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# HISTORICAL GEOGRAPHIES OF INTERDISCIPLINARITY

McGill University's Caribbean Project

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**ABSTRACT:** Scholars working on global environmental change research are increasingly seeing the value of collaborating on projects involving methodologies in the geophysical sciences and humanities to solve environmental problems such as climate change, soil erosion, and loss of biodiversity. Largely missing from these works, however, are histories of what might be considered earlier interdisciplinary scholarship by physical and human geographers, which are valuable for thinking about what it means to practice the interdisciplinary study of the environment. The purpose of this paper is to examine the understudied history of McGill University's Caribbean Project of the 1950s and 1960s, to consider what it might tell us about the histories of interdisciplinarity in (geographical) research. We seek to broaden understandings about the very nature of interdisciplinarity, including what may be called early exercises in critical physical geography, through an examination of this small but important and enduring Canadian program located in Barbados with its own complex historical geographies. Focusing on a few instrumental scholars involved in the Barbados project—including the climatologist Kenneth Hare, the cultural geographer Theo Hills, and the biogeographer David Watts—our contribution draws on primary materials (correspondence, reports, memoranda, and research site plans) obtained through the McGill University Archives and the Bancroft Library at Berkeley University, as well as close readings of McGill Geography's digitized *Climatological Bulletins* (1967–93), *Climatological Research Series*, and student theses and dissertations. We conclude by suggesting possible ways forward for future interdisciplinary research on this and other projects, involving physical and human geographers and historians as well as local participants.

**KEYWORDS:** *climatology, environment, McGill University, Caribbean, Barbados*

## INTRODUCTION

Scholars working on global environmental change research are increasingly seeing the value of working collaboratively on projects involving methodologies in the geophysical sciences and humanities to solve environmental problems such as climate change, soil erosion, and loss of biodiversity. Known variously today as biogeography, environmental historical geography, historical political ecology, cultural climatology, and, more recently, critical physical geography, some of these projects are shedding light on the coconstitution of geophysical and biological processes with social, cultural, and historical relationships in shaping global environmental change.<sup>1</sup> Largely missing from these works, however, are histories of what might be considered earlier interdisciplinary scholarship by physical and human geographers, which are valuable for thinking about what it means to practice the interdisciplinary study of the environment.<sup>2</sup>

Following the invocation to “highlight the work that already does ‘think across the divide’ and open up conversations,” the purpose of this paper is to explore histories of interdisciplinarity regarding environmental research through an examination of the Caribbean Project led by researchers from McGill University in Barbados starting in the 1950s.<sup>3</sup> Rooted in McGill’s growing Geography Department, the initiative brought together geographers, climatologists, historians, biologists, and other researchers whose efforts blurred disciplinary boundaries, and whose academic lineages reached some of the most renowned scholars in the histories of their disciplines. Writing in 1967, the cultural geographer who helped establish the Caribbean Project, Theo Hills, suggested that the transformation of environments was contingent on “different societies acting through cultures . . . with different histories and attitudes towards the land.” These human activities, he stated, were complex, varied with time and scale, and should be examined in conjunction with “such things as soil, vegetation, animal life and population distribution,” illustrating an approach that might be considered interdisciplinary.<sup>4</sup>

In this paper, we document the understudied history of McGill University’s Caribbean Project of the 1950s and 1960s, to consider what it might tell us about the histories of interdisciplinarity in (geographical) research. We seek to broaden understandings about the very nature of interdisciplinarity, including what may be called early exercises

in critical physical geography, through an examination of this small but important and enduring Canadian program located in a distant place with its own complex historical geographies. We show that the integrative research projects conducted by scholars in Barbados were connected by a rootedness in historical inquiry. Our focus is on a few instrumental scholars involved in the Barbados project—including the climatologist Kenneth Hare, the cultural geographer Theo Hills, and the biogeographer David Watts. The result is an account of an interdisciplinary collaboration that has been overlooked in histories of geographical knowledge production but stands as an early forerunner of more recent work in critical physical geography, political ecology, and environmental history. Although we identify the Caribbean Project as an understudied initiative, we are not the first to write about the histories of the McGill Geography Department in the context of environmental research. Most notably, Stephen Bocking's research on the affordances, mediations, and implications of aviation technology for McGill geographers' fieldwork practices in northern science.<sup>5</sup> Matthew Wallace also reflects on how Cold War technologies and data reshaped scientific research through the production of Arctic atmosphere as scientific "space."<sup>6</sup> As we note later in this paper, the Caribbean Project and the construction of "tropicality" holds many connections to the Arctic and subarctic research programs led by McGill geographers, both of which are situated within the geopolitics and funding initiatives of the Cold War era.<sup>7</sup>

What follows is an attempt to tell, in the words of Hayden Lorimer, one of the "small stories" of geographical fieldwork, albeit a story carved out of the broader history of a powerfully large Canadian institution at the time.<sup>8</sup> As Richard Powell has stated, "recovering the voices of . . . unremembered geographers can reveal important dimensions of the shape and meaning of previous geographical practices."<sup>9</sup> This sentiment was echoed by Audrey Kobayashi in a commentary on the need for more biographical approaches for teaching histories of geography—summarized by her suggestion that "the history of our discipline is full of very human stories worth telling."<sup>10</sup> Our contribution draws on primary materials (correspondence, reports, memoranda, and research site plans) obtained through the McGill University Archives and the Bancroft Library at Berkeley University, as well as close readings

of McGill Geography's digitized *Climatological Bulletins* (1967–93), *Climatological Research Series*, and student theses and dissertations. Departmental memoranda were particularly useful for learning how, in this case, tropical research programs were justified and planned from the start. Our research also involved careful attention to McGill geographers' acknowledgments sections—a relatively underrecognized technique, but an important method for tracing lineages and social networks, along with their notable exclusions. In the final substantive section of the paper, we critically consider the Caribbean Project itself, drawing attention to the exclusion of women and local researchers from field-based practices and publications. We conclude by suggesting possible ways forward for future interdisciplinary research on this and other projects, involving physical and human geographers and historians, but also local participants.

#### HISTORICAL GEOGRAPHIES OF INTERDISCIPLINARY RESEARCH ON THE ENVIRONMENT

Our use of “interdisciplinarity” in this paper is tied to the idea of creating research programs that rely on the integration of ideas, methods, philosophies, and dissemination strategies between multiple disciplines. Prior to the term's first official appearance in print in 1972, interdisciplinary approaches were being defined in higher-education texts in increasing numbers in the late 1960s and early 1970s.<sup>11</sup> This was a time when, according to Asa Knowles, “existing patterns of higher education were being criticized by university teachers and students alike,” demanding radical changes to research practice and, more commonly, teaching methods.<sup>12</sup>

Drawing from Julie Klein and Allen Repko, we see interdisciplinary approaches as recognizing the important contributions of individual disciplines while also acknowledging that the integration of such knowledges and methods might lead to something more nuanced or entirely new.<sup>13</sup> As James Evans and Samuel Randalls write, interdisciplinarity can be most effective when it avoids reducing or hierarchizing the disciplines in conversation with one another.<sup>14</sup> Their focus on “polyvocality” seems useful when considered alongside the metaphors identified by Repko that have been used to conceptualize interdiscipli-

narity, including boundary crossing, bridge building, mapping (comparing knowledge to land and drawing on cartographic concepts like contours), and bilingualism (speaking multiple languages), all of which come with their contributions as well as constraints.<sup>15</sup>

Our attention to the interdisciplinarity coming out of the expansionistic McGill Geography Department in the 1950s and 1960s—with an increase in faculty members from the geophysical sciences—thus does not imply that interdisciplinary approaches were new at that time, nor are we suggesting that we are the first to trace the histories of interdisciplinary or integrative fieldwork.<sup>16</sup> We acknowledge the historical contingency of the term “interdisciplinarity,” as well as the context in which geography departments during our time period expanded and took in other disciplines previously not connected to geography (and indeed, some of which have since become once again detached). McGill’s Caribbean Project can be traced in part to the group of scholars led by the notable cultural geographer Carl Sauer. Kent Mathewson calls this “Berkeley School” an early expression of “environmental geography,” where physical and human geography were “conjoined, or ideally, integrated.”<sup>17</sup> Although the Berkeley approach notably produced its own exclusions and was certainly not the only contemporaneous site for interdisciplinary scholarship, the use and integration of physical geographic methods and data in studies of human-environment interactions, as well as a wide range of other forms of analysis, from historical narratives of landscape change to ethnographic accounts of subsistence practices among Indigenous peoples, influenced interdisciplinary approaches to the environmental research that followed.<sup>18</sup>

Several useful analyses and special issues centering on interdisciplinarity exist in geographical scholarship. Particular attention is paid to the integration of the “parent” disciplines of human and physical geographies through studies of the environment and associated debates around nature-culture (including the March 2008 *Geoforum* special theme, “Crossing the Divide”). Karl Zimmerer, for instance, pointed to the integrative spirit of “new ecologies” that precipitate and necessitate conversations between natural and social sciences to understand environmental issues often addressed by geographers.<sup>19</sup> As Pawson and Dovers write, virtually all research on “the environment” has been assumed to be interdisciplinary in theory and/or practice,

although, as they note through the example of environmental history, interdisciplinarity remains a tricky concept to effectively articulate or accomplish as both theory *and* practice.<sup>20</sup>

Other scholars ask critical questions about how to situate geography and interdisciplinarity in the broader context of the academy. Within that larger conversation, some highlight geography's unique positioning for both inter- and intradisciplinarity, though geographers have been slow to take up this opportunity.<sup>21</sup> Simon Naylor's histories of fieldwork as a method of geographical inquiry also spark connections between the "messiness" of fieldwork and the entangled spatialities of interdisciplinary research discussed in this piece.<sup>22</sup> Gregory Simon and Jessica Graybill have pointed to the need not just to address geography's boundary-blurring characteristics, such as the "do's, don'ts, benefits, and challenges" of interdisciplinary programs, but also to build a conversation around "geography *in* interdisciplinarity."<sup>23</sup> The authors advocate for a research agenda that involves reflexivity and a critical examination of everyday examples of scholars and departments actually doing this type of work.

Following Simon and Graybill, we use this piece to address what we observe as another opening in the existing literature on interdisciplinarity in/and geography: primarily, that the focus on writing about theories and practices of interdisciplinarity have neglected the broader *histories* of interdisciplinarity in geography, especially (but not limited to) the role historical geographers have played in these discussions and programs. This is not to suggest that historical reflection is lessened by interdisciplinary research. Rather, our work shows that historical approaches to environmental research have helped develop interdisciplinarity through a shared—if differential—recognition that past processes shape present environments. A historical approach must also include the geographies of interdisciplinarity; in this case, it is important to ask about the historical role of geographical contexts in shaping the practices and politics of interdisciplinary *fieldwork*, especially that which takes place far from a home institution (see introduction to this special issue).

#### MCGILL GEOGRAPHY AND THE CARIBBEAN PROJECT

McGill University's Department of Geography has a long history of conducting research on the environment from multiple intellectual and

methodological angles. In 1945 McGill hired George Kimble to establish the Department of Geography and oversee the meteorological observatory of the university.<sup>24</sup> Kimble was recommended by Carl Sauer, who was consulted about the new position. In his initial address, Kimble acknowledged geography's position in the social sciences and its placement in the Faculty of Arts and Sciences at McGill.<sup>25</sup>

In the same year that Kimble joined McGill, F. Kenneth Hare was hired as part of the teaching staff after working as a climatologist with the Royal Air Force on monsoon climates in Southeast Asia.<sup>26</sup> Hare succeeded Kimble as department head in 1950 and oversaw a program in climate research on Canada's Arctic and subarctic. This northern work, which was "at the heart of the department's great expansion in the next three decades," was essentially extended to the Caribbean during Hare's tenure as chair (1950–62) and then dean of the Faculty of Arts and Sciences (1962–64).<sup>27</sup> "Trained as a geographer and internationally renowned as a meteorologist," Hare was a proponent of synthesis (in addition to analysis) in environmental research, which may also explain his commitment to bringing together ideas and approaches from climatology and meteorology into deeper conversation with geography and the geosciences.<sup>28</sup> As Matthew Wallace recounts, Hare "believed that it was possible to make more explicit links between climatology and meteorology" (through what Hare termed "dynamic climatology") and that "climatology thus acted as the initial bridge between geography and meteorology."<sup>29</sup>

Despite his focus on the Canadian subarctic, Hare helped establish McGill's field-based tropical climatology research program during a time when "tropicality" was being redefined to specify climate ("human tropics"), alongside rapid developments in meteorology within the context of Cold War geopolitics.<sup>30</sup> Hare was a strong follower of Carl Sauer and the Berkeley School, and he believed historical geography was "the most significant part of our field." As chair of the department, he modeled McGill's research program on Sauer's approach rather than "the sterile aerial differentiation school associated with Dick [Richard] Hartshorne's ideas." He also added that his department "laid great stress on physical geography."<sup>31</sup>

McGill acquired the land for the Bellairs Research Institute in 1954 as a result of its donation by Commander Carlyon Wilfroy Bellairs. Bellairs (1871–1955) was a former Royal Navy officer and member of the British





FIG. 1. Bellairs Institute in Barbados, c. 1963 (McGill University Archives, PU019855).

Parliament who had retired to Barbados in the 1930s. Considered an expert on naval policy by his fellow Conservatives, Bellairs had long displayed an interest in geography, as evidenced by his presentation to the Royal Geographical Society. Bellairs's views were typical of those of many in the Conservative Party in his era: he dreamt of uniting the British Empire in a customs union and detested progressive taxation or any other measure that hinted of socialism. In addition to opining on politics, he also shared his views on a variety of technological and business matters in the British press.<sup>32</sup> Upon retirement, he and his wife, Charlotte, purchased a five-acre property in Barbados and by 1938 had built the Seabourne House, which later became the original building of the Bellairs Research Institute. His decision to give the land to a Canadian as opposed to a British university may have been a function of his evident disgust with recent developments in Britain, which had elected a Labour government in 1945. Bellairs appears to have shared the conviction of his contemporary and sometimes political ally Winston Churchill, that Canada, the "Great Dominion," was destined to play a much greater role in the maintenance of empire.<sup>33</sup>

Bellairs initially offered his Barbados property (see fig. 1) in 1951 to the University of Toronto, but his proposed gift was rejected by the university's chancellor, Vincent Massey, who sent the letter of offer along to F. Cyril James, the long-standing principal of McGill (1939–62).<sup>34</sup>

James gladly accepted the opportunity to develop a research station in the Caribbean. According to James, Bellairs hoped to develop closer ties to Canada by donating his estate, which would be used, James claimed, “to promote such relations for the benefit of the island of Barbados.”<sup>35</sup> Bellairs requested that work should commence right away: “McGill could at once send a young scientist to Barbados.”<sup>36</sup> James approached the Department of Geography as early as 1957 to send environmental researchers to the Caribbean island. From its early stages, Bellairs was a site of interdisciplinary activity, with geographers collaborating and living amongst zoologists, biologists, and meteorologists.

McGill’s Caribbean Project was not the first to treat Barbados as a location for environmental research. Notably, earlier equivalents were clearly related to the brutal colonial history of the island. Sugar cane breeding, a practice undertaken in large part through the labor of descendants of enslaved people, was a major focus of preceding environmental research on the island. The commercial success of sugar cane breeding led neighboring island governments to emulate Barbadian projects with their own initiatives to produce cane for commercial cultivation, leading to unprecedented interisland cooperation among researchers, sugar companies, and planters, who sought the expertise of the principal Barbadian scientist, John Redman Bovell. As Jock Galloway, a historical geographer who visited Bellairs Research Institute as a McGill graduate student in 1960, has written, Barbados was considered a “center of innovation” by the end of the nineteenth century, with sugar cane breeding research stations set up in the late 1800s.<sup>37</sup>

McGill’s repurposing of the Bellairs site coincided with a period of significant change in the Caribbean region, when numerous British colonies, including Barbados, joined together to form the West Indies Federation (1958–62), a political unit designed to secure independence from Britain. The promoters of the federation used in part Canada’s constitution as a model for unification, which highlighted the historically close connection between the West Indies and Canada. The short-lived federation was followed by the formation of the Caribbean Commonwealth after many British colonies sought independence.<sup>38</sup>

The establishment of the McGill research station in Barbados also occurred during a period when geographers and others were redefining the “humid tropics,” most notably at the 1956 UNESCO meeting in Kandy, Ceylon (Sri Lanka). This group included the prominent tropi-

cal climatologist Ben Garnier, who used the distribution of air masses to map the limits of the humid tropics. Before taking up an appointment in the Indiana University Geography Department in 1961 and then Montreal in 1965, he served as head of the Department of Geography at the University College in Ibadan, Nigeria, from 1951 to 1961, and he was tasked by the Commission on the Humid Tropics of the International Geographical Union to produce a map showing the humid tropics based on meteorological data.<sup>39</sup> As Garnier later stated, the “‘humid tropics’ is a climatic term,” and “any delimitation of the region must be made by reference to climatic criteria, and that defining the humid tropics is essentially a problem in climatic classification.”<sup>40</sup>

Faculty and students from McGill Geography were some of the first to visit the research station in Barbados (see fig. 2). Alongside Barbadian researchers, they were particularly instrumental in starting and eventually running the Waterford Climatological Station, which was built in 1958 on five acres of land leased as part of an agreement between the Barbados Ministry of Agriculture, Lands and Fisheries, and McGill.<sup>41</sup> In its early years, Waterford operated under the leadership of Theo Hills, with Barbadian researcher Ivan Smith (who held a geography degree from McGill) in charge of fieldwork.<sup>42</sup> By 1962, when Smith left the station for Ghana, Waterford had become a section of Bellairs Research Institute, under the direction of McGill zoologist-biologist John Lewis. David Tout, a McGill Geography MSc student, recounted the ambitions at the Waterford site:

The aims of the station were to make meteorological and climatological measurements, especially on a micro scale, at a tropical station within the trade-wind zone, to undertake research on problems of agricultural meteorology on an island with an economy virtually dependent on the production of sugar cane, and to establish a centre from which research into more general aspects of Caribbean geography and climatology could be undertaken.<sup>43</sup>

In 1958 two graduate students commenced research projects on the island, and Hills began an investigation into the changing relationships between peasant farmers and the plantation sector that continued for several decades.<sup>44</sup> Hills had arrived in Canada from New Zealand in 1950. He attributed his “concern with the landscape and with people’s attitudes to and perception of it” to his early New Zealand profes-



Jim Anderson, McGill M.A. candidate, interviews Barbadian farmer, in course of land use survey of the island.

Barbados, once the site of the capital of the West Indies Federation, is the scene of a variety of geographical research activities. One full-time researcher, Ivan Smith, a nature Bajan, Professor Hills, Dr. Innes and three or four students indulge each summer in microclimatology, land use surveys, studies of peasant villages and historical geography. N.R.C., the Canada Council and McGill University have helped to finance the programme and the Barbados Government has leased five acres of land for experimental purposes.

FIG. 2. Jim Anderson, MA in geography, conducting field interviews with Bajan farmers. The description includes the role of Ivan Smith, "a nature Bajan," in running the field station. Photo from McGill University Archives—*Old McGill Yearbook* (1962).

sors, but also to his McGill colleague, Kenneth Hare, who helped him think about "the meaning of landscape."<sup>45</sup> In turn, Hare credited Hills with launching the department's "thrust into tropical geography."<sup>46</sup> In 1956 Hills served as secretary of the International Union of Geographers committee on "Humid Tropics," which connected McGill researchers to

others working on the UNESCO Humid Tropics Research Program, including the former head of the department, George Kimble, who was the chairman of the IGU's Commission on the Humid Tropics at the same time. It was Kimble who appointed Hills as the commission's secretary, which linked Hills and his students with the commission for the subsequent forty years.<sup>47</sup> Hills emphasized that for what he understood "of man/land relations in the Caribbean," he was indebted to a host of graduate students and colleagues with whom he worked in the field.<sup>48</sup>

#### DAVID WATTS, THE BERKELEY SCHOOL, AND MCGILL

One of those students included David Watts, who eventually published *The West Indies: Patterns of Development, Culture and Environmental Change since 1492* (1987).<sup>49</sup> After completing a BA in geography at the University College, University of London, in 1956, David Watts pursued a master of arts in geography at the University of California, Berkeley, writing a thesis titled "Human Occupance as a Factor in the Distribution of the California Digger Pine (*Pinus Sabiniana*).” Drawing from historical and ecological literature, Watts examined the distribution and utilization of what at the time was called the California Digger Pine (a pejorative term that has been replaced with the name “grey pine” or “ghost pine”) “within the different periods of human occupance of the state.”<sup>50</sup>

At Berkeley, Watts met Sauer and another historical-cultural geographer, James Parsons, who served as his primary supervisor. Both Sauer and Parsons specialized in the “man-land” tradition and retained interests in the Caribbean region.<sup>51</sup> Through them, Watts “began to become aware of the intricate relationships between culture, environment, and development” of the region. The influence of Sauer and Parsons on Watts’s work was enormous. In the acknowledgments of his 1963 McGill dissertation, “Plant Introduction and Landscape Change in Barbados, 1625–1830,” Watts ended by stating: “Finally, a debt of gratitude is owed to Professor Carl O. Sauer, of the University of California, Berkeley, who first turned my thoughts towards the problems of vegetation and landscape change within the Caribbean region.”<sup>52</sup>

It is well known that Sauer was instrumental in redefining ideas of landscape starting in the interwar period, when environmental determinism still dominated the discipline.<sup>53</sup> This contentious past

forced scholars to confront the ways in which geographers explained the impact of climate and environments on humans. Sauer's cultural landscapes were human-centered and historical. When Watts was at Berkeley in the 1950s, Sauer broadened his own studies to include the wider Caribbean region.<sup>54</sup> With funding from the new and prominent Geography Branch of the US Office of Naval Research (ONR),<sup>55</sup> Sauer took Parsons on their first research trip to the Dominican Republic in 1951.<sup>56</sup> Together, they devised a place-based, process-oriented research program focused on the examination of landscape change and agricultural systems, a project that lasted from 1952 to 1969.<sup>57</sup> Watts became part of a network of students interested in the historical geographies of the Caribbean.<sup>58</sup>

After completing his MA, Watts relocated to Montreal to start his PhD in geography. Just before arriving at McGill, he gained "first hands-on experiences" with the Caribbean on board the cargo vessel *MS Rydboholm*, which added to his fascination with the region.<sup>59</sup> Watts then pursued his doctoral dissertation project, "Plant Introduction and Landscape Change in Barbados, 1625–1830," which he completed in 1963. He worked closely with both Hills and Hare, bridging historical geography with biogeography.<sup>60</sup> Hills emphasized the importance of ethnographic approaches, such as interviews with local farmers, alongside evidence found in archives. Hills once wrote how much he preferred research in the field over the "hardship" of spending "long tedious hours, days, and months in archives," to which he added: "The burden was considerably lightened by the assistance of my wife, who spent many hours extracting census data from microfilms."<sup>61</sup>

At McGill, Watts and his cohort were embedded in a research and teaching program devoted, at least in a limited sense, to the effects of European imperialism on "peripheral" regions such as the Caribbean. The Department of Geography offered a variety of undergraduate and graduate courses involving historical geography. Hills taught the geography of "humid tropics," which focused specifically on the Caribbean and Latin America, covering indigenous economies, expansion of mid-latitude nations, and colonialism.<sup>62</sup> His graduate seminar, *Frontier Settlement*, introduced students "to comparative studies of frontiers of settlement in northern lands, especially Canada, and in the Tropics." Another undergraduate course was *Historical Geography*, which examined relations "among man, habitat, and



economy” in different time periods. The main focus was to reconstruct “the geographical *milieu* of past cultures.” Students could also take courses in the Department of History as part of a joint honors program. One of these courses included History 205 or Colonial Expansion, which focused specifically on the British Empire.<sup>63</sup>

Watts spent his first summer in Barbados in 1960 at the Bellairs Research Institute with four other McGill graduate students.<sup>64</sup> He identified Barbados as an ideal “field” laboratory for reconstructing an island landscape, and for examining the impact of three hundred years of British colonization, land and human exploitation, and sugar and slave plantations through the examination of the island’s plants.<sup>65</sup> Watts depended on a wealth of archival materials from colonial office reports, political treaties, topographical accounts of observant visitors, maps, and personal correspondence, to summaries of plantation operations, details of local timber removal, plant catalogs, and botanical treatises. These materials were housed in both Barbados and England.<sup>66</sup>

While Watts acknowledged the role of winds, currents, and tropical storms in transporting seeds and pollen, humans were the primary actors in generating ecological changes in Barbados. He identified sugar cane as the most detrimental plant introduced in Barbados, which was tied intimately to the horrendous legacy of enslavement on the island.<sup>67</sup> Alongside this human legacy, large-scale sugar and slave plantations had caused deforestation, soil erosion, and soil exhaustion. Watts’s study of sugar cane involved particular sites for his field studies in Barbados, including the rugged Scotland District and Turner’s Hall. As his field-work photographs from the 1960s reveal, landscape change over time also involved the erasures associated with it. Turner Hall, for example, was a former slave and sugar plantation connected with the FitzHerbert family in England. The FitzHerbert family also owned land in Watts’s hometown of Chapel-en-le-Frith, illustrating the myriad connections between the Caribbean and Britain—an area of interest in recent imperial histories.<sup>68</sup>

Moreover, Watts highlighted the interplay of human and geophysical processes. One example was his focus on “trade-winds as an agent of power” in the age of enslavement.<sup>69</sup> Plantation owners built windmills as windbreaks but also as a source of energy to power sugar mills. By the end of the seventeenth century, windmills became a major feature of the Barbadian landscape and provided a relief to planters who de-



FIG. 3. Wind power experimental setup atop an ancient Barbados tower in 1962 (McGill University Archives, PR021138).

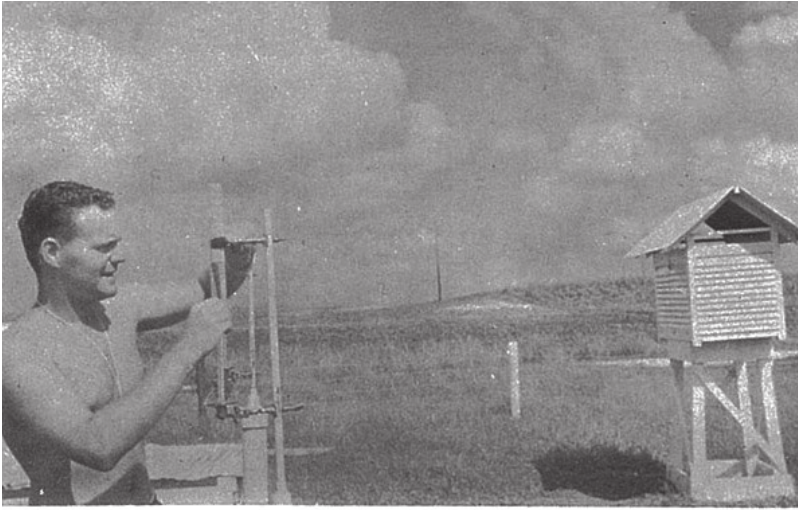
pended on cattle, horses, and slaves for processing sugar.<sup>70</sup> Watts's focus on winds overlapped with the work done at the climatological base station in Barbados in the 1960s (see fig. 3). Researchers aimed to provide basic data for agriculture but also consider the development of "a fundamental study into the energy budget and varying microclimate of a tropical island in the trade wind zone," which became the focus of the next wave of researchers in Barbados after 1963.

Watts's dissertation served as a launching point

for undertaking a new research program in human geography in the Caribbean. Writing to Dean Kenneth Hare in 1963, Trevor Lloyd, Hare's replacement as department chair, stressed the benefits of Barbados to the human geography program, highlighting the importance of the "field" or "outdoor laboratory" to the geographer.<sup>71</sup> Another 1963 report noted that "[the] origins of plantation and peasant agriculture and their evolution during the past three centuries" was an "essential preliminary" to understanding the broader context in which future research of any kind must be situated.<sup>72</sup> As Theo Hills and his colleagues argued, attention to human geography (alongside the climatological, meteorological, and geomorphological research proposed) would have important ecological and economic benefits for Barbados and neighboring islands, such as an increase in agricultural production.

The group of McGill graduate students in the early years of the Caribbean Project helped pave the way for future cohorts of geographers who helped set up additional stations in Barbados. Although he





Wayne Rouse, McGill M.A. candidate (McMaster, B.A. 1961) reads a Bellani atmometer, recorder of latent evaporation on behalf of Canada's Department of Agriculture, at Waterford, McGill's microclimato-logical station.

FIG. 4. Wayne Rouse, MA in geography, working with the meteorological equipment at the Waterford Station. Photo from McGill University Archives—*Old McGill Yearbook* (1962).

was not explicitly named, references made in the above-mentioned report outlining plans for the new research station imply that Watts's focus on historical geography had laid the groundwork for proposed future endeavors.<sup>73</sup> His dissertation methodologies and findings were employed in several McGill students' graduate theses, including Carolyn Weiss's master's research, which investigated the historical, physical, and cultural factors shaping land use in Scotland District.<sup>74</sup> Beyond his dissertation, Watts's piece on Barbadian climatology with Wayne Rouse (see fig. 4) has become a foundational text for interdisciplinary research on Caribbean geographies and histories of climate.<sup>75</sup> Their descriptions of topography and climate data continue to be cited and used as bases for comparative analyses.<sup>76</sup>

## REFLECTING BACK/MOVING FORWARD

Our concentration on interdisciplinarity in geographical research, especially in the context of international field study, is intended neither to deflect nor justify the discipline's history of colonialism, imperialism, and racism.<sup>77</sup> If not explicitly acknowledged at the time, the Caribbean Project was indeed situated within a broader reconfiguration of "tropicality" and geopolitical claims during the early Cold War. Although it is unclear whether the McGill geographers saw their research as supporting or disrupting prevailing late colonial perceptions of the tropics, the historical record invites an important question: To what extent was the research done in Barbados in the 1950s and 1960s another example of the exploitation of a "new frontier" (spatially, temporally, and epistemologically), and thus bearing analytical links to McGill's Arctic and subarctic research programs?<sup>78</sup> Or, put another way, how did the interdisciplinary research of McGill's Caribbean Project both challenge and further neocolonial knowledge production (however unintentionally)?

It is also important not to ignore the relations along racialized, classed, and gendered lines that would have shaped research design, the conditions of fieldwork, and the recruitment of scholars. This is evident both implicitly and explicitly in our research materials, from unpublished departmental memoranda to major publications. In a 1964 report about the planning of McGill Geography research sites in Barbados, for instance, climatologist E. T. Stringer referred to local Barbadian researcher Victor Gibbs as a "climatological labourer" (in a separate category from "climatologist" and "climatological assistant").<sup>79</sup> In David Watts's summative 1987 book *The West Indies*, he reflected that he "came under the spell of the West Indies," a statement he may have drafted to convey a sense of admiration, but which today is difficult to separate from discourses of Caribbean or "tropical" culture as mystical, exotic, or even dangerous. The careful selection of students who became the face of the program was also noteworthy, as evidenced in Stringer's 1964 report: "Students selected for work in Barbados should have drive and not be the type to succumb to tropical living; women students in particular should be mature, stable, adaptable and academically bright."<sup>80</sup> The statement raises questions about what the McGill professors understood the dangers of "tropical living" to be, and the degree to which women might have been excluded from the Caribbean Project, and thus future

roles in the department, which requires further research.<sup>81</sup> An analysis of McGill University's geography program in Barbados therefore provides a valuable opportunity to continue investigating the politics of research on the environment involving a northern academic institution in the Global South.

A history of McGill's collaborative Caribbean Project sparks further questions about the practices and definitions of interdisciplinary research. How have definitions of interdisciplinary research changed since McGill's Caribbean Project began? Although we have identified David Watts, for example, as a geographer whose research benefited from and promoted interdisciplinary approaches, it is unclear—and now impossible to ask him posthumously—whether *he* would have considered himself in the same light. Similarly, it would be useful to compare integrated approaches of a fairly young Geography Department at McGill in the 1960s with those pursued there today, considering the department now sits in a Faculty of Science.<sup>82</sup> In the midst of an increasing push across institutions and funding agencies to promote interdisciplinarity in theory and brand, if not always in practice, it is worth considering the degree to which interdisciplinarity is a conscious exercise. As our paper demonstrates, placing geography and geographers at the heart of our discussion may point to “*intradisciplinarity*” as an equally appropriate concept to account for the tendency for geography as a discipline to reach both outward/beyond and within/across boundaries.

Future research on the Caribbean Project and similar initiatives could also help geographers understand the spatialities and temporalities of interdisciplinarity, including the connection between interdisciplinarity and international relationships. We might question what kind of role the spaces and places of field-based research played in contributing to the mingling of people and mobilizing of ideas, as found in the case of the Bellairs Research Institute and Brace Experiment Station in Barbados.<sup>83</sup> Although the institute was an impressive building in size, it was still just one site housing many people, requiring researchers from a variety of disciplinary backgrounds to share equipment and work and live in close proximity. As for the temporalities—specifically, rhythms—of interdisciplinary research, McGill's *Climatological Bulletin* reports in the 1960s highlight the experiments' successes and accelerations, in part thanks to advancements in aircraft and meteorological technologies, and collaborations with groups like that from Florida State University. Yet they also,

if less explicitly, reveal that the rhythms of research were characterized by bumps, pauses, and delays. Future research on the historical geographies of interdisciplinarity would thus benefit from greater attention to the mobilities and rhythms associated with “boundary-blurring” or “polyvocal” (field)work. Finally, interdisciplinary work has been underscored by dynamic ethical challenges over the years—a concern that still requires more careful consideration and reflexivity. Such a call points to a need for historical research on the power relations of interdisciplinary and international relationships through fieldwork.

We have turned a spotlight on McGill Geography’s Caribbean Project, and its associated personnel such as Theo Hills, Kenneth Hare, and David Watts, in response to what Kobayashi has identified as a continuing need to revisit the history of the discipline.<sup>84</sup> We have asked if new initiatives to foster interdisciplinary work, such as critical physical geography in the context of this special issue, might indeed have lineages in earlier programs like the Caribbean Project. It is not a stretch to propose that the McGill geographers working on Barbados were conducting some version of “critical” historical and geographical research through integrative studies of what Lave et al. call “socio biophysical landscapes,” putting into practice significant elements of what scholars have recently termed critical physical geography, environmental history, and political ecology, among other interdisciplinary approaches to the environment. Perhaps most notably, the McGill scholars’ critical approach extended to their recognition of how ideas and land usage were culturally and historically contingent, an appreciation that was developed through archival research, fieldwork, and living among local researchers. In this sense, fieldwork provided a key methodological terrain through which scholars like Watts put scientific and ecological practices *into* conversation with historical, cultural, and economic relations of power.

However, these geographers were perhaps less attuned to their own positionalities as researchers, the role of power dynamics in fieldwork, or simply other ways of knowing the world. There remain many more “human stories worth telling” about the Caribbean Project, including those of the early women doing geography at McGill (such as academics like Carolyn Weiss, as well as other women behind the production of geographical knowledge, including the typists, archivists, translators, cooks, and Bellairs housekeepers).<sup>85</sup> Future research will focus on the social relations of power that circulated through these interdisciplinary

programs, with greater attention to other researchers and partners from the Caribbean region who were often unnamed or received only brief mention in acknowledgments sections, but without whom the outputs of McGill's Caribbean Project would not be possible.

We have also illuminated links between historical geography and subdisciplines such as biogeography, links that also implicate historical scholarship more broadly. In a 2011 interview the distinguished environmental historian John McNeill concluded that there is "considerable opportunity" for scholars to pursue environmental histories of the Caribbean because "there is virtually no environmental history of the Caribbean to date."<sup>86</sup> In light of the McGill project, this claim seems overstated. If, as McNeill states, environmental history is "to take into account the natural world and human interactions with the natural world," then scholars working on past environments should read within and across disciplines, bridging what seem to be restrictive divides at a time of intensifying and irreversible climate change.<sup>87</sup>

Perhaps the greatest challenge, however, remains within the expansive discipline of geography. Geographers today continue to underacknowledge the importance of thinking historically about environmental issues such as global environmental change.<sup>88</sup> As Powell has suggested, the history of field science in the Arctic helped shape a developing geographical imagination in Canada. Perhaps a similar argument can be made for the McGill geographers working in the "humid tropics" of the Caribbean (many of whom were also connected to research in subarctic and Arctic Canada), which requires further analysis.<sup>89</sup> But in research of this nature, different and deeper collaborations with partners from the Caribbean region are needed to break down the uneven power relations that seem to have defined McGill's Caribbean Project. We need to not only look critically at the past but simultaneously engage with it, in order to be reflective when conducting future interdisciplinary work on the environment.

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versity's Rare Books and Special Collections at the time of this research; Martin Duval and staff at the Bellairs Institute in Barbados during a preliminary research visit; Mark Layne, our taxi cab driver, who gave us a tour of the island and showed us key sites associated with McGill; and the McGill graduate students who first welcomed us to the site and suggested additional lines of inquiry. Thanks to Oliver Coomes and Ben Kelly for early reads of sprawling drafts, and to Stephen Bell for an enlightening discussion with Kirsten Greer about Watts, McGill, and Barbados in the UK National Archives in 2015. Part of this paper was presented by Kirsten Greer, "The Geographic Tradition in Caribbean Environmental History: David Watts, McGill University, and the Caribbean Project," as part of a special panel on "History and Geography: Water under the Bridge or a Bridge Too Far?" at the International Conference of Historical Geographers, 7 July 2015, London.

#### NOTES

1. Although calls for and against integration of physical and human geographies through critical approaches have long been voiced, the term "critical physical geography" has only recently appeared in geographical literature as an approach that demonstrates what such integration looks like in practice. See Rebecca Lave, Elizabeth S. Barron, and Mark A. Carey, "Intervention: Critical Physical Geography," *Canadian Geographer / Le Géographe canadien* 58, no. 1 (2014): 1–10, <https://doi.org/10.1111/cag.12061>; Rebecca Lave, "Engaging within the Academy: A Call for Critical Physical Geography," *ACME: An International Journal for Critical Geographies* 13, no. 4 (2014): 508–15; Rebecca Lave, "Introduction to Special Issue on Critical Physical Geography," *Progress in Physical Geography: Earth and Environment* 39, no. 5 (October 1, 2015): 571–75, <https://doi.org/10.1177/0309133315608006>.

2. But see, for example, Simon Naylor, "Introduction: Historical Geographies of Science—Places, Contexts, Cartographies," *British Journal for the History of Science* 38, no. 1 (2005): 1–12, <https://doi.org/10.1017/S0007087404006430>; Simon Naylor, "Log Books and the Law of Storms: Maritime Meteorology and the British Admiralty in the Nineteenth Century," *Isis* 106, no. 4 (December 2, 2015): 771–97, <https://doi.org/10.1086/684641>; Lucy Veale, Georgina Endfield, and Simon Naylor, "Knowing Weather in Place: The Helm Wind of Cross Fell," *Journal of Historical Geography* 45 (July 2014): 25–37, <https://doi.org/10.1016/J.JHG.2014.03.003>; George C. D. Adamson, Matthew J. Hannaford, and Eleonora J. Rohland, "Re-Thinking the Present: The Role of a Historical Focus in Climate Change Adaptation Research," *Global Environmental Change* 48 (2018): 195–205, <https://doi.org/10.1016/j.gloenvcha.2017.12.003>. Early boundary crossing has also been traced to Alexander von Humboldt (1769–1859), whose scholarship and travel was later allied with the natural

sciences, social sciences, and humanities. See Karl S. Zimmerer, "Humboldt's Nodes and Modes of Interdisciplinary Environmental Science in the Andean World," *Geographical Review* 96, no. 3 (2006): 335–60.

3. Stephan Harrison, Doreen Massey, and Keith Richards, "Conversations across the Divide," *Geoforum* 39, no. 2 (2008): 441, <https://doi.org/10.1016/j.geoforum.2007.07.009>.

4. Theo L. Hills, "Soil in the Process of Pattern and Settlement" (PhD diss., McGill University, 1967), 17.

5. Stephen Bocking, "A Disciplined Geography: Aviation, Science, and the Cold War in Northern Canada, 1945–1960," *Technology and Culture* 50, no. 2 (2009): 265–90, <http://www.jstor.org/stable/40345607>.

6. Matthew L. Wallace, "Reimagining the Arctic Atmosphere: McGill University and Cold War Politics, 1945–1970," *Polar Journal* 6, no. 2 (2016): 358–78, <https://doi.org/10.1080/2154896X.2016.1241485>.

7. See also Trevor J. Barnes and Matthew Farish, "Between Regions: Science, Militarism, and American Geography from World War to Cold War," *Annals of the Association of American Geographers* 96, no. 4 (2006): 807–26; Matthew Farish, "Frontier Engineering: From the Globe to the Body in the Cold War Arctic," *The Canadian Geographer / Le Géographe Canadien* 50, no. 2 (June 7, 2006): 177–96, <https://doi.org/10.1111/j.0008-3658.2006.00134.x>.

8. Hayden Lorimer, "Telling Small Stories: Spaces of Knowledge and the Practice of Geography," *Transactions of the Institute of British Geographers* 28, no. 2 (June 1, 2003): 197–217, <https://doi.org/10.1111/1475-5661.00087>.

9. Richard C. Powell, "Becoming a Geographical Scientist: Oral Histories of Arctic Fieldwork," *Transactions of the Institute of British Geographers* 33, no. 4 (October 1, 2008): 548, <https://doi.org/10.1111/j.1475-5661.2008.00314.x>.

10. Kobayashi quotation in Innes M. Keighren, Jeremy W. Crampton, Franklin Ginn, Scott Kirsch, Audrey Kobayashi, Simon M. Naylor, and Jörn Seamann, "Teaching the History of Geography," *Progress in Human Geography* 41, no. 2 (April 2017): 258, <http://10.0.4.153/0309132515575940>. See also Audrey Kobayashi, "Valuing the History of Our Discipline," *AAG Newsletter* 47, no. 6 (2012): 3, <http://www.aag.org/galleries/presidents-columns/PresKobayashi20126.pdf>. Notably, Kobayashi also taught in the Department of Geography at McGill from 1983 to 1994.

11. Leo Apostel, "Interdisciplinarity Problems of Teaching and Research in Universities" (Paris: Organisation for Economic Co-operation and Development, 1972).

12. Asa S. Knowles, "Interdisciplinarity," in Asa S. Knowles, ed., *The International Encyclopedia of Higher Education* (San Francisco: Jossey-Bass, 1977), 2208.

13. Julie Thompson Klein, *Interdisciplinarity: History, Theory, and Practice* (Detroit: Wayne State University Press, 1990); Allen F. Repko, "Defining Interdisciplinary Studies," in *Interdisciplinary Research: Process and Theory* (Thousand Oaks, CA: Sage, 2008).



14. James Evans and Samuel Randalls, "Geography and Paratactical Interdisciplinarity: Views from the ESRC-NERC PhD Studentship Programme," *Geoforum* 39, no. 2 (2008): 581–92, <https://doi.org/10.1016/j.geoforum.2006.03.007>.

15. For a critical discussion of these metaphors, see Repko, *Defining Interdisciplinary Studies*.

16. Other examples at this time period include the Department of Geography at Louisiana State University, where cultural geographer James Blaut trained with human and physical geographers when studying the agricultural practices of the tropics in Latin America; and the Department of Geography at the University of Wisconsin–Madison, where historical geographer Karl Butzer taught from 1959 to 1966. Blaut is known for his book *The Colonizer's Model of the World* (1993) while Butzer established the field of geoarchaeology. Butzer received his master's degree in meteorology and geography from McGill in 1955. See Kent Mathewson and David Stea, "James M. Blaut (1927–2000)," *Annals of the Association of American Geographers* 93, no. 1 (March 1, 2003): 214–22, <https://doi.org/10.1111/1467-8306.93113>; Kent Mathewson and Ben Wisner, "Introduction: The Geographical and Political Vision of J. M. Blaut," *Antipode* 37, no. 5 (November 8, 2005): 900–910, <https://doi.org/10.1111/j.0066-4812.2005.00539.x>; William E. Doolittle, "Karl W. Butzer: Interdisciplinary Mentor," *Proceedings of the National Academy of Sciences* 113, no. 41 (2016): 11382–83, <https://doi.org/10.1073/pnas.1614514113>.

17. Kent Mathewson, "Sauer's Berkeley School Legacy: Foundation for an Emergent Environmental Geography?" in *Geografía y ambiente en América Latina*, ed. Gerardo Bocco, Pedro S. Urquijo, and Antonio Vieyra (Mexico City: Universidad Nacional Autónoma de México, 2011), 51. Mathewson was responding to the new subfield of "environment geography" by geographers such as Noel Castree, David Demeritt, Diana Liverman, and Bruce Rhoads, *Companion to Environmental Geography* (Malden, MA: Wiley-Blackwell, 2009). See Kent Mathewson, Martin S. Kenzer, and Geoffrey J. Martin, "Introduction," in *Carl Sauer on Culture and Landscape: Readings and Commentaries* (Baton Rouge: Louisiana State University Press, 2009), 154–56.

18. Mathewson, "Sauer's Berkeley School Legacy," 64.

19. Karl S. Zimmerer, "Human Geography and the 'New Ecology': The Prospect and Promise of Integration," *Annals of the Association of American Geographers* 84, no. 1 (1994): 118. Cited in Gregory L. Simon and Jessica K. Graybill, "Geography in Interdisciplinarity: Towards a Third Conversation," *Geoforum* 41, no. 3 (2010): 356–63, <https://doi.org/10.1016/j.geoforum.2009.11.012>.

20. Eric Pawson and Stephen Dovers, "Environmental History and the Challenges of Interdisciplinarity: An Antipodean Perspective," *Environment and History* 9, no. 1 (2003): 53–75.

21. Harrison et al., "Conversations across the Divide," 549. See also Stephan Harrison, Doreen Massey, Keith Richards, Francis J. Magilligan, Nigel Thrift, and



Barbara Bender, "Thinking across the Divide: Perspectives on the Conversation between Physical and Human Geography," *Area* 36, no. 4 (2004): 435–42.

22. Simon Naylor, "Fieldwork and the Geographical Career: T. Griffith Taylor and the Exploration of Australia," in *New Spaces of Exploration: Geographies of Discovery in the Twentieth Century*, ed. Simon Naylor and James R. Ryan (London: I. B. Tauris, 2009), 105–24.

23. Simon and Graybill, "Geography in Interdisciplinarity," 356, 358.

24. Kimble was born in England, attended Eastbourne Grammar School, and took a degree in geography in the University of London (King's College). Thereafter, he held the post of lecturer in geography at the University College of Hull for five years and at the University of Reading for three years. He was also instrumental in establishing the McGill summer school in geography at Stanstead, Quebec, to which a number of well-known British and American geographers have contributed. Under his guidance, and with the collaboration of the Arctic Institute of North America, an Arctic research center was built up at McGill. While Kimble's early research focused on the history of geographical exploration and thought, he gained experience in meteorology while serving with the British Naval Meteorological Service during the Second World War, and he contributed to investigations on the climatic feasibility of various invasion projects. Kimble was influential in shaping Canadian military geography. See "American Geographical Society of New York: Dr. G. H. T. Kimble," *Nature* 164 (December 17, 1949): 1033; Matthew Evenden, "Mapping Cold War Canada: George Kimble's Canadian Military Geography, 1949," in *Method and Meaning in Canadian Environmental History*, ed. Alan MacEachern and William J. Turkel (Toronto: Nelson, 2009).

25. J. Brian Bird, "Geography at McGill University—A 50 Year Perspective: 1945–95," n.d., 2–3. <http://geog.mcgill.ca/ggs/others/GEOGRAPHY%20AT%20McGILL%5B1%5D.pdf>.

26. F. Kenneth Hare, "I'll always take a window seat"—Chronicle of my life," 1999, Box 183, F. Kenneth Hare Fonds, Trinity College Archives, Toronto.

27. Hare, "Chronicle," 58.

28. Stephen H. Schneider and Terry Root, "Hare, F. Kenneth," *Encyclopedia of Climate and Weather* (Oxford: Oxford University Press, 2011), 106.

29. Wallace, "Reimagining the Arctic Atmosphere," 364; F. Kenneth Hare, *The Restless Atmosphere* (London: Hutchinson University Press, 1953).

30. Daniel Clayton, "Militant Tropicality: War, Revolution and the Reconfiguration of 'the Tropics' c. 1940–c. 1975," *Transactions of the Institute of British Geographers* 38, no. 1 (2013): 180–92, <https://doi.org/10.1111/j.1475-5661.2012.00510.x>; Farish, "Frontier Engineering"; Wallace, "Reimagining the Arctic Atmosphere." Research funding for McGill's various research programs in the Caribbean also involved links to the RAND Corporation, the US Army Ballistic Research Laboratories, the US Office of Naval Research, and the Demerara Bauxite Company (Alcan Canada Ltd.), connections that require further research.

31. Kenneth Hare to Carl Sauer, December 19, 1957, Carl Sauer Papers, BANC MSS 77/170/Box 11, Bancroft Library, Berkeley, CA. Ben Garnier would later extend Hare's original research program when he joined McGill in 1965. Benjamin J. Garnier, "The McGill University Climatology Programme in Barbados," *Bulletin of the American Meteorological Society* 49 (1968): 636–39; Benjamin J. Garnier and Atsumu Ohmura, "The Evaluation of Surface Variations in Radiation Income," *Solar Energy* 13 (1970): 31–34.

32. Carlyon Bellairs, "The Navy and the Engineer," *Monthly Review* 8, no. 23 (1902): 92–104; "Obituary for Commander C. Bellairs," (*London*) *Times*, August 24, 1955; "British Submarines," (*London*) *Daily Mail*, May 9, 1902; "Slavery in Russia," (*London*) *Daily Mail*, February 27, 1931; "Answer to a Socialist Parrot Cry George Murray," (*London*) *Daily Mail*, January 19, 1948; Matthew Johnson, "The Liberal Party and the Navy League in Britain before the Great War," *Twentieth Century British History* 22, no. 2 (2010): 137–63.

33. David Dilks and Richard Dilks, *The Great Dominion: Winston Churchill in Canada, 1900–1954* (Toronto: Thomas Allen & Son, 2005).

34. According to McGill historian Stanley Frost, Massey rejected the letter on the basis of its poor appearance, which Frost attributes to Bellairs's failing eyesight. Stanley Brice Frost, *McGill University: For the Advancement of Learning*, vol. 2, 1895–1971 (Montreal: McGill–Queen's Press, 1984), 336; Mark Reynolds, "Bellairs Institute Celebrates 50th," *McGill Reporter* 37, no. 7 (December 9, 2004), <https://www.mcgill.ca/reporter/37/07/focus/>.

35. F. Cyril James, "Opening of the New Building of the Bellairs Research Institute" (public address, Barbados, January 8, 1960), Bellairs Research Institute. Retrieved from <https://www.mcgill.ca/bellairs/archives>. James gave his speech in Barbados, in front of an audience that included the colonial governor and prime minister of Barbados.

36. James, "Opening of the New Building."

37. Jock H. Galloway, "Botany in the Service of Empire: The Barbados Cane-Breeding Program and the Revival of the Caribbean Sugar Industry, 1880–1930s," *Annals of the Association of American Geographers* 86, no. 4 (1996): 694.

38. For more information on Canada's relations with the West Indies during this time period, see Janet Henshall Momsen, "Canada-Caribbean Relations: Wherein the Special Relationship?" *Political Geography* 11, no. 5 (1992): 501–13; Michele A. Johnson, "The Beginning and the End: The Montego Bay Conference and the Jamaican Referendum on West Indian Federation," *Social and Economic Studies* 48, no. 4 (1999): 117–49; Peter Hames Hudson, "Imperial Designs: The Royal Bank of Canada in the Caribbean," *Race and Class* 52, no. 1 (2010): 33–48.

39. Francis Raymond Fosberg, Benjamin John Garnier, and August William Küchler, "Delimitation of the Humid Tropics," *Geographical Review* 51, no. 3 (1961): 333–34.

40. Benjamin J. Garnier, "The Problem of Delimiting the Humid Tropics," *Geo-*

*graphical Review* 55 (1965): 339. Fosberg's and Garnier's contributions were part of a special meeting of the United Nations Educational, Scientific, and Cultural Organization in March 1956, regarding the Humid Tropics Research Programme presented in Fosberg, Garnier, and Küchler, "Delimitation of the Humid Tropics."

41. David G. Tout, "The Climate of Barbados," *McGill University Climatological Bulletin* 3 (1968): 5.

42. "Barbados: An Island Laboratory for McGill," *McGill News* (Montreal: McGill University, 1962). Smith left Barbados in 1962 for Ghana.

43. Tout, "Climate of Barbados," 5. Tout later became the director of McGill's Brace Experimental Station (1963–65).

44. Bird, "Geography at McGill University."

45. Hills, "Soil in the Process," i, iii. He later cited the influence of other scholars interested in the environment such as Dan Stanislawski, Donald Brand, Erich Zimmerman, and Walter Webb in shaping his ideas on "man/land relationships and of the nature and appraisal of resources." He also was influenced by including Charles Cotton, Donald McKenzie, George Jobbins, and Kenneth Cumberland.

46. Hare, "Chronicle," 68; Hugh MacLennan, *McGill—The Story of a University* (London: George Allen & Unwin, 1960). Support for the McGill Savanna Research Project was provided by the government of Guyana, Demerara Bauxite (Alcan Canada Ltd.), and the US Office of Naval Research, the latter of which also funded Sauer's and Parsons' research trips to the West Indies (Dominican Republic). Theo L. Hills, "Research Proposal to Office of Naval Research: The Savanna Problem," 1961, Theo Hills fonds, RG32 c. 3906 and c. 3907, McGill University Rare Books and Special Collections.

47. Although Kimble was based in the United States until he retired, he retained an interest in the Department of Geography at McGill University. He became secretary-general with the International Geographical Union while in Montreal, and later chairman of the IGU Commission on the Humid Tropics in 1956. He chose as the commission's secretary Theo Hills, recently appointed at McGill, who, with his students, was to be linked with the commission, its successors, and their research for the next forty years. Bird, "Geography at McGill University," 5.

48. Hills, "Soil in the Process," 1.

49. Watts was born in Chapel-en-le-Frith in Derbyshire, England, on June 14, 1935. Many scholars know Watts as a biogeographer who authored *Principles of Biogeography* (1971), helped found the *Journal of Biogeography*, and authored keyword entries for the *Dictionary of Physical Geography*. Few accounts of Watts's work recognize that he was trained as a historical geographer at McGill, with links to the Berkeley School of Carl Sauer. Watts served as dean of the School of Geography and Earth Resources at the University of Hull (1988–91), teaching a variety of courses in physical geography until his retirement in 2002. "David Watts (Necrology)," *AAG Newsletter* 39, no. 1 (2004): 15, [http://www.aag.org/cs/membership/tributes\\_memorials/sz/watts\\_david](http://www.aag.org/cs/membership/tributes_memorials/sz/watts_david). Watts received only a short reference in Alan R. H. Baker, *Geography*

and *History: Bridging the Divide* (Cambridge: Cambridge University Press, 2003).

50. David Watts, "Human Occupance as a Factor in the Distribution of the California Digger Pine (*Pinus Sabiniana*)" (master's thesis, University of California, Berkeley, 1959), 2.

51. Parsons pursued his MA in geography with Sauer at Berkeley. His research interests ranged from cork-oak forests to California manufacturing, from fog drip to pre-Columbian ridged fields (which he initially discovered from the air), and from African grasses in the New World to the historical preconditions for industrialization. David Hooson, Bernard Q. Nietschmann, and David R. Stoddart, "James Jerome Parsons, Geography: Berkeley" (University of California: In Memoriam, 1997), <http://texts.cdlib.org/view?docId=hb7t1nb4v2;NAAN=13030&doc.view=frames&chunk.id=div00050&toc.depth=1&toc.id=&brand=calisphere>.

52. David J. Watts, "Plant Introduction and Landscape Change in Barbados, 1625–1830" (PhD diss., McGill University, 1963), vi.

53. Kent Mathewson and Martin S. Kenzer, "Culture, Land, and Legacy: Perspectives on Carl O. Sauer and Berkeley School Geography" (Baton Rouge, LA: Geoscience Publications, 2003); Kenneth R. Olwig, "Recovering the Substantive Nature of Landscape," *Annals of the Association of American Geographers* 86, no. 4 (2016): 630–53, <http://www.jstor.org/stable/2564345>; Denis Cosgrove and Peter Jackson, "New Directions in Cultural Geography," *Area* (1987): 95–101; John B. Leighly, "Carl Ortwin Sauer, 1889–1975," *Annals of the Association of American Geographers* 67, no. 3 (1976): 343–49. In her piece tracing the historical uptake (or avoidance) of race and antiracism as concepts in geographical scholarship, Kobayashi notes Sauer's avoidance of race, despite the fact that he took up his AAG presidency around the time that Ashley Montagu wrote *Man's Most Dangerous Myth*, which Sauer's mentor, Franz Boas, had been invited to read in its manuscript stage. It is worth considering how Sauer's influence on McGill geographers like Hills, Garnier, and Watts (and indeed, most human geographers at the time) might have led to a similar systemic neglect of race and (anti-)racism in the work conducted throughout the Caribbean Project, despite its focus on culture.

54. Sauer spent one field season in the Caribbean with his Berkeley colleague James Parsons and several students, traveling to Hispaniola and some of the Lesser Antilles. Mathewson, "Sauer's Berkeley School Legacy," 63.

55. According to Parsons, Sauer's prestige and "persistence" won him funding for a proposed Latin American research institute through various sources, including the Rockefeller Foundation. Despite receiving "unsolicited and unrestricted" funds from the foundation for personal fieldwork in the 1940s, the institute never materialized. Substantial support from the Office of Naval Research (ONR) helped fund his Caribbean field studies program, which produced eighty-six publications over seventeen years. We speculate that Sauer's initial work with the ONR, along with the connections between McGill's and Berkeley's Geography departments, paved the way for McGill's Caribbean Project to obtain funds for similar research in geogra-

phy, climatology, and meteorology.

56. There is extensive correspondence between ONR staff and Carl Sauer in the Carl Sauer Papers at the Bancroft Library at Berkeley University. Evelyn Pruitt and Louis Quam were the main administrators of the ONR Caribbean research program (BANC MSS77/170/Box 17).

57. Parsons took over for Sauer when he retired in 1957; Mathewson et al., "Introduction"; Mathewson, "Sauer's Berkeley School Legacy."

58. This network included Gordon Merrill, who completed his Berkeley dissertation on Saint Kitts in 1957. Merrill later moved to Canada, teaching geography at McGill for two years and then at Carleton University in Ottawa, where he remained for the rest of his career. He was instrumental in organizing a workshop in Ottawa on *The West Indies Federation: Perspectives on a New Nation*, which he published as a booklet in 1961 with H. W. Springer, Gordon Merrill, Douglas C. Anglin, and David Lowenthal. See also Gordon Merrill, "The Historical Record of Man as an Ecological Dominant in the Lesser Antilles," *Canadian Geographer / Le Géographe Canadien* 3, no. 11 (1958): 17–22.

59. David J. Watts, *The West Indies: Patterns of Development, Culture and Environmental Change since 1492*, Cambridge Studies in Historical Geography 8 (Cambridge: Cambridge University Press, 1987), xx.

60. Hills was also instrumental in creating the Centre for Developing Area Studies at McGill, of which he was associate director and director from 1967 to 1975. As early as the 1950s, biogeography was identified as an integrative field, which offered a unique combination of expertise in the physical, biological, and human sciences. Bird, "Geography at McGill University," 9–10.

61. See Hills, "Soil in the Process," iii. The gender-based distribution of (almost certainly unpaid) labor was very much romanticized in this era of geography, and in academia in general. In their acknowledgment sections, several of the McGill researchers thanked their wives and mothers for typing up their dissertations, reports, and scientific papers.

62. McGill University, *Course Calendar 1959–60* (Montreal: McGill University, 1959), 1081, course 314.

63. McGill University, *Course Calendar 1959–60*, 1082, 2689, 1083, 1098.

64. The four students were Jock Galloway, Frank Innes, David Brack, and John Mbogua. In a newsletter tribute to Kenneth Hare, whom Galloway met in 1956, Galloway attributed his "lasting interest in the human geography of the tropics" to his first summer at Bellairs after enduring two summers ("if this word is appropriate for that place") at McGill's Knob Lake Station, along with Watts. Galloway recalled: "I recorded snowfalls in both July and August, and there was a greater density of black flies per square metre than any other place I have ever visited, but the company was good and I enjoyed the frontier spirit. Climatology, however, was not for me." Jock H. Galloway, "Honouring Ken Hare," *GeoPlan*, 2003, 1–2, <http://geography.utoronto.ca/wp-content/uploads/2013/09/GeoPlan-2003-Spring.pdf>. Galloway's work on the

Caribbean and the related sugar cane industry effectively exemplifies the historical geographical tradition of combining fieldwork with archival methods, a claim to be taken up in future research. John P. Mbogua completed his MA in geography under the supervision of Kenneth Hare and later became Kenyan ambassador to the United States. John P. Mbogua, "Peasant Agriculture in Barbados—a Sample Study" (McGill University, 1961).

65. Watts, "Plant Introduction and Landscape Change," 1, 5.

66. Watts examined primary sources held at the British Museum, PRO Office, Royal Commonwealth Society Library, Public Library in Bridgetown, and the Bodleian Library, among others.

67. Note that Wayne Rouse, an MSc student, was also studying sugar cane at roughly the same time, although his attention was on moisture balance. Wayne R. Rouse, "The Moisture Balance of Barbados and Its Influence on Sugar Cane Yield" (master's thesis, McGill University, 1962). Rouse and Watts later published an influential piece together on Barbadian climatology: Wayne R. Rouse and David J. Watts, *Two Studies in Barbadian Climatology*, Climatological Research Series 1 (Montreal: McGill University, 1966).

68. <http://discovery.nationalarchives.gov.uk/details/rd/oc1bbdb-2da5-44d1-8efe-8a6c7c550912>. See also Catherine Hall, *Civilising Subjects: Metropole and Colony in the English Imagination, 1830–1867* (Chicago: University of Chicago Press, 2002); David Lambert and Alan Lester, *Colonial Lives across the British Empire: Imperial Careering in the Long Nineteenth Century* (Cambridge: Cambridge University Press, 2006); Eric Eustace Williams, *British Historians and the West Indies* (London: Deutsch, 1966).

69. Watts, "Plant Introduction and Landscape Change," 363.

70. By 1676 over four hundred windmills had been recorded on the island. Watts, "Plant Introduction and Landscape Change," 254.

71. Trevor Lloyd letter to Kenneth Hare, "Subject: Human Geography at Barbados," February 11, 1963, RG 32 c. 3425, McGill University Archives, Department of Geography, Montreal; Barbados Scotland Project 1543–071, Summer 1963, RG 32 3418.

72. "Programme of Field Research in Human Geography at Barbados, May–September, 1963," RG 32 c. 3425, McGill University Archives, Department of Geography, Montreal.

73. "Programme of Field Research."

74. Carolyn Weiss, "Land Use in the Scotland District, Barbados" (master's thesis, McGill University, 1966), 247–51. Weiss was one of the few women conducting geographical research in Barbados at the time.

75. Rouse and Watts, "Two Studies in Barbadian Climatology"; Wayne R. Rouse, "Forty-Five Years in Climatology—a Personal Odyssey," *The Canadian Geographer / Le Géographe Canadien* 52, no. 1 (March 1, 2008): 5–21, <https://doi.org/10.1111/j.1541-0064.2008.00198.x>.

76. Daniel R. Muhs, "Evolution of Soils on Quaternary Reef Terraces of Barbados, West Indies," *Quaternary Research* 56, no. 1 (2001): 66–78, <https://doi.org/10.1006/qres.2001.2237>.

77. Daniel Clayton, "Colonizing, Settling and the Origins of Academic Geography," in *The Wiley-Blackwell Companion to Human Geography*, ed. John A. Agnew and James S. Duncan (Wiley Online Books, 2011), <https://doi.org/10.1002/9781444395839.ch4>; Audrey Kobayashi, "The Dialectic of Race and the Discipline of Geography," *Annals of the Association of American Geographers* 104, no. 6 (2014): 1101–15, <https://doi.org/10.1080/00045608.2014.958388>.

78. Farish, "Frontier Engineering."

79. E. T. Stringer, "A Report on Climatological Possibilities in Geography: Based on Visits Made Sept.–Dec. 1964," RG 3425 c.3425, 1, McGill University Archives.

80. Stringer, "Report," 3.

81. McGill Geography's first graduate student was a woman, Margaret Montgomery, who worked with Kenneth Hare. Starting in 1930, and before it became an official department, the first instructor of geography, D. J. Seiveright, was also a woman. Frost, *McGill University*, 2:360; Bird, "Geography at McGill University," 1.

82. Today, McGill continues to promote Caribbean research and encourages collaboration within and across disciplinary boundaries through the Barbados Interdisciplinary Tropical Research Studies program at Bellairs Research Institute. The Geography Department at McGill also offers a Barbados Field Course, which encourages students to examine environmental management and transition in a "Small Island Developing State." Retrieved from <https://www.mcgill.ca/geography/courses>.

83. David Livingstone, *Putting Science in Its Place: Geographies of Scientific Knowledge* (Chicago: University of Chicago Press, 2003). Simon Naylor's work tracing the role of the field as part of doing histories of science is a useful point of connection here, as is Robert Kohler's work on field practices as practices of place, and David N. Livingstone's review of *The Architecture of Science* (ed. Peter Galison and Emily Thompson). Naylor, "Introduction"; Robert Kohler, "Place and Practice in Field Biology," *History of Science* 40, no. 2 (2002): 189–210; David N. Livingstone, "Putting Science in Its Place," *Nature* 405, no. 6790 (June 29, 2000): 997–98, <https://doi.org/10.1038/35016655>.

84. Kobayashi, "Valuing the History of Our Discipline."

85. Keighren et al., "Teaching the History of Geography," 258.

86. Neil Safier, "Of Mosquitoes and Men: A Conversation with J. R. McNeill," *Atlantic Studies* 9, no. 4 (December 1, 2012): 384, <https://doi.org/10.1080/14788810.2012.667246>.

87. Safier, "Of Mosquitoes and Men," 383. Note that our criticism of McNeill's statement about the lack of Caribbean environmental histories is not to dismiss his past acknowledgment of the work of historical geographers, including Watts, and the connections between historical geography, environmental history, and historical

ecology. See John R. McNeill, "Observations on the Nature and Culture of Environmental History," *History and Theory* 42, no. 4 (2003): 5–43.

88. For example, in a 2015 article in *Geography Compass*, Kevon Rhiney discusses the Caribbean as an area of vulnerability in global climate change without referring to the historical-political circumstances between core and periphery relations, which have shaped the region as part of the Global South. Kevon Rhiney, "Geographies of Caribbean Vulnerability in a Changing Climate: Issues and Trends," *Geography Compass* 9, no. 3 (2015): 97–114, <https://doi.org/10.1111/gec3.12199>.

89. Powell, "Becoming a Geographical Scientist: Oral Histories of Arctic Fieldwork," *Transactions of the Institute of British Geographers*, 549. The circulation of field assistants and meteorological equipment between these sites requires further examination.