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*The Making of the Modern State:  
Social Scientization and Education Legislation  
in the United Kingdom, 1800–1914*

**Abstract**

Until the 19th century, the UK state stayed out of education. Only in 1833 would Parliament first pass an act that subsidized education for the poor. By 1914, 160 education acts had been passed, consolidating into the state schooling system we recognize today. This paper seeks to explain this remarkable progression. I argue that the emergence of social-knowledge institutions across the West was a powerful force of cultural construction. What I term social scientization, this process was multidimensional and translocal, entailing the elaboration, reification, and diffusion of functionalist theories of the nation-state that centered national education as means to greater cultural rationalization. Longitudinal analyses on comprehensive population data comprising over 10,100 UK parliamentary acts support the core historical insight of this piece: increasingly routine and aggressive forms of state intervention in education were the progressive instantiation of the 19th-century nation-state model, which was fundamentally epistemic in character and inextricably linked to the expansive cultural content of the ascendant social sciences.

*Keywords:* Nation-State Formation; Social Scientization; Cultural Rationalization; Education Legislation; United Kingdom.

DURING THE LONG 19TH CENTURY, states across Western Europe and North America converged on institutionalizing what has since become a defining feature of the contemporary nation-

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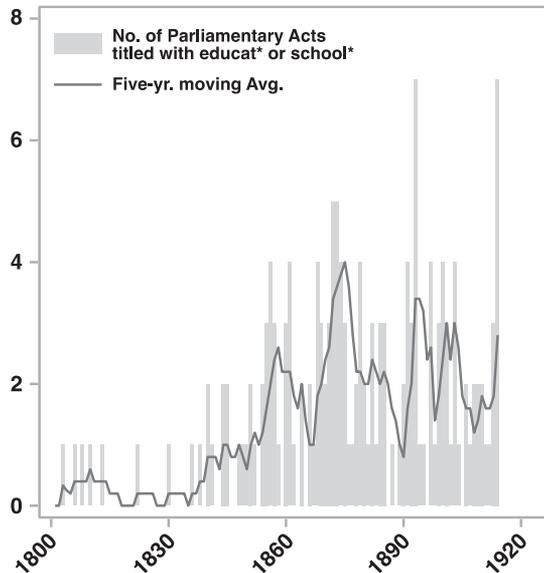
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FIGURE 1

*Trend in the Number of Parliamentary Acts in the United Kingdom Titularly Related to Schooling and Education, 1800–1914 (n = 160).*



Note: See "Dependent Variable" below for variable definition.  
Source: Wikipedia (2021).

state: state systems of national education [Boli, Ramirez and Meyer 1985; Craig 1981; Meyer, Ramirez, and Soysal 1992]. While comparably slow out of the gate, particularly in the context of its initial spurt of industrialization and its later global imperial hegemony, the United Kingdom<sup>1</sup> was no exception [Soysal and Strang 1989]. In 1833, it passed its first act providing government funding for the education of the poor; this support took the form of annual subsidies to the schools of the two voluntary religious societies representing Anglican and Nonconformist interests that were active at that time [UK Parliament 2021a, 2021b].

Though subsidized religious education for the poor is a far cry from contemporary notions of state schooling, by 1918, and 160 parliamentary

<sup>1</sup> The United Kingdom of Great Britain and Ireland was founded in 1801 with the Act of Union and lasted until 1922, when the Free Irish State was formed with the Anglo-Irish Treaty. Afterwards, the state took

on its contemporary name: the United Kingdom of Great Britain and Northern Ireland. The "UK" in this piece concerns the historical state, not the contemporary one.

acts later (Figure 1), the national education system in the UK had taken a strikingly familiar form: all children were required to attend state-sponsored, state-inspected schools until they were 16; teachers were trained; official national curricula emphasized science, modern history, and technology; pupils underwent official standardized examinations, were given school lunches, and received medical attention; and the primary schooling system was the foundation of a far more encompassing and tightly concatenated national education system that included secondary education and extended up through to the university. What explains the UK state's heightened and routinized intervention in education across the 19th century, given its comparatively *laissez-faire* approach up until that point?

A foundational insight from the literature in comparative/historical sociology and global/transnational sociology is that the 19th-century nation-state emerged and diffused as a model in Western Europe and North America [Anderson 2006; Gellner 1983; Meyer 1999] and became globalized in the latter half of the 20th century [Meyer *et al.* 1997; Wimmer and Feinstein 2010]. Yet, the theoretical treatment of education between the subfields is distinct. In comparative/historical sociology, mass literacy often figures as a precondition for the rise and spread of nationalist movements. In global/transnational sociology, state systems of national education were the constitutive component of the larger cultural model: they became an exemplary, defining organizational feature of an increasingly recognizable nation-state form just as they were the integrative means by which the very principle of the nation-state persisted [e.g., Meyer *et al.* 1979]. Despite the differences between these theoretical emphases, there is consensus that national education systems are a core feature of the nation-state model in both subfields. In this context, the UK state's establishment of its state schooling system and its heightened level of intervention in education over the course of the 19th century, described above, can be interpreted as a historical process of instantiating this nation-state model.

Understated and understudied in both fields, however, is the fundamentally epistemic character of the 19th-century nation-state project. To be sure, classic accounts of the origins of nation-states acknowledge the roles of political and knowledge elites in official programmes of nationalization. Anderson [2006], for example, argues that when statesmen across Western Europe witnessed the power of grassroots nationalist movements in the colonies that led to independence, they instituted their own top-down official programmes such as national education and mass literacy campaigns to promote collective identities that could be similarly mobilized. Both Gellner [1983] and Hobsbawm and Ranger [1992], too,

acknowledge the role of a literate elite in appropriating (or inventing and forging) folk and vernacular culture so as to promote a generalized notion of the nation among all strata of an industrializing and pluralizing society. Yet, none of these analyses gives the social-knowledge institutions developing across Western Europe and North America during the 19th century pride of place in accounting for the construction and broad diffusion of theories of the nation-state. Attending to the emergence and institutionalization of the social sciences, in particular, would help us better understand the centrality of national education systems in theories of the nation-state and in the broader cultural rationalization project, as well as in progressive forms of state intervention in education like those outlined above in the case of the United Kingdom.

This insight is the organizing purpose of the current research. In what follows, I argue and show that across the wider West, in both national and international civil society and in bureaucratizing state apparatuses, the development of the social sciences was a transnational epistemic movement that functioned as a powerful force of cultural construction and diffusion throughout the 19th century. Part of this movement entailed the elaboration of dominant theories of development. These theories centrally figured national education systems as the means to greater progress by making individual persons—and the political and social systems organizing these individuals—better aligned to those very theories of progress. Part of this movement also entailed the reification of these theories with new volumes and varieties of social data and instruments for their analysis that had as yet never been seen or used in policymaking, such as parliamentary blue books and census returns in the UK. In turn, this meant that normative visions and political ideologies were recast as naturalized representations of the true social order, what Somers and Block [2005] term as social naturalism (i.e., social arrangements are natural) and theoretical realism (i.e., theory expresses Truth). And it meant that distinct and distant social realities could be rendered comparable and comprehensible within a universalizing frame, what Espeland and Stevens [2008] call commensuration. Together, this movement—what I term *social scientization*—operated as a font of expanded cultural content. And it hardwired into the very organizational structure of the modern nation-state the epistemological structures through which transnational epistemes defining the character and content of the nation-state itself, especially the primacy of state systems of national education, could be practicably channelled. Social scientization therefore helps us to understand the conditions underpinning both the construction and diffusion of the nation-state model across the 19th

century. And it helps us to understand the heightened and increasingly routine state intervention in education, outlined above, as a progressive instantiation of this epistemic model.

*Education, Social Scientization, and the Nation-State Project*

*Nation-States and national education systems*

Over the course of the last two centuries, the nation-state came to the fore as the predominant form of political organization: first across Western Europe and North America [Thomas and Meyer 1984] and later around the globe [Wimmer and Feinstein 2010; Meyer *et al.* 1997]. Since the emergence of the nation-state, national education systems were one of its defining features [Soysal and Strang 1989]. Yet, the roles education played in this emergence vary across the literature that seeks to explain the 19th-century nation-state and its subsequent global diffusion. In the literature of comparative/historical sociology, education is often understood as literacy in the broadest sense: the ability to read and write, sure, but also knowledge of history, culture, and a collective mythos of the nation or *ethnie* [Hechter 2001]. In this literature, literacy campaigns were co-opted as a part of *nation-building statism*. For example, Gellner [1983], Smith [1991], Hobsbawm and Ranger [1992], Weber [1976], and Anderson [2006] each argue that literate elites at the political and territorial centres developed national education systems to school the peripheral masses into an invented nation, which was an expedient form of integration and mass mobilization, particularly in the context of a militarily and economically competitive interstate system [Hobsbawm 1969; Tilly 1975]. As a top-down, official policy, the state saw national literacy, broadly construed, as a solution to the problems of development and modernization. Alternatively, other accounts emphasize that education qua literacy was a precondition for *state-building nationalism*. Nationalism makes nations, and nations make nation-states—an adage that summarily characterizes this literature's emphasis on the ex-ante causal agency that the actively imagined, self-consciously articulated, and generally literate body politic had in fomenting the rise of the nation-state [Anderson 2006]. Increasingly literate nationalist movements mobilized for popular sovereignty, demanded national education as a right, and interpreted this hard-won right as evidence of historic justice and progress. Anderson's account, in particular, emphasizes the historical dynamic between American state-building nationalism and European

nation-building statism. Both centrally focus on literacy and education as determinants of the rise of nations and nation-states.

In the accounts of global/transnational sociology, mass literacy was neither an empirical determinant nor an outcome tightly coupled with the incidence of nation-state formation [Soysal and Strang 1989]. Education was distinct from broad notions of literacy, and it played a different role in the emergence of the nation-state. National education systems were a derivative expression of Enlightenment models of society that naturalistically emphasized individual perfectibility and rationality, law-like civilizational advance or *telesis*, and the socially oriented state [Granovetter 1979; Picon 2003; Porter 2003]. In other words, national education was itself a theory of progress and development that historically co-constituted the individual, nation, and state. Importantly, the state's role in institutionalizing systems of national education varied across contexts in ways consistent with the above-mentioned distinction between nation-building statism and state-building nationalism. In continental Europe, for example, where the polity was manifest in the centralized state, elites enacted more education rules earlier, such as compulsion, in order to constitute citizen-members of the state itself. In the Anglo-American contexts, where the polity was often diffusely internalized and imagined among an associative society, states played less direct roles. Instead, enrolments, largely voluntary, grew faster earlier [Boli, Ramirez and Meyer 1985]. From the global/transnational perspective, national education was less a local initiative to mobilize the masses in a context of development, competition, and conflict, and more a translocal instantiation of a larger cultural narrative.

These translocal cultural dynamics help explain the UK state's heightened and increasingly routine interventions in education over the course of the 19th century. They made national education broadly conceivable and compelling for historical actors as a policy solution to the problems of development that were then besieging states. A core yet understudied dimension of these cultural dynamics is the fundamentally epistemic character of the 19th-century nation-state model. So much has already been noted in prior institutionalist work on the Western and later worldwide expansion of education: the nation-state model, as part of a larger cultural project, was "ensconced in every important social theory and ideology" of the period [Meyer, Ramirez and Soysal 1992: 131]. This is indeed a critical insight because it gestures to the emerging and developing social-knowledge institutions as important sites of the construction and intensified diffusion of the nation-state model, and with it, schooling as a theorized means to and even object of progressively greater cultural

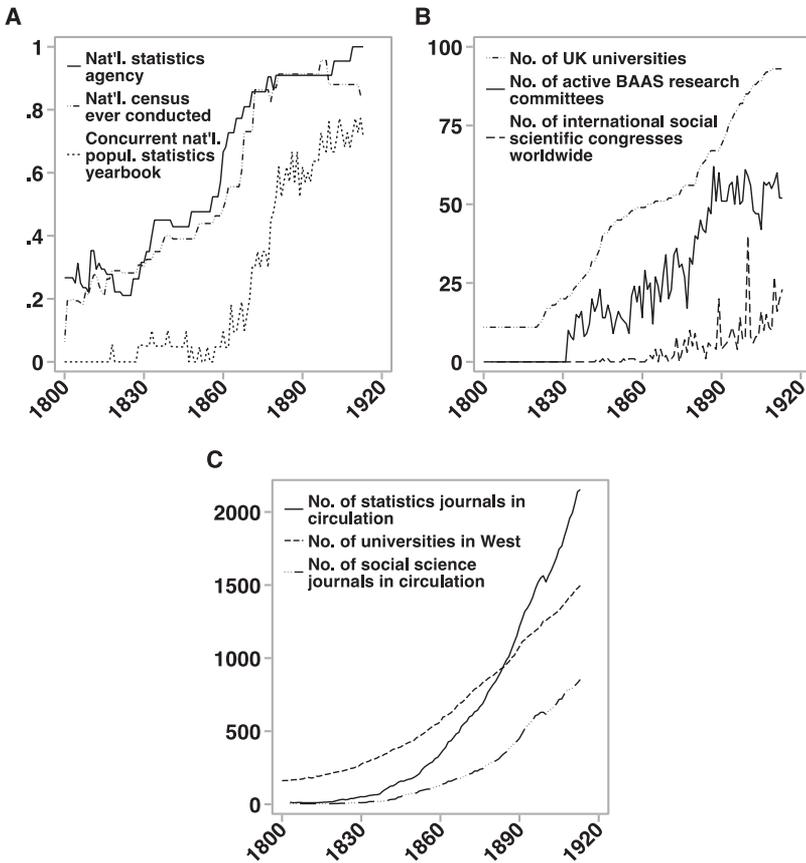
rationalization. Yet, due theoretical and empirical attentiveness to the emergence of these social-knowledge, social-scientific, and social-theoretical institutions is wanting in the literatures explaining the historical rise of the nation-state and national education.

*Social scientization, the Nation-State model, and national education*

The development of the social sciences was a veritable transnational epistemic movement. Associations, societies, and organizations dedicated to the emergent “science” of the social proliferated across the West, especially during the first two thirds of the 19th century [Goldman 2002 and 1998; Schofer 2003; Willcox 1934]. At the century’s end, professional societies of the contemporary social science disciplines emerged out of these nascent “social sciences” [Ross 2003]. They were defined not only by their translocal character but also their ameliorative bent. For example, in the UK, societies such as the National Association for the Promotion of Social Science (“Social Science Association”) and the British Association for the Advancement of Science, as well as more local organizations including the Manchester and London/Royal Statistical Societies, were each committed to the improvement of society generally and to more rationalized (i.e., data-driven, science-based) governance. This reformist character made “social science” explicitly relevant to politics as part of a programmatic agenda. Indeed, many of the members of these organizations were liberal MPs themselves.

Moreover, across the West, states began vertically integrating the quantitative and scientific study of their populations as a means to more effective and efficient governance [Foucault *et al.* 2008; Hacking 1991]. For example, as Figure 2 shows, states across the West began to regularly conduct population censuses and routinely publish population statistics yearbooks. An ever-growing number of states instituted official statistics agencies, which in turn became a ubiquitous feature of the modern nation-state. And they incorporated the new volumes and varieties of social data into the formation of new legislation, as was the case in the UK with the production of blue books [Eastwood 1989; Frankel 2004; Higgs 2005]. What this means is that statistics and social quantification, including the social theories of progress and reform hardwired therein, became institutionalized within the state apparatus itself. Social scientization occurred in civil society and within the state, rendering the latter in particular a receptor site for new technologies and epistemes of rationalized governance developing in the former.

FIGURE 2  
*Trends in Indicators of Social Scientization Across  
 Western Europe and North America.*



*Note:* Panel A shows proportion of states across Western Europe and North America. In Panel B, BAAS is the abbreviation for British Association for the Advancement of Science. The number of observed states each year varies [Coppedge *et al.* 2020]. For sources of all indicators, see Table S1 in Supplementary Materials.

But the movement was also decidedly internationalist: interdependent committees and congresses were expressly organized cross-nationally to advance and integrate national efforts to study populations, to produce internationally comparable national data, and to advance new kinds of

national reform, so as to better understand and regulate the natural order unpinning human civilizational change [e.g., Goldman 1998; Hankins 1908; Leonards and Randeraad 2010]. As part of broader cultural processes of social scientization, states and their populations became objects of comparative analyses and reforms which were themselves superordinate to those very states and populations. These increasingly empirical analyses and data-based reform efforts became all the more normative as scholarly journals dedicated to the social-scientific and statistical study of populations exploded in number. Furthering the heightened cultural legitimacy of social science, and thereby its applicability in politics, was the rise of the modern red-brick university, which emerged at the end of the long 19th century as a consolidating site for the scientific study of society [Rothblatt and Wittrock 2006; Wittrock 1993].

The trends in Figure 2 visualize this dramatic rise and institutionalization of the social sciences across the West. And they indicate the emergence and consolidation of a transnational episteme: though fundamentally rooted in a Western cultural context, this episteme was self-styled as acultural [Meyer 2021], and increasingly gained authority in its emphatic (and systematic) mobilization of empiricism's promise of objectivity, measurability, mastery, and predictability.

Emblematizing the theoretical thrust and cultural content of social scientization were the ideas of social-scientific thinkers such as Thomas Malthus, Robert Owen, Jeremy Bentham, Thomas Huxley, Francis Galton, and Karl Pearson. In their treatments, the individuated, malleable person from the Enlightenment took on a whole host of identities, increasingly essentialist in the public imaginary, including sex, gender, race, and social class [Goldstein 2009; Meyer and Jepperson 2000; Wahrman 2006]. Prevailing theories of society, too, changed. Society became an organic and coherent entity with underlying laws that could be measured, studied, and mastered, and it recursively exerted influence on and structured the development of the individual. This led to early expressions of structural disadvantage and exploitation [e.g., Quetelet (1835) 1968: 108]. What is more, the state's role in the management of both the individual and society was aggrandized. No longer did it simply behoove that state to minister to the opinion of an enlightened public as in the physiocratic period [e.g., Malesherbes (1775) 1987]; now, it was newly tasked with the empirical, efficient, and effective pursuit of societal progress [e.g., Comte (1822) 1974].

Social scientization also helped reconstitute the theoretical and political discourse about education [Smith, 2022]. The Enlightenment aspiration for the general diffusion of knowledge was operationalized in the 19th

century as national education within the schools of the theoretically elaborated social state [e.g., Condorcet (1791) 1976; Furuta, Drori and Meyer 2022]. And officials, theorists, and reformers increasingly depicted state schooling as an effective instrument of intervention and management of populations, particularly in the UK [Layton 1976]. State schooling became entrenched in the polity's order of business, broadly relevant to an ever-wider gamut of political issues pertaining to societal progress and civilizational advance: the need for a consolidated national society, social and economic development, and the reduction of poverty and crime, among others (Smith 2023). In fact, both Robert Owen and Jeremy Bentham at the beginning of the century consciously and explicitly promoted modern secular national education as the state's chief means of achieving greater cultural rationalization: making people, and the systems organizing them, more rational and more efficient [Bentham (1811–1817) 1988, (1816) 1983; Owen (1824) 1969]. Karl Pearson, at the century's end, similarly saw state schooling as the central survival mechanism in a Hobbesian (and white supremacist) world of civilizational clash [Pearson 1905]. Importantly, cultural rationalization was a 19th-century preoccupation: a social-scientific theoretical construct and political vision of development predicated on an elaborated, abstracted, scientized, and broadly diffused model of a state that schooled.

Social scientization, then, was a multidimensional and multilevel causal process. Individuals (“social scientists”) mattered as advocates and progenitors of scientized cultural content. “Scientific” organizations resourced these scientizing individuals and content with all sorts of capital, including audiences, careers, power, and status, among others. And the long-run ascendance of secular science and the cultural authority of rationalism more generally expressed themselves through and as social scientization and state expansion [Carroll 2006]. It is this larger institutional context that fomented the nation-state model and national education as a theory of societal development and modernization. As the institutional core of this post-Enlightenment, post-Revolutionary cultural project, national education was not only theorized to effectively provide rudimentary instruction and training in topics relevant to solving the problems of industrializing capitalist society; it also inculcated writ large the very cultural theory of the nation and the nation-state qua historical progress [Boli, Ramirez and Meyer 1985; Meyer, Ramirez and Soysal 1992]. In this way, national education became the defining feature of the 19th-century nation-state model because, as a technical solution, it was theorized to effectively address contemporary societal and

economic needs and, as a cultural institution progressively instantiated, it functioned to legitimate and perpetuate the nation-state model itself.

Germinating in the expanding annals of the emerging social sciences, the nation-state model was fundamentally epistemic: couched not as a cultural, normative, or political vision but as an unmediated representation of the timeless laws of human society. The model was transnational: elaborated and reified in the emerging social-knowledge institutions across the West among a cosmopolitan community that was initially composed of statesmen- and gentlemen-amateurs and later of a professionalized, mobile, and increasingly authoritative group of self-styling social “scientists.” The model was universalistic, both in its ontology and its epistemology: it described everywhere, and it could be measured and studied in comparable and valid ways everywhere. And it was autogenic: continually reproducing itself via the national education systems that defined the very nation-state model. Attending to this epistemic character of the nation-state model enables us to see progressive state intervention into education as a conscious process of invoking and instantiating scientized theories of cultural and societal progress. And these (both the cultural theories and their scientized instantiations) in tandem helped constitute the primacy of the nation-state in the 19th-century institutional order.

### *Research Design*<sup>2</sup>

#### *Dependent variable: UK education acts*

I design this study to explain the increase in state intervention in education over the course of the 19th century. To do so, I model variation in the legislative action of the UK Parliament as an outcome of social scientization, net of other important indicators of development and conflict. Using BeautifulSoup, I scraped all Acts of Parliament between 1804 and 1914 from the respective Wikipedia pages that chronologically list the titles of all UK parliamentary Acts [i.e., those from 1801–1819, 1820–1829, and so on, e.g.: Wikipedia, 2021]. Wikipedia users have populated and revised these pages using multiple printed compendia, including *Danby Pickering’s Statutes At Large* and *The Law Reports*. The official parliamentary archive website has incomplete coverage of Acts before 1988, especially

<sup>2</sup> All data and code, including help files, correspondingly to these empirical analyses are freely available as a replication package at: <https://doi.org/10.7910/DVN/NJAZ9X>

when the texts of Acts have not been fully digitized, which is the case for most of the 19th-century Acts [The National Archives, 2021]. As the dependent variable, I measure whether a given Act of Parliament focused on education or schooling. I count acts in [Figure 1](#) as focusing on education or schooling when they have “educat\*” or “school\*” in their title, a rather conservative estimate of state intervention in education, as many Acts titularly regulating other or adjacent domains also included provisions for schooling and education. During the first third of the long 19th century (*c.*1800–1840), there were nine Acts related to schooling. That number increased more than eight times to 76 Acts during the middle third (*c.*1840–1879), and increased again to 84 Acts in the last third (*c.*1880–1914). For context, there were 10,135 total Acts uniquely identified in Wikipedia by title and year. There were 160 Acts related to education and schooling (see “[Supplementary Materials](#)” for an enumerated list).

### *Independent Variables*

#### *Social scientization*

I draw on previous empirical work to measure the degree to which the institutional order was scientized during the long 19th century [Smith, 2022, 2023]. To do so, I use a latent factor score, continuously measured and standardized, which proxies scientization as a time-varying and multidimensional transnational epistemic movement occurring within the UK and across the wider West. This composite measure is constructed to maximize the amount of variation jointly explained across the 13 distinct indicators of scientization, 9 of which I visualize above in [Figure 2](#). As a characteristic of the institutional order and a mechanism of broader cultural processes of rationalization, *social scientization* operated on British national politics in many and varied channels. At the *macro* level, social scientization created an international context in which other states were scientizing, for example by integrating different accounting, auditing, and social quantification systems. This context also included the institutionalization and professionalization of the social sciences into epistemic communities, for example in the form of journal science, international congresses, and university departments, that were superordinate to yet also anchored in and acting on national society. At the *meso* level

within Britain, a whole host of social-scientific and reformist organizations propagated, and these used scientific epistemologies and theories to agitate for educational and governmental reform throughout the country. At the *micro* level, many of the MPs themselves were members of these domestic and international civil-society organizations, providing direct links between epistemic and political circles. As the main independent variable, *social scientization* proxies the intensity with which this process was occurring across these different levels and dimensions of 19th-century society.

### *Economic development*

The UK experienced two waves of intensified industrialization during the long 19th century [Berg and Hudson 1992]. Standard accounts tend to emphasize the positive relationship this had with the state's overall organizational capacity, including its ability to expand into social welfare domains [Fraser 2003]. Modernization-theoretical accounts also emphasize the tightly positive relationship between economic development and state investments in educational provision [Cipolla 1969; Sanchez and Waters 1974; West 1978]. There are several mechanisms that have been theorized to underlie this relationship: these include, for example, heightened market demand for literate, numerate, and otherwise low-skilled labour as well as for increased state oversight of child labour and welfare [Anderson 2018]. Complementarily, other historical sociological accounts foreground the social problems instigated by industrializing capitalist societies, which put new kinds of pressures on states to pursue reliable answers to the "social question" [Rueschemeyer and Skocpol 1996]. According to these accounts, it was industrialization that drove strategic state investments in and reliance on social-knowledge or proto-social-scientific institutions and organizations. Economic development is posited to be a central driver of both state educational expansion and the development and professionalization of the social sciences. Empirically, I account for this confounding by including a proxy of industrialization in the statistical models, continuously measured annually in the UK as the amount of agricultural output indexed at 1700 [Broadberry *et al.* 2015; Feinstein 1972].<sup>3</sup>

<sup>3</sup> Due to collinearity, a more direct measure of industrialization, such as industrial output or GDP, would lead to unstable estimates.

*Social development*

Social and economic historians stress the attendant positive spillover effects of an industrializing economy. These include less frequent occurrences of famine, disease, and crime; longer life spans; and higher levels of generalized economic prosperity [McKeown and Record 1962; Sharpe 2012; Szreter and Mooney 1998]—all of which were increasingly and better monitored and evaluated and incorporated into governance as the social sciences underwent development and professionalization [Foucault *et al.* 2008]. Modernization-theoretical accounts emphasize the role that heightened educational provision plays in bettering the social well-being of populations [McMahon 2000]. As emphasized in the argument above, historical actors, particularly pseudo-social-scientists and social-reform-minded MPs, also theorized the central role that state systems of education played in national development and prosperity, emphasizing the relationships between higher levels of educational attainment and lower crime and poverty rates [e.g., UK Parliament 1839]. Because it was related to both the state's capacity to observe and manage the health of populations and the state's turn to social welfare regimes, I statistically control for general social development with a proxy: the average life expectancy of the UK population, measured in years.

*Political development*

The UK Parliament underwent historic reform during the middle third of the 19th century, including the introduction of new rules of borough representation as well as dramatic increases in and diversification in the electorate [Cox and Ingram 1992; Justman and Gradstein 1999]. For example, the proportion of the adult population with the right to vote increased from 2.5% before 1832 to 35% by 1885 [Coppedge *et al.* 2020]. These reform acts jointly reconstituted who voted and who represented. Canonical explanations relate how these changes signalled a move away from political clientelism towards programmatic redistribution [Stokes 2007]. For example, a fundamental demand by the Chartist labour movement, alongside the right to vote, was universal primary education [Simon 1974]. Increases in popular sovereignty and representation were also positively related to official state mechanisms of counting and classifying their populations, namely through censuses but increasingly through more periodic polls and surveys [Crook and O'Hara 2011; Yeo 2003]. In fact, Eileen Yeo's work shows that politically empowered labouring classes demanded the implementation of surveys and other state

accounting systems to better capture their own experiences [Yeo 1996]. Intensified political mobilization and democratization, in other words, was positively related both to the state's turn to social welfare and public goods and to the official counting, polling, and understanding of subpopulations and constituencies. I control for this with an indicator of democratization, continuously measured as the percentage of the adult population in the UK with the right to vote.

### *Interstate conflict*

Another plausible confounder is interstate conflict. In classical terms, interstate conflict was positively related to more extensive and intensive forms of state intervention [Tilly 1975]. Interstate conflict created the conditions in which states needed to observe, quantify, and mobilize populations and resources in order to survive. Yet, in addition to the state's organizational capacity to know and control its population, other explanations suggest interstate conflict increased the need for state programmes of "official nationalism", which were propagated through common schooling and the construction of a patriotic, national character [Posen 1993]. Because interstate conflict is positively related to a latent and developing social scientism of the state and to a turn towards national education as official state policy, I account for positive bias in the main relationship of interest by controlling for the prevalence of interstate conflict in the West, continuously measured as the percentage of states engaged in international armed conflict and dichotomously measured in terms of whether the UK was engaged in international armed conflict.

### *Additional measures*

I include a binary measure indicating whether an Act was passed after 1833,<sup>4</sup> which marks the first time the UK Parliament intervened in education by sponsoring the schools of private voluntary religious societies. This is a turning point in the state's historical role in education and, as a statistical control, it accounts for the cultural and political difference of an era when state intervention into education had precedence and had become routine. Additionally, I account for trends in the dependent variable by including a continuous measure of the number of education

<sup>4</sup> In unreported analyses, a continuous, linear measure of year was highly collinear ( $r > 0.95$ ) with all of the indicators of development and scientization and thereby led to unstable

estimates, suggesting that the models below describe an unfolding of a substantive historical process.

acts passed the previous year. This allows me to attribute any changes in the likelihood that an act was on education and schooling to my main question predictor, net of any political momentum and trends in the dependent variable. Finally, as each of the three indicators of development were highly and multiply collinear, I constructed and included in the final statistical model a composite factor jointly describing their variation. Please see [Table S1](#) in Supplementary Materials for descriptive statistics on all measures.

### *Analytic Strategy and Findings*

In [Table 1](#), I report the results of fitting a taxonomy of six logistic regression models successively testing the central argument that ongoing institutional processes of social scientization drove the UK state's heightened intervention in education as part of an enactment of the emerging nation-state model. Each model explains variation in the changing odds over the course of the 19th century that a parliamentary act (i.e., a bill signed into law) would be related to education and schooling, as an outcome of social scientization and several other key explanatory variables, each lagged by year.

Model 1 includes the main explanatory variable, *social scientization*, as well as the vector of baseline control variables. The results of this model are evidence that there was a large, positive relationship between state expansion into education and social scientization: a unit increment (i.e., 1 SD) in the system-wide degree of social scientization was associated with an increase in the odds by a factor of 1.91 that a given UK parliamentary act passed was related to education and schooling. In other words, in contexts of heightened social scientization, the odds that a law passed by Parliament would be one regulating education increased over the course of the century by 91%. Importantly, the vector of controls in this and all other models accounts for trends in the Parliament's legislative action in education and the expansion of the emergent school system, as well as the legal precedent of the state's involvement in schooling. Across Western Europe and North America, the development and professionalization of the social sciences operated as an engine of cultural construction, facilitating the elaboration, reification, and broad diffusion of the emergent nation-state model. From its first expression, this model was focally organized around national education as a core project and system of

THE MAKING OF THE MODERN STATE

TABLE I  
*Logistic Regression Results (Odds Ratios) Explaining the Odds that a Parliamentary Act was Related to Schooling or Education with Social Scientization as the Question Predictor, 1804–1914*

	(1)	(2)	(3)	(4)	(5)	(6)
Social Scientization <sup>a</sup>	1.907*** (0.178)	1.774*** (0.193)	1.959*** (0.488)	1.718*** (0.195)	1.954** (0.567)	1.995** (0.605)
Post-1833	3.406*** (1.405)	3.711*** (1.522)	3.429*** (1.525)	2.496* (1.243)	3.610*** (1.484)	3.574*** (1.476)
N education acts	1.129** (0.064)	1.117* (0.065)	1.111* (0.066)	1.111* (0.063)	1.118* (0.064)	1.118* (0.064)
UK in armed conflict <sup>b</sup>		1.933** (0.564)	1.961** (0.592)	2.321** (0.784)	1.962** (0.578)	1.970** (0.583)
% states in conflict <sup>c</sup>		0.978 (0.014)	0.980 (0.013)	0.976* (0.014)	0.979 (0.014)	0.979 (0.014)
UK life expectancy <sup>d</sup>			0.980 (0.039)			
UK industrialization <sup>e</sup>				1.004 (0.003)		
% UK Pop. with vote <sup>f</sup>					0.993 (0.021)	
Index of Development <sup>g</sup>						0.899 (0.252)
Constant	0.004*** (0.002)	0.004*** (0.002)	0.011** (0.020)	0.001*** (0.001)	0.005*** (0.003)	0.004*** (0.002)
McKelvey/Zavoina's R <sup>2</sup>	0.289	0.294	0.294	0.298	0.294	0.294
BIC	-91937	-91921	-91912	-91913	-91912	-91912
N Parliamentary Acts	10,135	10,135	10,135	10,135	10,135	10,135

Notes: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Standard errors clustered by year in parentheses. All independent variables are lagged by one year.

- a. *Social Scientization* is a standardized factor score measured in standard deviation units of the degree of social scientization in a given year based on 13 system-wide and UK-specific indicators of social science institutionalization visualized in Figure 2 and summarized in Table S1.
- b. *UK in armed conflict* is a binary indicator that there was domestic armed conflict in the UK the previous year.
- c. *% states in armed conflict* is the proportion of states in Europe and North America in which there was conflict in the previous year.
- d. *UK life expectancy* is the expected longevity at birth, based on current age-specific mortality rates.
- e. *UK industrialization* is continuously measured as agricultural output.
- f. *% UK Pop. with vote* is the proportion of the adult population with the legal right to vote.
- g. *Index of development in UK* is a standardized factor score measured in standard deviation units of the degree of economic, social, and political development based on the three indicators in notes d, e and f above.

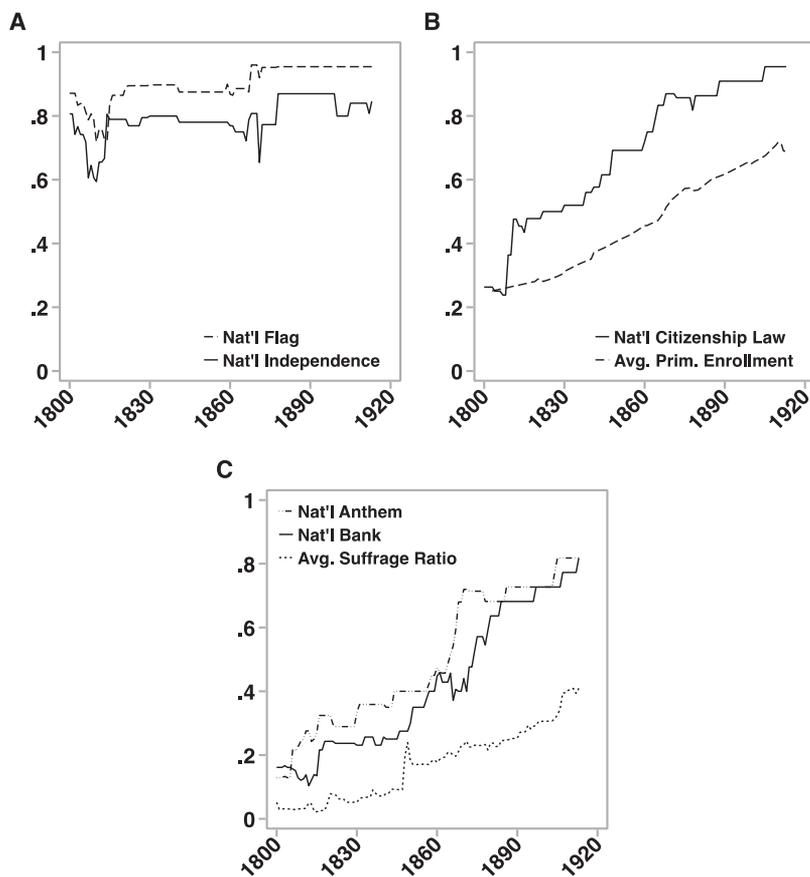
greater development and progress. The positive coefficients on the indicators of social scientization support this argument.

The magnitude of the relationship between expanded state intervention in education and scientization falls within 1.8–2.0 across Models 2–6, corresponding to an estimated 80–100% increase in the odds of the UK Parliament's passing an education act, even after accounting for alternative explanations emphasizing conflict (Model 2), social development (Model 3), industrialization (Model 4), democratization (Model 5), and the general level of development of the United Kingdom (Model 6). That the main explanatory variable of interest remains consistently significant after statistically controlling for these other confounding variables has substantive relevance. In the case of the United Kingdom, it reveals the large, positive, direct, and independent role that institutional processes played in fomenting local instantiations of the nation-state model. Moreover, apart from the significant coefficient on the indicator of domestic conflict, the null relationships between indicators of economic, social, and political development are worth considering further. The absence of direct and independent relationships between these features of the UK state and its likelihood of expanding into education provides evidence of the kind of decoupling that is consistent with predictions of institutionalist theory [Bromley and Powell 2012]. Progressive state intervention in education was less a calculated and rational response to the material problems beleaguering the polity than an enactment of a cultural model of the national polity that emphasized progressively calculated and rationalist responses. I pick up this line of interpretation in the discussion.

### *Auxiliary analyses*

A research-design decision that proved both theoretically and data-analytically consequential was the choice to focus on the epistemic character of the nation-state model. The rationale for this decision is that the social sciences themselves were a causally constitutive component of the nation-state project, facilitating the construction and diffusion of fundamentally epistemic models of the social world. Yet, the nation-state project itself is far more capacious than the angular interest in empirically observing, measuring, studying, and managing society that the indicators in Figure 2 represent. This larger project includes the rise of self-governing and politically and economically independent nations. It includes the rise of transnational (and later global) norms of nation-state self-presentation and -preservation, too, including national

FIGURE 3  
*Trends in Selected Indicators of the Nationalization of States Across  
 Western Europe and North America, 1800–1914.*



Note. Y-axes describe proportion of states across Western Europe and North America each year with the given indicator, except for average primary school enrolment (B) and average suffrage ratio (C), for which the y-axes are the mean population ratios across states. The number of observed states each year varies; all data come from the Varieties of Democracy Dataset (v10), see Coppedge *et al.* 2020).

anthems, flags, and citizenship laws. And, of course, it also includes the rise of state-run national education systems (Figure 3).

To test this expanded view of the *nation-state model*, I create a composite measure summarizing the consolidation of that model across

TABLE 2  
*Logistic Regression Results (Odds Ratios) Explaining the Odds that a Parliamentary Act was Related to Schooling or Education with the Nation-State Model as the Question Predictor, 1800–1914*

	(7)	(8)	(9)	(10)	(11)	(12)
Nation-state Model †	1.622*** (0.118)	1.536*** (0.129)	1.568*** (0.263)	1.497*** (0.131)	1.630** (0.354)	1.645** (0.369)
Post-1833	3.028*** (1.268)	3.317*** (1.379)	3.236*** (1.446)	2.361* (1.153)	3.210*** (1.348)	3.184*** (1.345)
N education acts	1.124** (0.064)	1.114* (0.065)	1.112* (0.067)	1.108* (0.064)	1.114* (0.065)	1.114* (0.065)
UK in armed conflict		1.937** (0.622)	1.944** (0.636)	2.281** (0.821)	1.962** (0.645)	1.968** (0.650)
% states in conflict		0.978 (0.014)	0.979 (0.014)	0.976* (0.014)	0.979 (0.014)	0.979 (0.014)
UK life expectancy			0.994 (0.035)			
UK industrialization				1.004 (0.003)		
% UK Pop. with vote					0.994 (0.020)	
Index of Development						0.920 (0.248)
Constant	0.004*** (0.002)	0.005*** (0.002)	0.006*** (0.010)	0.002*** (0.001)	0.005*** (0.003)	0.005*** (0.002)
McKelvey/Zavoina's $R^2$	0.287	0.290	0.291	0.296	0.291	0.291
BIC	-91161	-91145	-91135	-91137	-91135	-91135
N Parliamentary Acts	10,059	10,059	10,059	10,059	10,059	10,059

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Standard errors clustered by year in parentheses. All independent variables are lagged by one year. † *Nation-state model* is a standardized factor score measured in standard deviation units of the degree of that the nation-state model was diffusely consolidated across Western Europe and North America based on the indicators of social scientization visualized in Figure 2 and the nationalization visualized in Figure 3.

Western Europe and North America. It has two subcomponents: the social scientization (Figure 2) and nationalization of states (Figure 3). The results of Models 7–12 (Table 2) are evidence that social scientization was a constituent and even more causally impactful component of the nation-state project. Generally, the coefficients on the indicator of the

nation-state model (Table 2) are as significant and positive, if not as large, as those on the indicator of social scientization (Table 1). In supplementary analyses, I modelled variation in the likelihood that the UK passed education legislation separately on either and both dimensions (scientization, nationalization). Results confirm these observations: scientization is a core component of the model, separately more constitutive than nationalization (Table S2 in Supplementary Materials) yet nonetheless inextricable from nationalization (null regressors on each): each are themselves mutually constitutive (see Table S3 in Supplementary Materials).

Finally, in other supplementary analyses, I included an additional measure indicating the intensity with which Members of Parliament (MPs) debated schooling and education the preceding year. I constructed this measure by applying LDA topic modelling to the whole corpus of parliamentary debates during the long 19th century. This model outputs the relative topical emphases of each speech. I averaged these emphases on education and schooling across all speeches in each year. This measure, then, proxies for the politicization and political momentum of education and schooling—an important driver of legislative action. The results reported above are substantively identical (Table S4 in Supplementary Materials).

### *Discussion*

Canonical statements of the emergence and diffusion of the nation-state centrally organized around national education typically fall into one of two classes of causal explanation. The first class emphasizes the local economic and political determinants of nationalism as a political principle and the nation-state as its objective. For example, according to Gellner [1983], the determinants that gave rise to this model included capitalist industrialization, democratization and the massification of politics, and the intensification of urbanization. Each interrelated with the other, these factors contributed to the emergence of vast, pluralistic populations residing in expanding urban cores, which increasingly needed new and more sophisticated skills to be able to participate in the economy; a standardized language and common cultural understanding to overcome the heightened pluralization, anonymity, and stratification of society; and an understanding of representative and democratic government. Political elites developed state-sponsored national

education systems as purpose-built solutions to these quintessentially 19th-century problems.

Another class of causal explanation emphasizes the underlying competitiveness of the interstate system, which was superordinate to any given state. For example, according to Anderson [2006], the unexpected success of the independence movements among the former European colonies, supported in large part by high literacy rates and an acute sense of the collectivity, galvanized the nationalized polity as a particularly potent and effective form of political organization. This form of political organization then culturally operated as a blueprint of successful mobilization for other states to adopt through official programmes of nationalism. Wimmer and Feinstein [2010] also argue that diffusion of the nation-state model was a process of intra-empire learning, where successful nationalist movements were more easily imitated and mutually supported within the common political and cultural framing of empire and the immediate regional “neighbourhood” of states.

In both these accounts—the locally situated and the transnationally diffuse—the nation-state project was an aggregate outcome of (emergent) states’ ad hoc responses to proximate changes in the economic and political conditions of their immediate context. The arguments I advance above complicate this depiction. They recast the nation-state model as a fundamentally cultural project, in line with neo-institutionalist accounts [Meyer 1999; Thomas and Meyer 1984]. Yet, these findings further flesh out—and for the first time systematically demonstrate—the emergence, institutionalization, and professionalization of the social sciences as a core mechanism behind the progressive elaboration, reification, and diffusion of the nation-state model.

As a transnational and multidimensional cultural process, social scientization extended physiocratic and Enlightenment theories of the individual, society, state, and progress, the defining and constitutive institution of all of which was state-run national education systems. Social scientization also entailed the establishment of civil-society organizations, international congresses, and committees; the emergence of the civil university; as well as states’ vertical integration of nascent social-scientific modes of monitoring, evaluating, and managing society. Indeed, a critical component of the ascendant authority of the social sciences—and so of its integral role in facilitating the diffusion of otherwise deeply political, normative, and, above all else, cultural visions of the social universe—was the progressively intensified application of empirical methods and instruments to produce and analyse never-before-

seen volumes and varieties of social data. In this last aspect, the theory not only became true but could be demonstrably true everywhere.

The large, positive, direct, and independent relationships reported in [Tables 1 & 2](#) between social scientization and the intensification of state intervention in education is credible evidence of this rather strong statement of the agency that the social sciences had in the development of the 19th-century nation-state project. To be sure, this agency was not simply manifest in the theoretical elaboration of the nation-state model, nor in its reification as an empirically observed reality by means of new kinds of social data and statistics. This agency was also manifest in the historic restructuring processes of the polity during the 19th century: in the transformation of the state—in this paper's case, the United Kingdom—into an instantiation of the theory itself; a national state fundamentally reoriented towards development and progress through schooling its population in the nation-state principle.

The substantive significance of this latter result becomes all the more salient in the context of the null relationships between indicators of development and the UK state's investment in the defining project of the nation-state model. When read alongside each other, these two sets of results suggest the legislature's passing of education acts was less a rational, calculated investment tightly coupled with development than a cultural enactment of an increasingly authoritative episteme that posited expanded state education provision and regulation as, indeed, a rational, calculated, and tightly coupled investment in development. The loose coupling observed between the adoption of an abstracted policy principle (i.e., an integrated national education system) and its theorized historical determinants (i.e., development) can be interpreted as an investment in the promise of theory itself. In this regard, the null results reported in [Table 1](#) historicize as 19th-century inventions the very causal explanations with which I began this section. Indeed, the reproduction of 19th-century causal logics of development and education via national education systems, sure, but also via the expanding social-scientific scholarship of them throughout the ensuing century, attests both to the autogenic character of the model and to the historical mechanisms behind its staying power.

As a final point of discussion, the results reported here provide further theoretical and empirical context for the historical antecedents of contemporary institutional processes occurring at the global level. The 19th-century Western cultural project did not simply birth the functioning unit, now globalized, of contemporary world society, namely the nation-state. As my arguments and empirical analyses of social scientization

demonstrate, the 19th century also witnessed the emergence of an authoritative, supranational epistemic community of mobile, professional, advisory, and reformist experts with deep linkages to and latitude over the nation-state as an organizational form and the international system. Therefore, the development and institutionalization of the social sciences across Western Europe and North America during the 19th century not only set a historical precedent of non-state entities structuring the programmes and policies of national states, but also constituted a hardwiring of transnational, epistemic theoretical flows into the very form of the nation-state itself.

### *Conclusion*

This paper has built on foundational insights regarding the cultural content of the 19th-century nation-state: namely, that post-Enlightenment notions of progress and civilizational development were its organizing logic and that it functioned as a cultural model that was diffusely enacted throughout the Western system. Yet, in drawing on these insights, the arguments and findings herein contained also update the comparative/historical and global/transnational sociological literatures in several important ways.

The emerging social science institutions of the 19th century were engines driving the construction of expansive cultural content. This cultural content not only specified new and aggrandized notions of the schooling state; it also propagated and reified epistemic narratives—functionalist social theory—about how state schooling and national education *should* function *in order to* promote economic, political, and social development. In this way, this paper's emphasis on the fundamentally cultural, and moral, character of the 19th-century "social sciences" shows for the first time, in the first instance, how the nation-state model was the construction of a forceful, transnational epistemic movement that blended normative politics with social theory. But in the second instance, this paper also historicizes the core arguments ordinarily used to explain the rise of the nation-state and national education: schooling for economic prosperity, schooling for democratization, schooling for social development. These political-theoretical principles are themselves 19th-century artefacts, the constructions of epistemic actors who were so often themselves natural bedfellows of politicians and in the business of state expansion and Whiggish welfare politics.

That the social science actors reflected yet also co-participated in the construction of the larger Western project of cultural rationalization focally organized around the nation-state is the central insight of this piece. It helps us to better understand the fundamentally epistemic character of the nation-state model, thereby its propensity to diffuse and persist through translocal enactments, and, finally, the staying power of its own originating myth as a responsive organizational actor in untiring pursuit of greater progress and justice in spite of the woes of development. Less a natural outcome of historical processes of development, modernization, and interstate conflict, the emergence of the schooling state was a normative buy-in to, and political enactment of, a theory that causally configured social progress and development as the promised outcome of the schooling nation-state. Seen in this light, education acts were an instantiation of the nation-state theory: a paradigmatic expression, but also the self-constituting and self-legitimizing means by which the 19th-century nation-state lost its constructedness and became natural and real.

*Supplementary Material*

To view supplementary material for this article, please visit <http://doi.org/10.1017/S0003975623000425>.

*Data Availability Statement*

All data and code for this research is freely available as a replication package at <https://doi.org/10.7910/DVN/NJAZ9X>.

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