 100 years from now. We should, therefore, scale down our current investment in light of the risk that some will be effectively wasted. As a limiting case, a zero percent discount rate would itself be irrational, as Kenneth Arrow has argued.[17] He posited that since the interests of future generations extend infinitely, any amount we save and invest now for the future will be worth more to that infinite cast than to us now. Rates of zero thus call for a degree of nearly infinite altruism.

Economists' agreement that we should apply a social discount rate of greater than zero does not forestall the apparently irresolvable controversy about what the rate should be. The central public example of this debate has been between the proposal made in the UK Government Stern Review in 2006 to spend 1% of current global GDP to mitigate climate risk, based on a 1.4% discount rate, versus the Nordhaus model, suggesting a 3% discount rate, which would entail much lower spending.[18] The debate is more than a decade old, but it has not abated, although it is now largely translated into arguments about the discount-rate-derived "social cost of carbon" and the tax rates it would entail. Nordhaus calls his approach "descriptive," by which he means that he is giving us just the facts: the opportunity cost of capital deployed in decarbonization. In contrast, he says that Stern's approach is "prescriptive," reflecting an inherently normative interpretation of the cost of capital and the urgency of the crisis.[19] Other writers have endorsed this contrast.[20] But it is spurious. The Nordhaus approach and indeed all approaches are prescriptive. There is no purely descriptive approach because description entails interpretation. While Nordhaus's rate itself may be derived from historical data about rates of return, the underlying idea that we should be indifferent between a capital investment now that might be returned and deployed in the hotter, deadlier future (by whom and under what political circumstances?) versus a direct effort now at decarbonization or climate protection, itself rests on a host of contested and indissolubly welded empirical and normative judgments about social priorities and political realities. The descriptive is fully prescriptive, just conservative. Indeed, this is a general truth about conservatism, that it presents itself as simply rooted in history, not idealism, and therefore less ideologically contestable.

Standard economic theory therefore provides tools for establishing that there should be a social discount rate, but not how much, especially in long-term contexts. In recent decades, the major advance in the theory of the social discount rate is the current consensus that in these

[17] Arrow, "Intergenerational Equity." Ramsey makes a similar point at p. 555.
[18] Nicholas Stern et al., *The Economics of Climate Change: The Stern Review* (Cambridge 2006); and Nordhaus, "Review."
[19] Nordhaus, "Critical Assumptions in the Stern Review on Climate Change," *Science* 317: 201-202 (13 July 2007); and, earlier, his "Discounting and Public Policies that Affect the Distant Future," in Paul Portney and John Weyant, *Discounting and Intergenerational Equity* (Routledge, 1999), p. 151.
[20] See, e.g., Javier Campos et al., "As Time Goes By: Recent Developments on the Theory and Practice of the Discount Rate," Inter-American Development Bank (2015).

contexts the proper rate declines over time, say from 3% for the next 50 years, to 2%, to 1%.[21] The case for a declining discount rate rests on two specific considerations: first, the idea that our uncertainty about future wealth or consumption increases over time; and second, the importance of encompassing potentially catastrophic, if low probability, scenarios. The consensus reflects a general and growing fear that a constant discount rate can't meet the climate emergency.

Even outside the fraught terrain of climate change, economics has not settled on a set of techniques with which to establish appropriate discount rates for public investment. Rates vary widely, from a low of 3% in Germany, to 7% in the US, 8% in China, to 12% in India and even 14% in the Philippines.[22] Each of these countries approaches the issue with the same overall mathematical theory, access to globalized investment returns, and surveys of comparable nations. Nonetheless, they decide individually whether to emphasize, say, social time preference data derived from government bond yields, which result in a lower rate, or average private market returns, resulting in a higher rate. There is a clear pattern: the developed countries have mostly nudged their discount rates down in recent years, calculated from bond yields. For instance Germany's rate was already at its present relatively low 3% when the Federal Environmental Agency recommended in 2012 that it be further reduced to 1.4% for environmental investments, and in 2020 reduced that recommendation to 1%, based on both expectations of economic growth and the determination that a higher rate was "unsustainable."[23] For developed countries like Germany, this is clearly a matter of choosing a method to meet a normative objective, because market discount rates result in unacceptably low levels of policy-care for the future, while as a political and ethical matter the affluence of their contemporary societies permit steering further benefits into the future through a lower rate. By contrast, in the developing world, higher social discount rates seem principally to reflect a political and ethical demand for shorter-time horizons and immediate benefits to a public demanding a higher standard of living.

The whole discount rate debate is misbegotten, founded in a procrustean assumption that there is a mathematically derivable, monetarily expressed answer to the value of the future. As many have noted, including environmental economists, most of the assumptions in the discounting debate are questionable. First, assuming a continued increase in standard of living (and of available investment returns) makes no sense when the entire human infrastructure is itself under threat, depending on what we do now – we cannot simply assume the existence over 100 years of investment alternatives, or ways of transferring their yields to the future. Second, many of the harms, even on the non-catastrophic scenario, involve the death of people and the destruction of what makes their lives good. These harms cannot simply be priced or cancelled out by economic growth – and inflicting them on the future is not simply imposing an extra cost,

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[21] This consensus view, among economists who differ significantly on what the rate should be, is stated in Arrow et al., "Should Governments use a Declining Discount Rate in Project Analysis?," *Review of Environmental Economics and Policy* 8: 145–163 (2014). The work of Gollier and Weitzman has been especially influential. Christian Gollier, "Time horizon and the discount rate," *Journal of Economic Theory* 107: 463–73 (2002); Martin Weitzman, "Why the far-distant future should be discounted at its lowest possible rate," *Journal of Environmental Economics and Management* 36: 201–8 (1998).

[22] Campos et al.; more dated references available in Juzhong Zhuang et al, "Theory and Practice of the Social Discount Rate for Cost-Benefit Analysis: A Survey," Asian Development Bank (2007).

[23] Methodenkonvention 3.1 zur Ermittlung von Umweltkosten- Methodische Grundlagen, *UMWELTBUNDESAMT* (2020). I am grateful to Anja Bossow for the source and its translation.

but violating fundamental rights. The moral costs of widespread species extinction are even more incoherently valued in these equations if they are valued at all, since the values are derived from non-existent markets.[24] Finally, the extreme uncertainty regarding the future under climate change makes precise investment figures rather like magical thinking.

The conclusion to draw from the persistence of the social discount rate debate is not that economic analysis is a fraud, but that economists are citizens of their states and the globe, with an ethical conception of themselves shaping their work. This is as it should and must be. Joseph Stiglitz and Nicholas Stern have been candid in recognizing this. In their most recent contribution to these debates, they reject the Integrated Assessment Model of Nordhaus. As I read them, they argue for a prudentially and ethically grounded discount rate, placing particular weight on the political unreality of assuming that governments can effectively maximize social utility over time. They thus locate their economic analysis within a broader political and ethical context.[25] Economists are part of a larger public engaged in debates about the public of the future. In terms that I will develop below, their conversation is music emerging from an improvisational public, but with too few instruments. What's needed are more players – specifically, we need people whose role it is to bring interpretive assumptions into the light rather than pretending they don't exist. Here is a job for philosophy.

4. From economics to ethical theory

Moral and political philosophy can provide the determinacy and value judgments we need to settle these questions, but not as we've been going about it. I explain why the two dominant kinds of theories cannot do more than rule out the do-nothing and do-everything options.

First, consider utilitarian theories, which advise choosing policies that will result in the highest available aggregate level of welfare for all those whose welfare matters within the theory. Utilitarianism's wide scope, over time and population, would seem to make it the most promising starting point, especially if it makes use of a richer conception of value than economics' willingness-to-pay –for instance an account of objective well-being or functional capacity to thrive.[26] Its foundational commitment to the equal value of each being is also deeply attractive. But starting with moral equality doesn't settle questions of tradeoffs: it does not follow that my obligations to strangers, perhaps not even born, are as urgent as my obligations to members of my family, my community, my time, my region. I can recognize that my children are not morally more important in an objective sense than yours, but that doesn't mean I should therefore be indifferent between mine and yours. I don't mean here to take up a decades-old argument about the inadequacy of utilitarianism as a kind of individual morality because of its

[24] Nordhaus acknowledges the limitations of monetizing damages but compensates by adding a 25% increment to the pure financial cost he finds. Nordhaus, "Review of the Stern Review," (2007). When Norway considered changes to its discount rate, it acknowledged the difficulty in pricing non-market values, only to ignore it in practice. "Cost-Benefit Analysis," Report to the Ministry of Finance (2012), ch. 4.5.

[25] Stern and Stiglitz, "The Social Cost of Carbon, Risk, Distribution, Market Failures: An Alternative Approach," NBER Working Paper 28472 (2021). Alessandro Roncaglia, in *The Age of Fragmentation* (Cambridge, 2019), argues that the failure of neoclassical economics to locate itself in time and politics is at the root of its predictive failures.

[26] The richer value terms available to utilitarianism distinguish it from welfare economics, which relies on the reductive currency of preference-satisfaction, as measured by willingness-to-pay.

incapacity to make fundamental room for personal projects and special relationships.[27] I treat utilitarianism as a public philosophy, expressing impartial concern for all in its orbit. But to invoke utilitarianism as a public philosophy is perforce to give it borders, as real collective actors implement it within and between systems of states.[28] Since the cost-bearers and the beneficiaries of climate change policy are largely both in the future and beyond any given nation's borders, any actually-deployed utilitarian account will have to make choices about the weight of the interests concerned. These choices come from outside the theory itself.

Indeed, we have already seen the impossibility of weighing all interests equally in the irrationality of a 0% discount rate because it would demand nearly complete sacrifice from the present to the future.[29] There is, to be sure, a formal sense in which the bare utilitarian notion of maximizing a social welfare function can accommodate any weighting of parties or generations we stipulate, as elements of the function. But utilitarianism cannot tell us how to assign the weights. As with economic analyses, utilitarianism cannot answer the how much question without assuming a great deal.

The other principal species of contemporary political philosophy is rights- or fairness-based, generally inspired by Immanuel Kant's moral philosophy. In the influential formulation of Thomas Scanlon, these theories are "contractualist" because they rest on the idea of an unforced agreement, grounding political choices by reference to principles no one could reasonably reject (taking into consideration values of individual dignity and welfare).[30] Such principles, if extended to persons in the future, will indeed rule out doing nothing (as disrespectful of the future) and doing everything (as disrespectful of the present). But when we try to refine our conclusions, we find ourselves quickly in underdetermined confusion. Take as a candidate principle that current generations should not leave future generations worse off than their own position. As with economic approaches, actually applying such a principle requires comparing states of well-being, options, and capacities across generations, despite what we can assume will be substantial changes in technologies, interests, and values. Would it be adequate to despoil the earth but invest the proceeds in a high performing fund, so that in monetary terms, the future is enormously wealthier than the present, even if they must sip their champagne and eat their caviar in their underground caves? If much smaller populations are key to reducing emissions, might members of that less extended scope of humanity have a legitimate complaint

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[27] I take that argument to have been made, successfully, by many others, most notably Samuel Scheffler, *The Rejection of Consequentialism* (Oxford, 1984); and Bernard Williams, *Utilitarianism: For and Against*, with J.J.C. Smart (Cambridge, 1973).

[28] In principle, utilitarianism can take all welfare-enjoying beings over all time as its constituency, with the welfare of each equally weighted; Jeremy Bentham might be thought to have suggested this. But no such theory is a plausible guide to moral life, and none has any possibility of being adopted as governmental policy. Even Henry Sidgwick, though he endorsed utilitarianism's cosmopolitan aspirations in principle, actually defended a border-constrained version in practice. See David Miller, "The Political Philosophy of Henry Sidgwick," *Utilitas* 32: 261-275 (2020).

[29] This is a corollary to Parfit's Repugnant Conclusion, that unrestricted consequentialism would endorse a population policy encouraging the birth of an infinitely large number of individuals, so long as each had a life barely worth living. Parfit (1984), chs. 127-9. See Lucas Stanczyk's article, "How Quickly Should the World Reduce its Greenhouse Gas Emissions?," in Budolfson et al. (2021), for a similar point.

[30] Thomas Scanlon, "Contractualism and Utilitarianism", in A. Sen and B. Williams (eds.), *Utilitarianism and Beyond* (Cambridge, 1982): 103–128; and *What We Owe to Each Other* (Harvard, 1998).

for that very reason – that some of the people who might have had an objection do not exist as a result of the policy choice?[31]

Nor is it obvious that we can justify the principle of leaving future generations no worse than the past. Imagine that we can in fact create a future no worse than the past, at great current sacrifice. Applying the principle essentially, and reasonably, makes the present liable to repair the damage to the future. But, given the scale of liability, there is reason to wonder whether it is just, given that few or no individuals today, whatever their consciousness of the climate crisis, had feasible alternatives to the reliance on carbon-intensive activities that brought it about.[32] Residents of developing economies might have a legitimate complaint against a principle of sacrifice, not just in relation to the early industrializers who ran up the carbon bill, but also in relation to their own future, wealthier heirs. We can agree to the broad outlines of principles of international equity, such as that responsibility to pay tracks ability to pay, or that beneficiaries of unequal gains owe reparations to those left behind.[33] These principles will establish duties of wealthy states to contribute disproportionately to mitigating the crisis their industrial age has created. But they cannot do more to determine the extent of costly and disruptive change needed. They confront countering principles of mitigated responsibility for unintended harms for emissions before the 1980s, and greater responsibility for current, harm-conscious emissions; 54% of current emissions come from Asia, compared to 30% from Europe and the US.[34] This conflict of principles does not leave matters at a stalemate. We can apply principles but to do so requires fine-grained moral judgments that rest on something outside the principles themselves.

The problem of borders is at least as hard for contractualist thinkers as for utilitarians. John Rawls, for instance, proposed a "just savings principle" of ensuring that one's descendants would be no worse off than the current generation. But Rawls' argument is essentially grounded in a model of responsibilities within a bounded society, and its extension to problems across time and political space has been highly controversial.[35] Most contractualists accept a variety of forms of special obligations, including political obligations, from which it follows that there is room for even decent political societies to favor themselves in international politics. While the

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[31] This is an instance of the so-called "Non-Identity Problem," arising from the fact that different policy choices will cause different people to come to exist, making it hard to compare states of affairs, since the same people may not exist across them. (The term also comes from Parfit (1984)). Arguably, the problem is more serious for contractualist theories, since their intuitive basis rests on an imagined dialogue between concerned parties. A monologue is not the same thing.

[32] On problems of fairness in assigning individual liability, see Liam Murphy, "International Responsibility for Global Environmental Harm: Collective and Individual" (MS 2021).

[33] For a sensitive deployment of these principles, see Henry Shue, "Global Environment and International Justice," *International Affairs* 75: 531-545 (1999).

[34] These figures, current for 2019, come from the Global Carbon Project, here. They mask stark internal differences, particularly between coal- and oil-producing and using countries within the North Atlantic group (for instance the US and Germany, vs. France and the UK), and neglect different equity principles that could be drawn from per capita emissions data, which put the North Atlantic at a general disadvantage. Special responsibility on all these dimensions for the United States is clear, even before accounting for the role of its industries and governments in deliberately suppressing information about climate damage.

[35] The debate continues, but its anchors are Thomas Pogge, *Realizing Rawls* (Cornell, 1989); and Thomas Nagel, "The Problem of Global Justice," *Philosophy & Public Affairs* 33: 113-147 (2005).

externalities of climate change entail international responsibilities, we need to know more to determine their scope.

Finally, both utilitarian and contractualist theories have trouble articulating claims about non-human interests, for instance the disappearance of species or ecosystem collapse. The disappearance of the Great Barrier Reef from emissions-induced warming and acidification troubles people not just because of threats to the tourist economy or because future generations won't be able to swim among the clownfish, but because the coral entity itself is a grand achievement of nature to celebrate in itself, and not merely for us. But within both utilitarian and Kantian thought, the Great Barrier Reef has no independent moral standing.[36]

I do not mean to imply that moral philosophers have nothing to say about these questions, which are at the core of contemporary philosophical debates about climate policy and environmental ethics.[37] My point is that a theoretical approach cannot arrive at answers. Resolving these questions of relative priority depends on underlying value commitments and conceptions about people, time, space, and world. These commitments vary across inherited religious and political traditions, markets for labor and goods, generations and cohorts, and across individual lives, and they entail very different conclusions about how we must act.[38] Through these traditions, we are, individually and collectively, improvising a conception of public value in the context of culture, economy, ideology, and circumstance. Improvisation is thus at the heart of political morality, and the range of improvisations is both cause and effect of the theoretical underdetermination I have been discussing.

We are of course accustomed in law and politics to situations of no single right answer. Our usual response in situations of dissensus or collective moral underdetermination is to go procedural and regard any position that emerges from some process -- fair bargaining, voting, individual exercise of rights or discretion, turn-taking -- as justified.[39]

If we could apply a proceduralist model, that would represent an advance for climate policy, since the urgent problem is getting states to take and act on a decision, not just announce one. Climate policy must be global and nearly universal to be effective, at least bringing together the major present carbon emitters, notably the US, Western Europe, China, India, the Middle East, and Brazil, as well as the historic emitters, in order to secure the resources needed for decarbonization. This entails something like a harmonized global price of carbon, international transfers of wealth and technology, and caps on emissions – all with mechanisms of detection, enforcement, and adjudication. Each of the countries involved must agree to shoulder

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[36] Scanlon simply says that non-human interests are a part of morality not covered by his contractualism. Scanlon, *What We Owe*, p. 179. Kantians and contractualists have argued for broadening the scope of concern to cognitively complex non-human life, see e.g., Christine Korsgaard, *Fellow Creatures: Our Obligations to the Other Animals* (Harvard, 2018). But non-sentient life, or even non-life, has no moral standing on these views.

[37] Beyond works by Shue and Jamieson, see, e.g., the extensive work of Kristin Shrader-Frechette, e.g., *Environmental Justice* (Oxford, 2003), and the papers collected in the Budolfson volume, *Philosophy and Climate Change*.

[38] This is essentially Rawls' point about the "burdens of judgment" arising from the free use of reason, and is the basis for his placing reasonable pluralism at the core of his political theory. Rawls, *Political Liberalism* (Columbia, 1995), pp. 36–37, 55–57.

[39] As Jeremy Waldron argues in his *The Dignity of Legislation* (Cambridge 1999).

substantial burdens now, to provide for future benefits that, because of the globally diffuse character of carbon emissions, will benefit not just future co-nationals, but future non-nationals. The reason those agreements must come from bargaining among climate treaty participants, instead of a process of deliberation and voting, is often left unstated. There is no international parliament that can solve the problem of disagreement: the UN Security Council is too unrepresentative, while the General Assembly's principle of state equality entails that its declarations will never be taken seriously except when cherry-picked to favor a state's preferred view. Bargaining is all that is left.[40] At the same time, a collective agreement must be abideable, and so justifiable, to each nation living under it. Pure power-based bargaining cannot be deemed fair enough to provide that kind of justification to each party. The politicians making these treaty agreements must be able to commit their countries to honoring them, which is to say that they must be able to make binding commitments that will not exceed what their populations are willing to accept in higher taxes and reduced current consumption.[41] What we can bear limits what we can be asked to bear.

Getting to an agreement therefore means figuring out what the boundaries of possibility are for each participant, and how participants justify those boundaries. This means that we need an approach to climate disagreement simultaneously rooted in both the "is" of participants' self-conceptions and the "ought" of the principles through which they debate. Understanding how different nations articulate their own conceptions of the public, and their concomitant ways of valuing their publics over time and space, is necessary to this process. We can look at what people think about appropriate levels of sacrifice to address both the descriptive question of what lies within the possible lens of international normative agreement, and the normative question of what we should think is the appropriate level. We can make use of how people actually think to construct the public of our normative imagination.

5. Undeterdetermined ethics

Many of the fraught moral choices we face in life are underdetermined. This is particularly the case where the moral question before us is not a binary decision, but one involving a range of responsive possibilities. Resolving these sorts of questions is not like solving a physics problem of many vectors by reducing them to a single dot product. We improvise and keep on improvising as we go. We want to be less like Melville's Captain Vere, who hangs Billy Budd because his utilitarianism blinds him to the actual complexities of good and evil, and more like Phineas Finn, hero of Trollope's Parliamentary series. Unsure of what or whom to support in the major political debates of his day, torn by divergent loyalties, Phineas gathers counsel, sometimes conflicting, from mentors, lovers, employers, enemies, opportunists, journalists, gentry, friends, and his socialist landlord. He thinks and acts from within his world, and the outcomes are neither ideal nor evil; overall they approach something like the best he can do.

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[40] A de facto authority might, in principle, impose a solution without bargaining – say, as in Kim Stanley Robinson's novel, *Ministry of the Future* (2021), which suggests in his novel, a terrorist group that coerces extensive decarbonization. Or a single state could decide to impose sanctions sufficient to bring other states into line on emissions. However bleak the prospects of international cooperation to reduce emissions, those prospects are much less bleak for international cooperation to eliminate climate vigilantism.

[41] Rawls' term, the "strains of commitment," evocatively denotes the distinction between accepting a principle and acting on it over long duration. *A Theory of Justice* (Harvard, rev. ed. 1999), p. 41.

The process of moral discussion and improvisation is commonplace. It reflects a suggestion made by Aristotle two millennia ago, that the road to moral wisdom comes through life, and that the proper standard of right conduct is not that of a dogmatic opinion, but what a person of "practical wisdom," a *phronimos,* would do, following deliberation about general principles and particular circumstances.[42] And while Aristotle imagines practical deliberation as a solitary activity, though frequently undertaken for the benefit of others, he suggests that one of the benefits of friendship between equals is that friends can help each other deliberate and model right action for one another.[43] A person, inclined towards acting properly, will therefore look to the guidance of others with practical wisdom to determine the right action, because others will be able to draw their attention to the relevant considerations.[44] On the other hand, because choices about right action are complex, it will not be predictable in advance what the *phronimoi* consulted will suggest. Nor is there any reason to think that a body of *phronimoi* will arrive at the same answer. The best a virtuous seeker can do is to consult with several, weigh their answers, and then decide. Through that consultation, the virtuous seeker can come to a measure of justification in their decision, acting with a better understanding of the various choices and their reasons, including their effects on the character and well-being of the virtue seekers themselves.

6. Improvisation and the climate debate

The improvisational model of politics is in the same family as deliberative models of democracy. Theorists of deliberative democracy typically offer a two-step argument. First, democracy requires equal treatment of all members of the polity. But simply counting preferences weighted equally is potentially disrespectful of individual members of a polity, who have reasons of varying strength for their preferences, and are entitled to the opportunity to persuade one another to shift their preferences in light of these reasons.[45] Preference-counting is also disrespectful of the democratic process itself, by treating the source of democratic authority as mere preference rather than reasoned elaboration of a common good. Some theorists add a further, stronger epistemic claim, namely that shared deliberation in a pluralistic social environment is likely to be better at reaching independently justified conclusions than mere belief counting.[46] Those claims about democracy resonate with the improvisational model I describe, because they reflect an underlying moral pluralism and that there is no alternative to discussion and deliberation in conditions of sustained, reasonable disagreement.

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[42] Aristotle, *Nicomachean Ethics*, Bk. VI, ch.13. The same is apparently true of Mencian ethics. See May Sim, "The *Phronimos* and the Sage," *The Oxford Book of Virtue* (Oxford, 2018). My account of Aristotelian learning and deliberation follows that of John Cooper, *Reason and Human Good in Aristotle* (Hackett, 1986) and Myles Burnyeat, "Aristotle on Learning to be Good," in Amélie Oksenberg Rorty, *Essays on Aristotle's Ethics* (UC Press, 1980), pp. 69-92. Karen Jones powerfully argues for the centrality of co-deliberation in "Second-hand Moral Knowledge," *Journal of Philosophy* 96: 55-78 (1999).

[43] *NE* Bk. IX, ch. 12 (FH Peters trans.): "[F]riends seem to become better as they exercise their faculties and correct each other's deficiencies: for each moulds himself to the likeness of that which he approves in the other; whence the saying, "From good men thou shalt learn good things.""

[44] Aristotle does hint at this, insofar as he suggests that perfect friendship helps friends realize virtue,

[45] See, among many possibilities, Amy Gutman and Dennis Thompson, *Why Deliberative* Democracy (Princeton 2004), and Joshua Cohen, "Deliberative Democracy," in *Deliberation, Participation and Democracy*, ed. Shawn Rosenberg (Palgrave, 2007), pp. 219-236.

[46] E.g., Hélène Landemore, *Democratic Reason* (Princeton, 2013); and David Estlund, *Democratic Authority* (Princeton, 2007).

Ultimately, though, deliberative democracy is a procedural response to the claim of political equality among reasonable citizens. The improvisational model does not claim that procedure can supply a justification that argument cannot, nor does it assume anything like a democratic system in the international context. Rather, what it shares with democratic deliberation is a spirit of open consultation, looking for wisdom everywhere because it recognizes, for epistemic and structural reasons, that no one group or discipline has the answers on their own.

Where might a theorist find the material for this collaborative discussion? I propose here how we might construct the different positions for the ensemble dialogue from comparative politics and history. The model I propose looks at different polities to discern the principles and values embedded within, in subject matters that bear on the problem of climate change but that lie deeper than climate policy itself. Those principles become the material for political improvisation, whether in the hands of the individual theorist or – better – in actual collaboration. Let's take Norway, California, and France as case studies. I choose these three because of my own extensive professional and personal experience with each and because they present a useful set of contrasts to serve as a starting point for the model.

Norway reflects principles and practices that are in tension with one another. Despite a progressive tradition of public investment, it retains a highly market-centered conception of the social discount rate, with relatively high discount levels by European standards. And despite having pioneered the idea of sustainable politics, embedding it in a range of environmental policies, including a 2016 commitment to carbon neutrality by 2030, it remains economically reliant on foreign oil and gas sales, which make up 18% of its GDP. Norway's carbon neutrality goal is in fact only feasible when one treats the emissions of the oil it sells as "belonging" to the buyer. The contradiction in its energy policy is all the more striking: Norway derives 98% of its own energy from renewable, largely hydroelectric, sources, and even though it is already wealthy enough simply to strand its petroleum in the seabed, its government does not plan to turn off the oil taps until 2050, when the fields will be significantly depleted anyway.[47] More perversely yet, Norway's oil-tax funded sovereign wealth fund, which I discuss further below, recently divested itself of almost all its fossil fuel investments while refusing to curtail its own production.[48] This contradiction perhaps reflects Norway's political turn rightward in recent years, although its 2021 parliamentary elections appear to signal a rethinking of its energy policy.[49]

Like a teetotalling bootlegger, Norway is flaunting its internal environmental virtue while exporting of fossil fuels. But its petroleum policies embed more promising principles as well, namely its vocal endorsement and more qualified deployment of policies with a long time-horizon for both its own citizens and the world's. This is manifest in the mission it assigned its oil-funded Government Pension Fund, currently the largest sovereign wealth fund in the world, valued at $1.3 trillion: "The goal for the management of the Government Pension Fund is to achieve maximum financial return with moderate risk. In this way, we can help ensure that future

[47] Trade figures are from the European Commission, here; energy figures from the Norwegian Ministry of Petroleum and Energy, here. See "Norway not ready to let go of oil, gas," Reuters (June 11, 2021).
[48] Jariel Arvin, "Norway's trillion dollar sovereign wealth fund sold the last of its fossil fuel stocks," *Vox* (Jan. 19, 20921).
[49] "Norway's 'Climate Election' Puts Center-Left in Charge," *NY Times* (Sept. 17, 2021).

generations will be able to draw the maximum possible benefit from our savings." A further striking feature of the Pension Fund is that, since 2004, it has operated under strict ethical guidelines administered by a Council of Ethics which require it to divest from any entity that would render it "complicit" in environmental degradation, coal extraction, human rights violations, illegal munitions, and tobacco; I was part of a group brought in to consult with the then newly-formed Council as it inaugurated these guidelines. [50]

To be sure, Norway is not alone in investing its resource wealth in a long-term fund, which is a common strategy to reduce volatility in national income, as well as to protect economies from the so-called "Dutch disease," when resource sales drive up currency values to non-competitive levels as happened when oil was discovered offshore in Holland in the 1960s.[51] Chile similarly invests its copper revenues, British Columbia and the Gulf States (some of) their oil revenues. But when we contrast the Norwegian model with other resource funds, its distinctive temporal character becomes clear.[52] The state of Alaska has one of the most socialized economies in the United States, indeed the world. When Alaska's oil reserves became easily exploitable with the construction of the Trans-Alaskan Pipeline in the 1970s, Alaska set a policy of establishing relatively high oil royalty rates, and allocated 25% of those royalties to a Permanent Fund, which invests the royalties in other assets. The Permanent Fund spends essentially all its investment returns on two things: relieving Alaskans of income and sales tax obligations by funding 70% of government operations, and cutting an annual check to all non-felonious residents (including non-citizens) for the per-capita remainder – roughly $1100 in recent years. Alaska calculates that it spends 45% of its revenues on current generations, versus 38% for future generations.[53] Norway's Pension Fund operates under a more constrained payout rule of 3% (formerly 4%) regardless of actual fund performance, funding about 20% of current social welfare expenditures. Given these payout levels, substantially below a 10-year market performance of inflation and fee-adjusted 6.2%, it seems that future generations are benefitting more than current ones in Norway, at least in monetary terms.[54] While Norway and Alaska make the same claim to protect future generations, Norway's spending reveals that it actually places higher priority on that future.

The time-horizon of its pension fund is related to another concept that Norway's government embraces: sustainable development. Although the term emerged in the 1970s from the writings of ecologists and left-leaning development economists, it rose to the status of

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[50] Report to the Storting (Parliament) on the Government Pension Fund, Report No. 20 (2002), p. 11. Note that "Pension Fund" is a misnomer, since it supports a range of state spending, not just pensions. For discussion, see Anand Bhopal, "The Norwegian Pension Fund in a Warming World," *Ethics, Policy & Environment* (2021): 1-15. Guidelines for Observation and Exclusion from the Government Pension Fund Global (2019). For a history of the ethics guidelines, see Anita Halvorssen and Cory Eldredge, "Investing in Sustainability: Ethics Guidelines and the Norwegian Sovereign Wealth Fund," *Denver J. Int'l Law & Policy* 42: 389-416 (2014).

[51] W.M. Corden, "Booming Sector and Dutch Disease Economics: Survey and Consolidation," *Oxford Economic Papers* New Series 36: 359-380 (Nov., 1984).

[52] In recent work, and Chapter 3 of this volume, I examine the ways different states as a matter of fact distribute resource wealth across time and across the citizen/non-citizen line, arguing for a case of national, temporally-extended benefit to residents, rather than citizens. Kutz, "Resources for the People," *Ethics and International Affairs* 35 (Spring 2021).

[53] "An Alaskan's Guide to the Permanent Fund," Alaska Permanent Fund Corporation (2020), p. 17.

[54] Government Pension Fund Global Annual Report 2020, Norges Bank, p. 16. Bhopal, "Warming World."

international talisman with the 1987 Brundtland Commission Report, ordered by the UN Secretary General, and chaired by Gro Brundtland, once and future Norwegian Prime Minister. The report declared the goal of "development that meets the needs of the present without compromising the ability of the future to meet their own needs."[55] Norway itself articulates the term in a wide range of official declarations and policies, in ways partly rhetorical and partly concrete.[56] As many have noted, in fact Norway embraced only a "weak" concept of sustainability, because it has effectively committed itself to the sustainability of a pot of money, not its physical environment.[57] Nonetheless, we can call its commitment to the future the *Principle of a temporally-extended public*. This principle reflects the abstract view that future citizens are of equal moral significance while showing how it can be embedded in concrete institutions created by democratic politics.

In France we see a different useful conception of the public with regard to climate: the public as agent. France has a long and distinctive history of centralized market management and large-scale public investment in so-called "*grands projets*." This tradition, called "*étatisme*" or "*colbertisme*" (after Louis XIV's principal minister), emerged in the 19th century, with the Napoleonic development of a highly sophisticated cadre of finance and engineering civil servants, which still exist, and virtually all of their members attend the same schools that Napoleon founded for the purpose (and which are partly the subject of chapter 6). After World War II, under Charles De Gaulle, a series of *grands projets* transformed France from a war-ravaged largely agrarian society to a highly diverse and sophisticated one.[58] One of the most sophisticated of these projects, in technical, economic, and political terms, was the development of a military and civilian nuclear industry.[59]

On the military side, France's construction and deployment of its *force de frappe* nuclear-armed submarines gave it significant independent leverage in Cold War North Atlantic politics (to the endless consternation of US administrations). But its civilian nuclear energy infrastructure, the third largest system in the world, and by far the largest per capita, has had the most important effect, supplying 70% of France's power needs and serving as a major export.[60] Though it was built out in the 1970s as a way to stimulate industry and decrease oil dependence, France's nuclear production has enabled some of the lowest per capita CO2 emissions in

[55] Jacobus du Pisani, "Sustainable development – roots of the concept," *Environmental Sciences* 3: 83-96 (2006); *Our Common Future* (Brundtland Report), World Commission on Economic Development (1987), p. 43.
[56] Audun Ruud, "Sustainable Development Discourse in Norway," *L'Europe en Formation* 2: 143-155 (2009). Norway scores high in sustainability report cards by virtue of its direct investment in its own social welfare programs, as well as in foreign aid to encourage sustainable development abroad.
[57] For the distinction between weak and strong sustainability, see Marianne Takle, "The Norwegian Petroleum Fund: Saving for Future Generations," *Environmental Values* 30: 147-167 (2021); Simon Caney, "Justice and Future Generations," *Annual Review of Political Science* 21: 475-493 (2018).
[58] The modern history of *Colbertisme* is the subject of Elie Cohen, *Le colbertisme high-tech* (Hachette, 1992).
[59] See the (primarily cultural) history of French nuclearization up to 1970 in Gabrielle Hecht, *The Radiance of France* (MIT, 1998).
[60] Data from the Nuclear Energy Institute, here. After the 2011 Fukushima disaster, then-President Hollande committed France to decommissioning many of its older plants and reducing its nuclear dependence to 30%, ideally substituting renewable sources instead of natural gas (as Germany has done). It remains to be seen whether France follows through on the commitment, although the alternative, renewing aging nuclear plants, is dauting as well.

Western Europe, and so France has made ambitious climate pledges relatively easily and credibly.[61]

Nearly as significant for climate purposes was another *grand projet* enabled by cheap nuclear energy: the TGV system of high-speed rail. While the TGV was technically a project of the SNCF railway itself rather than the French state directly, the state fostered the ability to rapidly develop the requisite technology in several ways: by grounding the economy on electricity rather than petroleum, thus spurring research in electric drives; by directing the SNCF to compete with air travel; and by subsidizing some of the associated technologies.[62] The success of the TGV in reducing air travel demand across France provided the basis for one of the most ambitious proposals in the 2020 Citizens Convention on the Environment, to bar flights when a train ride of four hour or less was possible. Although that proposal was diluted to a 2.5 hour limit, that still will register as a climate policy success. Other state-directed *grand projects* in recent decades include the development of a pioneering digital information network (Minitel), albeit one quickly superseded by the internet, and an internationally competitive commercial and military aeronautics industry.

In the neoliberal mood of the 21st century, France largely abandoned grand projects, preferring instead to manage development through regulated private markets.[63] And even during the Gaullist heyday of *étatisme*, private interests frequently coopted the state. But the muscle memory for grand projects and much of the requisite administrative apparatus remain in place, visible for instance in the major new academic-industrial complex outside Paris, which I discuss in Chapter 6, as well as in the pharaonic museums of recent French presidents. France's infrastructural capacity is not unique in the world, but its combination of very high levels of democratic participation (national turnout is typically 70-80%, among the highest in the world) and rigorous administrative accountability (through the Napoleon-created *Conseil d'Etat*) makes it distinctive, and a foil to the Chinese argument that democracy and state capacity are at odds.[64] The combination of democracy, state capacity, and rule-of-law control is a hallmark of the Republican model, but it is not exclusive to it, as the Nordic countries also show.[65] Let us call the idea that a democratic state can effectively consolidate research, financing and construction networks at national scale the *Principle of the public as strong agent*. Like the Norwegian-derived principle of a temporally-extended public, it serves as both a practical ground – the public can act through the state at the scale relevant to the climate crisis – and a normative guidepost.

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[61] Data from the World Bank, here. Switzerland's emissions are even lower, partly because of its hydropower resources, but also because it imports large amounts of French nuclear-generated electricity.
[62] Cohen, pp. 189-193; James Dunn and Anthony Perl, "Policy Networks and Industrial Revitalization: High-Speed Rail Networks in France and Germany," *Journal of Public Policy* 14: 311-343 (1994).
[63] On the waning of *étatisme*, see Jonah D. Levy, "From the Dirigiste State to the Social Anaesthesia State: French Economic Policy in the Longue Durée," *Modern & Contemporary France* 16: 417-435 (2008).
[64] French voting rates are from World Population Review, here. China's argument for its authoritarian model has been a constant in President Xi's rhetoric. See Charles Edel and David Shullman, How China Exports Authoritarianism," *Foreign Affairs* (Sept. 16, 2021). The relation between levels of democracy and state capacity is complex and generally non-linear. See, e.g., Hanna Back and Axel Hadenius, "Democracy and State Capacity: Exploring a J-Shaped Relationship," *Governance* 21: 1-24 (2008); Jonathan Hanson, "Democracy and State Capacity: Complements or Substitutes," *Studies in International Comparative Development* 50: 304-330 (2015).
[65] See Pierre Rosanvallon, *Le modèle politique français* (Seuil, 2004), chs. 13-14.

The state of California offers a third source of embedded principles. In America's polarized national politics, one finds coherent and successful political programs virtually only at the state and local levels. There are two distinctive features of contemporary Californian politics that are important for the climate context. First is California's ongoing success as a multiethnic, majority-minority democracy – a success in that it is able to enact large scale legislative and executive projects on the basis of complex, heterogenous constituencies and votes. Non-Hispanic Whites became a minority in California in 2000, and by 2014, Hispanics were the largest census category. According to the most recent census estimates, 39% of Californians are Hispanic, 36% White, 15% Asian or Pacific Islander, and 6% Black.[66] The California legislature is less diverse but nonetheless among the most representative in the US among racially diverse states, at 55% White (including 13% White-identifying Hispanics), 35% Hispanic, 8.5% Black, and 11% Asian.[67] Danielle Allen has remarked that "the world has never built a multiethnic democracy in which no particular ethnic group is in the majority and where political equality, social equality and economies that empower all have been achieved."[68] This is of course true, because very few if any non-diverse democracies have succeeded by these standards. But California's modern political experiment has shown more than promise. In its most recent legislative session, the Legislature passed more than 900 bills, the vast majority signed into law by the governor, including establishment of a basic income for pregnant women, banning of sub-minimum wage garment piecework, guaranteed breaks and protections for warehouse workers; it affirmed the rights of the press to report on policing, decriminalized jaywalking (to reduce pretextual arrests), greatly expanded financial access to higher education, and eliminated single-family zoning statewide.[69] These acts all aim precisely at promoting social, political, and economic equality, albeit in a state with some of the greatest wealth and income inequalities in the country.[70]

Another significant piece of recent policy manifests a second aspect of modern California's politics: it provides free medical care for all low-income residents over 50, regardless of immigration status, at a cost of $1.5 billion per year. This decision built on 2019's expansion of the state low-income medical program to cover undocumented residents under 26 years of age.[71] California had already in 2013 begun to provide drivers licenses to unauthorized drivers; and since 2011 it has allowed unauthorized students to pay in-state tuition and made them eligible for state financial aid.[72] Its public universities were also lead plaintiffs in cases challenging the Trump Administration's attempts to remove protection for so-called "Dreamer" students.

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[66] Data from Hans Johnson et al., Public Policy Institute of California (March 2021), here.
[67] Data for California from Elizabeth Castillo, *Cal Matters* (Jan. 11, 2021) here. Data for other states from the National Conference of State Legislators, here. Technically, a homogenous state like Vermont (94% White, 98% White in legislature) is even more representative.
[68] Danielle Allen, "Charlottesville is not the continuation of an old fight. It is something new." *Washington Post* (Aug. 13, 2017).
[69] Adam Beam and Don Thompson, "Here's what the California Legislature did this year," AP News (Sep. 11, 2021); the governor vetoed the higher education law on cost grounds, because it had not been part of the budget process.
[70] For income inequality, see Sarah Bohn and Tess Thorman, "Income Inequality in California," *PPIC* (January 2020).
[71] Office of Governor Gavin Newsom (July 27, 2021).
[72] In all US states, younger students have been entitled to free public school, per *Plyler vs. Doe* (1982).

California's protection of immigrant interests reflects a second key aspect of its contemporary politics, namely the declining significance of formal legal status. Economic self-interest surely plays a role since the California economy heavily depends on unauthorized agricultural and service labor, so policies that make California more attractive for unauthorized migrants sustain the labor supply.[73] But it is possible to maintain an unauthorized workforce while continuing to systematically deny the workers access to education, healthcare, and worker protection. California's current policies would surprise an observer from the 1990's, when the state, though no less dependent on migrant labor, voted policies that would strip these rights from unauthorized migrants. Although those initiatives attracted support from both Democrats and Republicans at the time, their eventual defeat, both in courts and in elections, has led to the internal political exile of California Republicans and the most pro-migrant legislature in the country.[74] I do not mean to deny that immigrants in California, authorized or unauthorized, continue to face discrimination and exploitation. But at the level of policy, California has articulated for more than two decades a consistent conception of its public in substantive, rather than formal, terms: the public as people with whom we live and on whom we depend. Let us call this *the principle of an informal and inclusive public*. In climate policy, this conception has led not only to California's role in enacting the most stringent emissions restrictions in the nation, whose benefits will go mostly to those outside its borders, but also its trans-border emissions agreements in 2013 with Québec and in 2017 Ontario.[75]

These three principles - temporal extension, public agency, and informal inclusion - can provide a conception of a public for climate policy. Climate change policy requires a model of politics that crosses borders and assembles heterogenous constituencies to its cause. A defensible policy must defer consumption for the sake of the future. It must look to the real interests of persons across political boundaries. And it must presume a state willing to act dramatically and extensively. It calls, that is, for a conception of the public as a strong agent, unbounded by political frontiers, with a sense of itself as strongly belonging to a community over the *longue durée*. These principles do not define a specific discount or savings rate, or a precise allocation of the distribution of burdens between historic and current emitters, or present and future generations. But the determinacy promised by pure theory, ethical or economic, was always illusory. The principles of temporal extension, public agency, and informal inclusion do, however, amount to the basic arrangements from which we can improvise climate policy. These principles are themselves the product of political improvisation, and so reflect possibilities in politics, embedded and sustainable in a live, organic public. We must supplement them with

[73] I leave aside the contested question whether they also depress wages. But it is clear that when federal authorities under Trump first restricted border crossing, California agriculture struggled to find a workforce. The Trump administration then carved out an agricultural exception to its immigration restrictions, doubtless with Republican voters in the agricultural Central Valley in mind. See Julie Weise, "Trump's latest immigration restriction exposes a key contradiction in policy," *Washington Post* (June 23, 2020).

[74] The harshly anti-immigrant Proposition 187 was a Republican initiative, but Democratic Senator Dianne Feinstein effectively supported it; 34% of Democrats voted in favor of it, including substantial support by Latino and Black voters. Hugo Martin, "California Elections," *LA Times* (Nov. 10, 1994). The story of California's 1990s immigration politics is chronicled in Kevin Starr, *Coast of Dreams: California on the Edge 1990-2003* (Vintage, 2004), Pt. IV. The shifting politics of immigration appears to reflect a number of factors, including an emerging, younger body of voters in California, improving economic circumstances, and increased contact between immigrant and non-immigrant groups. Elliot Barkan, "Return of the Nativists?," *Social Science History* 27: 229-283 (2003).

[75] Cap and Trade Program, California Air Resources Board, here. Ontario rescinded its participation in 2018, when Trumpist reactionaries came to power.

other principles, drawn from other polities – particularly China, Brazil, and India, if they are to serve as a basis for real negotiation.[76] In the meantime, they can deflect skepticism that a border-fluid and ambitious politics of the future is an academic pipe dream, and serve as a proof of concept for climate policies that entail substantial redistribution and state action.

I recognize that the very fact that these principles are embedded in real political communities invites a different form of skepticism: can they travel from their organic home to outside or trans-national habitats? The improvisational public rests on two different ways of thinking about normative political argument. First, we do not generate principles algorithmically, but organically, in communication with other principles and hosted by complex institutions. French and American liberalism, to take a clear example, reflect very different conceptions of individual relations to the state, the former finding freedom within a state-conferred identity of *citoyen*, the latter through limitations on the state, and state-imposed limitations on other actors.[77] But their very differences make them mutually useful. Furthermore, studies in the international transplantation of ideas and practices suggests that political geography is a low barrier.[78] This raises the second principle of the improvisational public, which is methodological: we must bring the different melodies and accompaniments together in novel and fruitful ways. There is no single right answer to an improvisational "problem." The role of theorists, on the model I propose, is to look for new harmonies, transplants and fusions of principles and practices that can alter the possibilities of international cooperation. Formal or idealized theories will be part of this process, but the ultimate direction and argumentative foundations will come from the practices themselves. Changes in social, political and technological context will also shift the improvisational possibilities.

I have, so far, told a cheery story of different traditions and values combining in harmony. This may seem overly rosy. If national standards vary, what licenses me in selecting only the principles and values I like, and not the ones I dislike? I might instead have chosen different principles instantiated around the world: drill and pump oil as fast as you can, never mind the emissions, and spend the money now to buy the loyalty and political apathy of a small cadre of citizens, surrounded by a sea of exploited resident workers.[79] Clearly my values precede my selection of principles, and so it may seem misleading to suggest that the principles I select do any independent justificatory work.

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[76] [I had been preparing, pre-Covid, an empirical project with local collaborators to survey the Chinese public on questions of the values underlying climate policy, and with hopes to extend that work to India. The pandemic has put that effort in hold, though we did do interesting work in the US on the pandemic's effects on attitudes of solidarity and political efficacy.]

[77] See, again, Rosanvallon.

[78] Some transplants, such as American plea bargaining, may be unfortunate, but they demonstrate that even deeply autocthonous institutions can diffuse broadly. See Maximo Langer, "From Legal Transplants to Legal Translations: The Globalization of Plea Bargaining and the Americanization Thesis in Criminal Procedure," *Harvard International Law Journal* 45: 1-64 (2004). The diffusion of American-style graduate education is a more positive case. For a more general discussion of transplantation, see Zachary Elkins and Beth Simmons, "On Waves, Clusters, and Diffusion: A Conceptual Framework," *Annals of the American Academy of Political Science* (March 2005). Among climate-related cultural transplants moving from Europe to the US, and possibly Asia, are "flight-shaming" and precautionary regulatory politics.

[79] See my "Resources for the People" for further discussion. The values embedded in many US states, as much of Australia, are not much better.

We must meet the objection eventually in practice, both at the level of empirically thicker theorizing, and actual political organization. But I think it misfires even as an armchair objection to an armchair proposal. Before an ensemble improvises around a theme, it already has a conception of musicality, or aesthetic interest – or, more likely, an overlapping conception of musicality, containing points of consensus and dissensus. The melodies, progressions, riffs, and counterweights that emerge reflect both what the players together share (some of which is given simply by the mathematics of music) and what they bring separately. It is no knock on a successful ensemble that they are not open to any possible sound or any possible player – they look for individual talent in a way that is likely to both complement and expand their current resources.[80] So it is with ethical collaboration: the values participants bring to the dialogue filter and define the principles they observe and select but do not determine what will emerge. Blind selection of principles would miss the point: ethical deliberation aims at a justified decision responsive to the problem at hand.

Like musicology, ethical and political theories face an inherent limit, when the reader must put down the text and actually *engage* – in ethics and politics, with actual, committed in-person argument and empathetic imagination. The role of political theory in the area of climate in particular is to move us into a shared public world of political decision-making. Our ability to join, listen, persuade, and be persuaded will determine whether we have a future at all. This is not a call for practice instead of theory, but for their living, improvisational unity.

[80] The belatedly and posthumously recognized role of Charlie Watts in the sound of the Rolling Stones is another example, especially in his interplay with Keith Richards.

Chapter 6. The public in public education

1. Introduction: What is happening on the Plateau de Saclay?

This story begins with a trip during the pandemic to the Plateau de Saclay, a former agricultural center being turned into a giant academic-industrial hub. I am a long-term academic visitor to France and a semi-regular resident of Paris. But I had only vague intimations of the pharaonic academic project being built on the plateau de Saclay. I knew that the most prestigious science and engineering higher education institution in France, the *Ecole Polytechnique* (known as X), which has trained the large majority of its corporate and military chiefs and many of its presidents, was now located in a distant suburb of Paris, and that the *Ecole Normale Supérieure* (ENS) – perhaps the most exclusive educational institution overall in France -- had a sibling institution also in the suburbs. But when my son told me that his best friend was now attending an engineering school at Saclay, in a campus so new it lacked even a bakery, I began to take more notice of the frequent references to new institutions and programs occurring there. I decided to make a pilgrimage to see for myself, notwithstanding the semi-lockdown.

I found a dystopian, neoliberal nightmare. Soulless blocky buildings are scattered distant from one another, with long wide avenues separating them. A short shopping district features overpriced sushi but few of the telltale signs of campus life, such as cafes, bars, or theatres. The most architecturally successful of the new buildings, the Renzo Piano-designed *Ecole Normale Supérieure*-Saclay, has at its core a lovely garden, but it adjoins an interior architecture of long, open central corridors and galleries far more reminiscent of a 19th century prison than a university hall. In the district adjoining *Polytechnique*, virtually identical rectangular prisms succeed one another, featuring the largest names in French industry, seemingly squeezing the life out of the academic buildings they surround. While academic-industrial synergy is the obvious intent, parasitism is the visual effect, like the mistletoe strangling the trees in the nearby forest.

The peculiarities of Paris-Saclay are what one would predict of a higher educational system that developed in its own terms with little reference to external models until, in a fit of neo-liberal global insecurity, it focused all its efforts on climbing in world rankings and marrying academe to capital. French higher education's reluctance to emulate its counterparts in Germany and the "Anglo-Saxon" world of the UK, US, and Commonwealth has historical roots. But in belatedly responding to a globalized "marketplace" of education, it is on track to giving itself the worst of all worlds: a hugely expensive public educational system that provides little for its public except a degree brand, and a continuation of the soulless modernism and techno-scientific fetishism it should have learned to avoid. France can still change course and reshape the campus in light of a more vital conception of the public of a public university. Here, however, I treat Saclay as a case study and cautionary tale in the importance of thinking through what a public is in the context of education, and allowing different national experiments and cultures to inform our understanding of each.

2. Higher education in France – la différence

The French higher educational system has been an object of criticism for intellectual conservatism and rule-boundedness for nearly its entire thousand-year history. It has struggled to adapt to the social and economic times, on the one hand looking over its shoulder enviously and nervously at the more successful German system, and – especially in the 20th century – at the

American and British systems; and on the other it has stuck resolutely to its highly distinctive and fragmentary nature since at least the founding of the Collège de France in 1530, by François I, enraged by the University of Paris's refusal to break free of its Scholastic fetters.[81]

Among the distinctive historical features of the French system, the most prominent are the hyper-geographical concentration of students, faculty, and institutions in the Paris region, the system of the *Grandes Ecoles* as preempting the universities in prestige, even in Paris, with a near monopoly on training both public and private sector elites; and, finally, the concentration of political and administrative power over higher education within a government ministry, with relatively little autonomy for the universities themselves. Other features of the French system are more common, but more concentrated in France, notably a separation of research from teaching through the semi-autonomous *Centre National de la Récherche Scientifique* (CNRS), which extracts the strongest research talent from the cadre of potential teaching faculty (a system shared with Germany).

The results have been frustrating to France. For the neoliberal politicians, the complaints are two-fold. First, the fragmentation of the public system leaves French institutions globally underrated relative to the research strength of their individual faculty, with a cost in recruitment of international students and under-placement outside France for top graduates.[82] The exception appearing to prove the rule is the wealthy and prestigious private business school, INSEAD, which successfully populates executive suites around the world. Second, France has not successfully replicated the close synergies in the US between academic research and the tech (including biotech) commercial sectors. In both respects, France stands in the shadow of American campuses, especially Stanford, Berkeley, and MIT, with their culture of faculty-led start-ups and seeding of local industry.

Others voice different dissatisfactions, less centered on French schools' market valuation. First is the seemingly intractable status and resource gap between the prestigious Grandes Ecoles and the universities. At the most prestigious schools, nearly 70% of students have achieved a *mention très bien* on their baccalaureate exam, versus 7% of all of the exam takers, and 14% of higher education students more generally. The large majority of these students, meanwhile, come from just *ten* of France's high schools, and 90% of them come from non-working-class backgrounds.[83] Next is the general misery of university life for the mass of students and instructors outside the Grandes Ecoles. They are underfunded and overworked. Thirty percent higher student/faculty ratios in the universities mean few occasions for meaningful interaction within and between each group at the undergraduate level.

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[81] "Origines," *L'Annuaire du Collège de France* (2020)

[82] The French preoccupation with the Shanghai Academic Rankings of World Universities (ARWU) is explored by Christine Barats, Dissemination of international rankings: characteristics of the media coverage of the Shanghai Ranking in the French press," *Palgrave Communications* 6, Art. 77 (May 2020).

[83] Cécile Bonneau et al, *Quelle democratization des grandes écoles depuis le milieu des années 2000?* (IPP Rapport No. 30, jan 2021), p. 81; other data gathered by me from individual institutional websites. On the stunning over-representation of 10 high schools, see Cécil Peltier, "80% d'élèves d'X issus de 10 lycées," *Le Monde* (Feb. 10, 2019).

The third dissatisfaction, connected to the first two, is the vast misdirection of French high school students into math and science pathways, regardless of any innate interest in these subjects, because these pathways provide access to the most selective schools. This has a demoralizing effect on students struggling to succeed in fields that fail to capture their interest. It also creates a class of political and legal elites who, with the exception of those who pass through the gateway of yet another Grand Ecole, the *Institut des Etudes Politiques* (Sciences-Po), have barely grappled beyond high school level with the study of history, literature, political theory, sociology, arts or culture. The result is a deracinated and narrowly educated ruling class. There is also a profound gender gap, with only about 20% female students in the engineering *Grandes Ecoles*, including Polytechnique, and only about 25% in the ENS-Saclay (with vanishingly few in the sciences). The most prestigious of the ENS, on rue d'Ulm in Paris, does better on this score, with over 40% women now admitted in the traditional path, but the number of women in math and sciences remains well under 20%, very low by international standards.[84]

Previous attempts to unify the fractured higher education landscape in Paris have resulted in a bewildering series of name changes and new meta-groupings of institutions, with little effective difference. The Saclay project, initiated by then-President Sarkozy in 2010, was meant to be something different. It involves the physical co-location as well as organizational federation of some thirty Paris-centered and science and technology-focused educational institutions on the plateau of Saclay, taking advantage of a large tract of undeveloped land controlled by France's nuclear energy agency. The plateau also offered the advantage of already housing the research divisions of a range of French industrial champions, such as Thalès and the food giant, Danone. But it is an awkward location, an hour or more from Paris, without good public transit connections, and at best a 25 minute walk from the nearby towns of Massy and Palaiseau. But

Money has not been lacking for the project: the government has invested at least €5.3 billion in the construction of the site so far, with more to come.[85] The funds have paid for high-end architects and top-quality labs, even if opinions will vary on architectural success. And the most immediate mark of success has also arrived: for the first time, thanks to the agglomeration of research productivity at all the smaller institutions, Paris-Saclay ranks 13th in the world in the Shanghai assessments, which simply total up per capita prize wins and citation counts in math and science, rather than measuring more organic or comprehensive forms of excellence. Since Paris-Saclay will only another four years absorb the University of Versailles Saint-Quentin-en-Yvelines, which will be the primary source of its faculty in social science and humanities, it is thus far undamaged by this science-skewed ranking.

Paris-Saclay has celebrated its ranking result, although saying that of course the ranking success is merely the reflection of changes that are valuable independently. But the loneliness of the plateau, and the fact that the major innovation appears to be administrative agglomeration rather than real integration, are nothing to celebrate. The Shanghai result could reflect a burial of France's academic hopes rather than their realization. Saclay replaces one problem – a small francophone institution trying to compete on an anglophone world stage – with another: the

[84] Azzedine el Mourabet and Clara Hage, "Non. L'absence d'Oral à ENS-PSL n'a pas provoqué un bond du nombre de femmes admises," *Libération* (31 August 2020).
[85] Barbara Casassus, "How France overcame the odds to build a research mega-campus," *Nature* (27 October 2020).

replacement of the public university by a greenhouse of startup culture. If Saclay embraces an identity of rankings champion and industry partner at the expense of what makes for a great public university, France will have lost profoundly.

3. A brief history of higher education

Understanding the defects of the Paris-Saclay model requires examining the emergence of the public university and its most important attributes. We take the notion of a "public university" for granted, because we accept the labels that universities give themselves, as public or private – or because we place too much weight on ultimate lines of accountability terminating either in the state or in a private corporate body. But the real meaning of "public" for a university is much more complex.

The first public universities in the US, founded in the late 18th century in Georgia and North Carolina, were hardly distinguishable from private universities, insofar as they aimed to teach theology and law to develop a small set of political leaders. Medieval and early modern universities in Europe, meanwhile, were largely Church- or sovereign-controlled, subsisting as private corporations, until the end of the 18th century, and concentrated on theology, law and medicine, with important faculties of mathematics.[86] Distinctions were few.[87]

The great change in Europe arose at the beginning of the 19th century, with the establishment of two distinct models.[88] The first, which remains historically singular, was in France, starting under the Revolutionary government of 1793 and continued by Napoleon, and featured two major changes which reverberate even today. These were, first, the creation of the military engineering academies, notably the *Ecole Polytechnique* and the *Ecoles des Mines* et *Ponts et Chaussées*; and second, the abolition of the existing universities and their reorganization as a national "Imperial University," restricted to training in law, medicine, and teaching. The regional French universities were not re-established until 1896, following an extended period of national self-doubt induced by France's defeat at the hands of Germany in the Franco-Prussian war two decades earlier. Even then, their constituent faculties held barely any power except the highly conservative one of refilling their own ranks. Enrollments were very low in the faculties – for example, around 3,000 at the largest, the Sorbonne, at the dawn of the 20th century, then swiftly growing over the 20th century, especially post-war.[89]

The alternative European model was German, and had its roots in Wilhelm von Humboldt's liberal, research-based Berlin University, which aimed to inculcate free thought and cultivation "in mind and character" while also producing basic scientific knowledge through large, bureaucratically organized laboratories. The Humboldtian emphasis on *Bildung,* intellectual and moral development as an autonomous but conscientious member of society, had

[86] Christophe Charle et Jacques Verger, *Histoire des universités Xiie-XXIe siècle* (Paris: puf, 2012).
[87] Quoted by Walter Ruegg, in *A History of the University in Europe* (Cambridge: 2004), vol. II, p. 4. The remark is from Rousseau's *Considérations sur le gouvernement de Pologne.*
[88] For a deeper and more nuanced account, see Robert D. Anderson, *European Universities from the Enlightenment to 1914* (Oxford, 2004), chs. 4 & 12;
[89] Charle et Verger, ch. v; Della Malva et al., "Institutional change and academic patenting: French universities and the Innovation Act of 1999," *Journal of Evolutionary Economics* 23:211–239 (2013); Béatrice Jaluzot. "La gouvernance de la propriété intellectuelle dans le monde : L'influence du Bayh-Dole Act en Europe et au Japon." 2011. halshs-00780699.

clear implications for the principle of academic freedom, the trajectory of student careers culminating in independent research, and the university town itself as a center of culture.[90] For students, the unified curriculum of the French model contrasted sharply with the freedom of study emphasized in the German model, even as at the laboratory research level the French universities converged on the German model. The German model quickly came to define the global model of the university outside France, with an emphasis on regional autonomy, and integrated teaching and research institutions.[91]

In the U.S. of the 19th century, newly expanded public universities took on more utilitarian aims of creating and disseminating technical knowledge, particularly in agriculture, as well as in engineering-related fields. By the latter part of the century, the German model of teaching basic science and providing a choice among subjects came to define American universities, both public and private. Johns Hopkins, in the US, was founded in 1876 by Daniel Gilbert in direct imitation of Humboldt's Berlin University, which Gilbert had attended, and from where he imported a substantial number of faculty.[92] By the 20th century, and especially after World War II, both public and private universities emphasized basic science and humanistic education as much as technical research and professional education. The chief difference between them was one of scale, as public universities had the Humboldtian task of producing worldly citizens, but with a distinctively American emphasis on ensuring their capacity to participate at all levels of democratic society, and on fostering modern values of toleration and cooperation.

Perhaps because the American campuses had opened to a mass public earlier than the European campuses, they were less structurally affected by the turbulence of the 1960s and 1970s, and largely retained their administrative structures, even as they increased in size. The principal change in the American public university system of recent decades is the substitution of private resources – i.e. loan-fueled tuition –for public support, with declines on the order of 30-70% in state funding since the 1980s.[93] In France, in contrast, the great surge of students of the post-war generation, coupled with the generational turmoil of the late 1960's, led to an enormously consequential restructuring of the universities (less so the Grandes Ecoles) through the Loi Faure, with greatly reduced autonomy of the faculties, allowed for more participation by students and younger faculty, and ultimately, gave more authority to university presidents. The University of Paris was fragmented into 13 smaller components, some of which have rearranged themselves in subsequent years.

Despite these sweeping changes, one striking feature of the French system has remained: the segregation of the country's top researchers in the laboratories of the *CNRS*, itself a product of reforms undertaken in the 1930s. While CNRS (as well as the biomedical INSERM) laboratories were officially attached to the universities, in practice this amounted to a separation

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[90] Georg Kotowski, *Wilhelm von Humboldt und die deutsche Universität, in Universität und Universalität* (De Gruyter 1963), 25. (I am grateful to Anja Bossow for the reference and translation).
[91] R. D. Anderson, *European Universities from the Enlightenment to 1914* (Oxford, 2004), ch. 4.
[92] Lenore O'Boyle, "Learning for its own sake: The German University as 19th century model," *Comparative Studies in Society and History* 25: 3-25 (1983); Stephen Muller, "W. von Humboldt and the University in the United States," *Johns Hopkins Technical Digest* 6 (1985).

[93] Kevin Cook, "Higher Education Funding in California," *PPIC Fact Sheet* (March 2017)..

of research and teaching functions and a sharp contrast to the American and British models of more unified university faculties. The Franco-German model of separate research organizations, while arguably productive for research itself, requires those teacher-researchers in universities to work across different institutional boundaries. The segregation of teaching and research starves universities of research funding, and gives only advanced graduate students or post-doctoral scholars the chance to learn from leading researchers.

4. Various conceptions of the public in public education

This contrasting history of division and fragmentation in France, and integration and enlargement in the U.S., sets the background for the basic conceptual question: what public values should the highest-level research and teaching enterprises of a state embody? Public universities and laboratories emphasize different qualities in subscribing to that title, from funding sources to reporting lines to much broader philosophical commitments to the public interest.

Let us begin with the funding source. Public funding is an arguably necessary but not sufficient condition of publicness in a university. It is insufficient because both private and public universities receive public funding in the form of research funding and taxpayer-funded scholarship aid to students. While public universities usually receive a direct subvention of their teaching mission as well, it is hard to distinguish that in practice from the substantial indirect aid provided through tuition tax credits or public scholarships, both of which allow the nominally private university to raise fees.

The question whether public funding is *necessary* to public status is more complicated. Many public universities now receive very little support from the state and instead rely on private sources, including tuition and philanthropy. For example, the state contributes roughly 14% of the operating budget of the universities of Michigan, and the University of California-Berkeley, and 5% of Washington's budget.[94] This is a historic change: thirty years ago, funding levels were two to three times as high, and were the primary revenue source. In the limiting case, a university could rely on no new public funding, for instance if it had a one-time donation of a public endowment, as at the public university system of Texas, and so drew on no continuing funds. The historic shadow of public funding, more than its existing element, might render this a public university in terms of funding.

The second form of publicness is public accountability. A university is public when its ultimate directing authority is either the state itself (in the form of a ministry), or a body directly appointed by the state, such as a board of governors. Different public systems have different degrees of freedom from direct political control by elected authorities. In the American model, many of the most successful systems have high degrees of protection from direct political interference, especially with respect to the appointment of university presidents and the academic freedom of their teaching and research staffs. But many other features of their organization are either set by, or negotiated with, political bodies, including of course funding levels, but also

[94] Budget fact-sheets for U. Michigan, UC Berkeley, and University of Washington for 2021. 40% of the budget for the University of California system comes from the state, reflecting the larger proportion at the smaller UC campuses (which have less federally-funded research and fewer out-of-state students). I omit federal funding of research and scholarship, since this is true of private universities as well.

often enrollments, tuition levels, debt capacity, and labor terms and conditions. Within private universities, these parameters are set independently of the state. Finally, public universities must account for themselves to state authorities, through extensive transparency requirements, going far beyond the annual reports issued by their private counterparts.

In practice, questions of accountability are more complex for both private and public universities. In the U.S., private universities that receive federal funds – essentially, all private universities – are extensively governed by complex public regulations with regard to nearly all aspects of their functioning, notably the administration of research funds and the protection of the health and civil rights of their students. Large portions of the administrative apparatus of private universities are effectively responsive to public rules and public bodies. Conversely, the leading public universities seek accreditation from private bodies, such as the American Association of Universities, and are thus accountable to private norms and actors. And as public systems have reduced their funding contributions and pushed public universities towards private sources of funding, from industry sponsors as well as philanthropy, their accountability has also shifted towards these actors. In European systems as well, both public and private institutions operate in a web of public and private rules and claims of attention. So, while the highest level of an organizational chart of accountability will distinguish "public" from private universities, the complexity of their actual administrative structures means that accountability is as feeble a criterion for the distinction as funding sources. Moreover, because it is a purely procedural criterion, it can tell us nothing about any properly distinctive aims of public universities as such. Indeed, the very problem with the Paris-Saclay project is that the state gave it a directive to shape itself around an essentially private conception of its mission, to provide a bridge between research and private industrial development.

The third form of publicness has to do with a university's mission and ends -- how it serves the public. We can call a university's goals and effects public if they are benefits enjoyed by a large swathe of the public, whether of the region, state, nation, or world. This is a broader application of the term "public" than in the economics notion of "public goods," which refers to any benefits which are formally open to all, and which some can enjoy without reducing the benefit to others, even if in fact few benefit, such as a buoy marking a remote reef.

Both French and American public university systems aim to produce the same very general sort of goods. Some of these goods – knowledge, democratic capacity -- are all public in the economic sense, since no group can monopolize their indirect effects. All share in the intrinsic value of membership in a society with advancing basic knowledge and good democratic governance. But many other products are only potentially public, such as technological innovation, which may only be available to those who can afford to license the technology. Even the economic growth fostered by that innovation might (in an unjust society) only benefit some, not all.

Therefore the public character of a university's products is not something internal to, or under the control of, the university itself. Rather, the public character of those products depends on decisions taken by the state, narrowly in relation to the licensing of innovation, and more broadly in relation to the distribution of the wealth generated by its research and teaching. In both the US and France since the late 20th century, the university has increasingly become the

site of monetizable research in applied STEM fields rather than non-monetizable basic research in all fields.

In the US, the 1980 Bayh-Dole act, which shifted the system of publicly funded research to encourage its monetization, was the chief driver of this change. Moreover, both private and public universities produce both private and public goods. But when a public university produces technology, although it holds the license any revenue essentially belongs to the state (since it usually replaces state funding) whereas, in the US, where private universities are essentially untaxed, there is no prospect of recapturing the revenue from their inventions for the state system's purse. Nonetheless, the federal government, which funds a great deal of research at both types of institution, retains the right to "march in" and force licensing rights when a university fails to exploit its potential intellectual property.[95] So even this distinction between private and public in terms of the good produced fades at the federal level.

France's analogue of Bayh-Dole is its 1999 Loi Allegre, which aimed for an equivalent stimulus to public research institutions. Both laws have had dramatic effects on the self-conceptions of academic institutions in France and the US, with the neoliberal model of US research becoming a beacon in France despite its much more socialized system. US university presidents constantly implore their faculties and departments to seek out "new revenue sources," whether in high-fee stand-alone professional degree programs or in industrially-linked research. The conception of Paris-Saclay as a joint product of industry and state is the most extreme manifestation of the same model in France.

These initiatives and responses to funding shortages have pernicious effects, some of them philosophical: the market-valued products of the university have come to overshadow intrinsically valued public goods.[96] To the extent our conception of the publicness of a university rests on its capacity to stimulate private benefits, it will be subject to two different kinds of distortionary and destructive pressures: first to shortchange basic research in order to emphasize technical benefit; and second to see the university in purely instrumental terms rather than as itself a distinctive kind of public community that is an end in itself. The increasing focus in both the US and France on the public aspect of universities as R&D labs threatens the salient feature of universities as public entities, namely that they are a distinctive and invaluable form of *public community*.

Understanding the university as a community can distinguish the public university from the private one. Thus far, our strategies of distinction have failed: both public and private universities make use of both public and private funding sources, both are subject to public and private forms of accountability, and both can produce both public and private goods. But if we can identify something distinctive about the public university, it will help to answer a broader question about politics and governance: what value is there, if any, in public education, as opposed to privately organized and managed institutions? This is a question that resonates across the social and political domain, and providing an answer to it is crucial to the much

[95] John R. Thomas, "March-In Rights Under the Bayh-Dole Act," *Congressional Research Service Report* (Aug. 22, 2016).
[96] See Wendy Brown, *Undoing the Demos* (Princeton, 2015), ch. 5.

broader project of figuring out exactly what we aspire to in our efforts at collective self-realization.

Neither funding source, nor goods produced nor accountability structure clearly distinguish a public university. Community does. A university can be public with respect to the students it recruits and the community it forms. The first aspect is the most concrete form of public character. A public university should educate and enliven. The best approach to that goal is to take in the public in substantial numbers. This approach directly engages the public as the active subject of the university, rather than as an object of treatment or a passive beneficiary. A university is not like a hen house, dispensing nutrition to subjects who merely ingurgitate it and grow. It is, rather, a complex, collective agent, including many kinds of individual actors -- instructors and students as much as administrators, librarians, curators, maintenance workers. A public university differs from a private one by taking in the mass public as an essential part of its active community. Private universities generally do not aspire to educate the public through their direct participation, but only through indirect action, for instance by training leaders and "innovators."[97]

Accommodating the public in large enough numbers to embrace its heterogeneity and to directly educate in significant numbers is thus the first pre-requisite of publicness. This principle takes the public as an agent, as an active improvisational creator of the university. To be sure, no single campus can accommodate a substantial number of a nation's public except in the least populous of countries; and so almost all public universities understand themselves to be part of a system, with some campuses larger than others. Broadly speaking, all of a public university system's pathways, including the most selective, should reflect the diversity of the broader society, rather than relegating some social classes to mass institutions, and providing small numbers of others an intimate forum. The US was an international pioneer in mass higher education, with 47% of its population enrolled in a higher education program in 1971. Its rate now stands at 87% (including private enrollments), but it has been surpassed by a number of national systems, notably those of Australia, Greece, and South Korea. France lags behind, at 67%.[98]

Most mass-public systems of education include some hierarchical, hence selective, institutions, attendance at which confers a range of positional benefits in social status and market value. But few public systems have a tiny, hyper-elite keystone for the system.[99] The principal objection to such systems is not to educational meritocracy itself, or some differentiation on the basis of academic performance.[100] The principal objection is that meritocratic standards present a risk of common pathologies, notably the attempts by the wealthiest and best connected to monopolize the resource, and a deformation of other interests and activities by candidates

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[97] Although, for instance, the mission statements of Harvard and Princeton make reference to "educating the public" and "service to humanity," respectively, the focus at both is on developing "citizen-leaders" and alumni who will "benefit themselves but also society."

[98] See Brendan Cantwell, Simon Marginson and Anna Smolentseva, *High Participation Systems of Higher Education* (Oxford 2018), pp. 6, 58

[99] Cantwell & Marginson, ch. 5 ("Vertical Stratification").

[100] But see Michael Sandel, *The Tyranny of Merit* (MacMillan 2020) for a critique of the very idea of meritocracy. I criticize Sandel's critique in "Meritocracy and its Discontents: The View from Outside Harvard Yard," LA Review of Books (Jan. 30, 2021).

seeking above all else to be able to walk through the admissions keyhole. These are the familiar defects of American Ivy League admissions and the French Grandes Ecoles. It is one of many paradoxes of the French higher education system that one of the most economically egalitarian wealthy countries on earth also has one of the most inegalitarian models of higher education. In France, fewer than 10% of students at the most prestigious Grandes Ecoles (the ENS, IEP and top engineering schools) are drawn from working-class and limited income backgrounds, compared with about 20% of students in the Ivy League.[101]

A country might justifiably choose to devote disproportionate resources to an elite stratum of its educational system, but only if there is a substantively and not just formally fair basis for doing so. Fair equality of opportunity in the educational field is a matter of substance and not process, if it is to be anything other than an illusion or a lottery ticket. For a state to be able to claim that careers and offices are genuinely open to talents, including those careers and offices requiring relatively scarce talents and specialized training, then all those with the appropriate talents must have access to the training. One mistake of hyper-elite institutions is to regard themselves as meeting the demand of equal opportunity by eliminating formal barriers of access while largely ignoring the structures of informal advantage that inevitably arise; a second error, no less profound, is limiting their volume so that regardless of the fairness of the pathway, most of the most talented walk away disappointed. France's hyper-elite institutions are guilty of both.

4. The improvisational public community

The state of California addressed these pathologies and arrived in the latter part of the 20th century as close as any to the Platonic ideal of *public* public education, at least in this world of shadows. Clark Kerr's 1960 Master Plan gave California two principal goals: to create a system of higher education open to all who wanted to benefit from it; and within that system to establish differentiated institutions, each pursuing "excellence in its sphere."[102] These differentiated institutions are the two-year community college system, which provides general and vocational education, and crucially also a path to full four-year degrees; the California State College system, which aims at general education; and the University of California system, which aims at integrated research and teaching, and which selects from the upper 12.5% of California's graduates, as well as top students from around the US and the world, amounting to 20% of the population at its top campuses, UC Berkeley and UCLA.

The Plan has been a success in its two most important aims for the University of California, notably the creation of a great public university that accommodates a significant percentage of Californian graduates. UC is strong across the board in all fields of inquiry, from basic science to the humanities to agronomy and engineering. In particular, most global rankings locate the University of California campuses of Berkeley and UCLA among the best, or the best, public universities in the world after quasi-public Oxford and Cambridge, and both house significant numbers of Nobel, Fields, and MacArthur winners, as well as members of the most prestigious academies in their fields. The state has broken many of the promises of the Plan, notably the promise of free tuition to California residents, and failed to increase its size in proportion to population growth, thus departing farther from the Platonic ideal. Still, the model

[101] Bonneau et al, *Quelle democratization*, pp. 5-7.
[102] *A Master Plan for Higher Education in California 1960-1975* (California Dept. of Education 1960), p. 2.

has demonstrated its robust success for decades with high levels of public spending, and even now it stands out as markedly more egalitarian, affordable, and successful in terms of quality than any other public or private university in the United States, and probably the world.[103] The California State system dominates overall national rankings measuring social mobility, albeit with competition from the smaller City University of New York system, while the University of California campuses are at the top of R1 level research universities, and vastly outrank elite private universities.[104]

While it may seem peculiar to counterpoise the University of California, a state rather than national system, with higher education in France, it is in fact a useful foil for the most selective stratum of the French system. [105] California's total population is about half that of France, albeit with a somewhat larger proportion of younger people (20-24), about 63% of France's. California's total higher education spending, meanwhile, is about 2/3 of France's, at $16 billion versus $25B.[106] Because each system has highly differentiated per student spending, it is hard to make very precise direct comparisons, but some rough figures are still useful. At the elite level, California spends about $12,000/student in the UC system, while France spends substantially more ($18,000) on students in its *Classes préparatoires*, which are post-high school classes for the most competitive French students preparing for entrance exams for the Grands Ecoles. That spending is a function of the tiny class sizes in that genre of establishment, which more than offset the much higher personnel costs in the American system. General university spending per student, meanwhile, appears to be about the same in the two systems, at about $11,500/student ($13,800 in science and medicine) in France.[107]

Comparisons at a granular level are perhaps more useful, especially since France does not break out spending on its Grandes Ecoles as a category. If we look at the total budget of UC Berkeley, the traditional flagship of the UC system, and compare it with the Ecole Polytechnique-Palaiseau, the French engineering flagship, per student costs are roughly the same, at about $68,000/student at UC-Berkeley, versus $59,000 at Polytechnique, notwithstanding the vast differences in scale and research programs between the two. Stanford's budget is about five times greater, per student. By contrast, the per-student budget at Paris-Sorbonne, or the Université de Paris-Saclay (the mass education component of Saclay), is about 1/3 the level of Polytechnique or ENS-Saclay.

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[103] See Simon Marginson, *The Dream is Over* (UC Press, 2016), for an equally enthusiastic history of the early years of UC, and a more mixed assessment of its current status, because of state defunding.

[104] 2020 Social Mobility Index rankings, here. Fourteen of the top twenty universities in social mobility are CSU, followed by six CUNY campuses (Baruch is first place). UCLA and Berkeley rank 143rd and 278th, respectively, compared to Princeton at 1169th and Harvard at 1264th, out of 1449 ranked.

[105] I have complied data for the following paragraphs from a range of official demographic and education sources, principally from individual campus websites

[106] Estimates of total CA state funding vary widely, but the *Grapevine* data compiled by the University of Illinois seem to be the most credible. Federal expenditures, in the form of individual student aid, would further raise the proportion of public spending in the US. California spends the most of any state on higher education, and the most per capita of any large state, ranking 8th nationally. (Surprisingly, libertarian Wyoming spends the most per capita and per $1000 in personal income, by a substantial margin.). French Ministry of Higher Education state spending is here.

[107] French Ministry of Higher Education budget data here. Overall spending on US higher education is much greater than in France, because of the substantial private (tuition and philanthropic) contribution, as well as much higher costs in both the private and the public sector.

What does California get for its spending? The ARWU/Shanghai rankings are a deeply flawed measure of university success, since they measure only top mathematics and scientific prizes and scientific citations, thus neglecting the comprehensive strengths of universities across other disciplines. By this admittedly poor measure, UC Berkeley comes in at 5th position, UCLA at 14th, UC San Diego ranks 18th, and UC San Francisco, a health sciences campus, comes in at 20th.[108] In the more comprehensive though still flawed 2020 rankings offered by *Times Higher Education*, Berkeley, UCLA and San Diego rank 8th, 20th, and 34tht in the world.[109] All three universities compete successfully for students and faculty from around the world. France concentrates its meritocratic spending on a tiny number, while California shows that it is possible to have both broadly accessible and well-funded highly selective institutions.

Given the number of students educated, and the quality of research generated, the success of the University of California model shows that scale and quality are highly compatible. The model has demonstrated remarkable resilience and success in providing a public system of both mass access and meritocratic allocation, without falling prey to the elitism of the French Grandes Ecole model or the American Ivy model. Its major flaw has been state underfunding of the mass education system, with inadequate resources for educating students already suffering from dramatically underperforming and also underfunded secondary educational system. With respect to mass education, France and California as a whole perform similarly, with roughly 48% and 50% respectively of their populations between 25-34 having received at least 2 years of tertiary education – both above the OECD mean, though lagging far behind Japan, Russia, Canada and Korea.[110]

In the University of California, not only is the system as a whole large enough to embrace both excellence and its public role, but each individual campus itself forms a public community. This is the defining characteristic of publicness. A university should not only accommodate a public as its students, and as the audience for its lectures, but also shape the public through the shared life of its students, faculty, and staff. A university is a community. A public one must be a public community, through the diversity of interests and aptitudes of the people who make it; and more directedly, through the kinds of activities and joint projects outside the classroom that allows diverse individuals to come together – the libraries, reading rooms and study spaces, orchestras, drama groups, sports clubs, debating societies, meal halls, movie screenings, concerts, pubs and bars, and lawns that together create a collective identity. Some private universities further embrace sectarian identities; others have secular identities that do not, in large part, distinguish them from their public counterparts. But all properly *public* universities must aim to foster a community that looks like the polity as a whole in its differences, and yet comes together in purpose, spirit and commitment to respectful and equal treatment of one another.

As the University of California has broadened the communities it serves, and as the state itself has changed through immigration, it has incorporated a vast range of interest groups and

[108] Shanghai Rankings (2022); Paris-Saclay has switched places with UCLA since 2021.
[109] See, e.g., Times Education Supplement World University Rankings (2022); Paris-Saclay is 117th.
[110] Statistics from https://data.oecd.org/eduatt/population-with-tertiary-education.htm. See also Marginson, *The Dream is Over*.

curricular subjects to meet that new breadth, including groups of formerly incarcerated students, a large group supporting first-generation college students, dance and music groups across a wide variety of styles and traditions. The experience for students can be overwhelming, but the immersive effect is unmistakable, as students learn to orient themselves in tangled webs of values and argument. Their daily lives involve countless acts of improvisation across tradition and disagreement.

Public campuses, therefore, have a special reason to embrace the full scope of academic disciplines, from Arabic literature to zoology, as well as cultural interests, not only because of the synergies as different interests and specialties collide, but because in doing so they model the plurality of voices and competences of their larger democratic public. The forced conversation of humanist with the engineer, as well as of the poor, rural student with the wealthy urban one, can create in both a lasting respect for the value of different perspectives and expertise, as well as a recognition of the limits of those same differences. While there are some highly productive technical and scientific campuses, these are exceptional cases. The predominant institutions producing the most interesting and transformative research in the sciences are strong across all fields of study. People think much better when they think together.

6. Tear down these walls

In our list of what counts for the publicness of a university -- public funding, public accountability, public benefits, public accommodation – the defining quality is public community. Returning at last to the Plateau de Saclay, I believe that the best hope there is to tear down many of its internal walls, and reconceive itself as an organic, living public. The incentive is probably lacking, given that Paris-Saclay's Shanghai ranking is now just above UCLA's, with a comparable number of students. But this rankings success is a product of organizational chart changes that have looked to the Shanghai rankers like a new unified university. It's an accounting trick. While the UC campuses operate as integrated wholes, Paris-Saclay has maintained high internal institutional walls between its constituent parts, with little student access across them. It has failed to integrate its most prestigious neighbor on the Saclay plateau, Polytechnique. Even the relatively autonomous colleges at Oxford and Cambridge – another model for Saclay's highest-level organization – operate as unified faculties for many teaching purposes. Without a genuine integration of admissions, undergraduate teaching, and research faculties, the traditional academic pathologies of elitism, segregation, and conservatism seem destined to make an empty promise of the Shanghai-winning formula.

The envisioned scale for Saclay of 60,000 students is also too great for an integral community to plausibly form, given the highly differentiated student bodies of the different institutes and without the anchor of common libraries, clubs, cafes, theatres, and pure physical proximity. Meanwhile, the constituent institutions remain too small to overcome the existing elitist hierarchies and model a democratic society. Moreover, the heavy focus on science and engineering, with minimal presence of humanists and social sciences means that the campus community is unlikely to achieve the kind of vibrancy that enlivens the universities Saclay aims to emulate. The gender imbalances within the constituent institutions are also deeply troubling. As I mentioned above, the engineering campuses of Polytechnique and Centrale Supérieure are, respectively, 84% and 82% male; and even the multi-disciplinary ENS-Saclay is 75%. Since women make up 59% of the university population overall in France, these extreme gender

imbalances will be masked by the same Shanghai accounting trick when the small institutions' enrollments are aggregated with the universities.[111] But since those elite programs are the royal routes to economic and social power, the overall numbers mask a persisting gender schism. Without larger enrollments in those smaller institutions, the numbers are unlikely to budge. For comparison sake, undergraduate engineering enrollment at the University of California is a somewhat better 26% female. In the life sciences, women are nearly 60% of the total, and about 35% in mathematics and the physical sciences. Moreover, the much larger absolute enrollments of the UC campuses mean that many more women are entering STEM professions, including teaching, by comparison to France. If Paris-Saclay aims to change the gender imbalance, it needs to expand the possibilities for women in its science and engineering programs, without substantially increasing the size of the university overall.

I have treated the example of Paris-Saclay at length, because it can serve as an anti-type, a warning about how one can build a public university but leave the public behind. Each of its flaws reveals a pallid conception of the public, from its inner walls, to its narrow curricular focus, to its failure to plan for a vibrant cultural life outside the classroom, to its scale. A university community is among, if not the most important places where a polity creates itself as a public agent, defining its values, goals, and technologies. The intensely reflexive self-consciousness of campus life can be a persistent joke or annoyance in the broader culture, no less in France than the US. That is to be expected, for the university is where many people's intellectual, sentimental, and ideological projects form. The public community that emerges in the improvisational mix is inherently unstable, because of this self-consciousness, and in that instability it provides energy for broader cultural change. The overall point I have tried to extract from this comparison is that states can have both vivid public educational communities and communities of excellence. Mass education and mass meritocracy are both possible. Indeed, both are essential for the future we hope to have.

[111] Overall current French numbers are reported by the semi-official *Observatoire des Inegalités* here. Women in France are substantially over-represented in the humanities (70%) and medicine and pharmacology (66%).