A. H. Clark's Framing of Geographical Change

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ABSTRACT: This paper considers the importance of Andrew Clark's time in New Zealand to the ways in which he wrote about geographical change. It suggests that some of the features of Clark's writings, for instance his reticence about generalisation emerged very early in his career. Likewise, that in a context where the landscape had been rapidly and to a great degree transformed, 'geographical change' assumed a central place in Clark's thinking. Other considerations and approaches became more important to Clark by the mid-1950s but his New Zealand sojourn cannot be overlooked in any assessment of his over all career.

Introduction

Andrew Hill Clark died in 1976, at the comparatively young age of sixty-four, but left a considerable legacy in Anglophone historical geography, having played a formative role in its development in the USA during the middle years of the twentieth century. He produced some important sub-disciplinary statements and delivered the honorary presidential address to the Association of American Geographers conference in 1962, in addition to cofounding the *Journal of Historical Geography* in 1975. During his career he was the recipient of many honors.

Clark's approach to historical geography was anchored on geographical change in the context of regional historical geography, where he brought to bear a mastery of the archive and other documentary sources in combination with fieldwork. He made use of comparisons between regions he was familiar with, but more typically eschewed what he regarded as premature generalizations until he had completed exhaustive investigations. Although Clark's first book *Invasion of New Zealand by People Plants and Animals* is closely associated with a diachronic or vertical themes approach to the study of geographical change, he later drew on Darby style synchronic cross sections, as well as making use of a numerical indices and innovative cartography, in his study of Prince Edward Island. In his three major books Clark studied in depth two islands and one peninsula, paying attention to, amongst other things, isolation and insularity.²

Clark's career and his contributions to North American historical geography have been acknowledged in a festschrift.³ To this, Donald Meinig—who arguably inherited Clark's mantle within US historical geography—contributed an insightful prologue.⁴ In addition, Ward and Solot have crafted a revealing and substantial essay on Clark for *Geographers*, *Biobibliographical Studies*.⁵ Clark's skills as a supervisor produced a generation of US and Canadian historical geographers some of whom have, in turn, been at the forefront of North American historical geography. For all that, Clark is now a somewhat forgotten figure.

While aspects of Clark's career in Canada and New Zealand have already been explored, the treatment is far from exhaustive. Clark's work may be organized into four clusters comprising: (1) the initial New Zealand inspired research (1945 to 1956) overtly concerned with geographical change pursued mainly through vertical themes, (2) geographical change in regional historical

geography and the reconciliation of this with Harshorne's ideas about geography as areal differentiation, taking the form of mapping of rates of change in small areas (1959 to 1962), (3) geographical change understood through 'thick' cross sections and sequences of successive occupation (1962 to 1968), and (4) subjective elements of landscapes (1970 to 1976). The entirety of Clark's career cannot be covered in a single paper. This paper focusses on New Zealand, where he took up his first fully fledged faculty appointment and where some of the ideas and attitudes that were to become hallmarks of his career took form. This is not to suggest that Clark's ideas did not continue to change-clearly they did-but these changes can be usefully read against his New Zealand experiences and the publications that emerged from them. This part of his career has not previously been explored in detail and from an intellectual division of labor point of view, it is the portion that can be most effectively undertaken from New Zealand.⁷ After recounting some North American influences, the emergent features of Clark's New Zealand historico-geographical research program are considered. Clark's long term commitment to geographical change and some of his foundational thinking about historico-geographical research methodology, it is argued, can be identified in his writing from and about New Zealand. These highlight the early appearance of one part of what Ward and Solot identify as a tension in Clark's mature writing whereby he tended towards what they describe as "hyperempirism," as a means of avoiding unjustified generalizations, but which correspondingly tended to negate his "desire for a respectful and nostalgic evocation of landscapes."8 The acknowledgement of "the profound satisfaction that comes from the deepest possible familiarity with individual areas and places," present in his conversation, thus tended to be filtered out of his writing.9 It was not until very late in his career that Clark found a satisfacstory way of writing with feeling about landscapes that were important to him.¹⁰

A New Zealand sojourn 1941-1942

Born on an Indian reservation in Manitoba in 1911 and with strong familial ties to Prince Edward Island, Clark took his BA in mathematics and physics at McMaster University in 1930, supporting his studies through summer work surveying for the Canadian Geological Survey. He was employed for several years as an actuary before beginning post graduate study at the University of Toronto under Harold Innis in 1935. On completion of his MA in economic history, geology, and geography in 1938, Clark's first academic post was as Demonstrator in Geography at Toronto under Australian Griffith Taylor, the noted environmental determinist. He accompanied Taylor on a Saharan expedition in 1938 and while environment was always to be part of his analysis, Clark was never an environmental (or economic) deterministic in his thinking. Late in 1938, he shifted to Berkeley and studied under Carl Sauer for his PhD, submitted in 1944.¹¹ This was no library based exercise however, for in 1940 Clark accepted an appointment as Lecturer in Geography at Canterbury University College, joining New Zealander George Jobberns and Yorkshireman Ken Cumberland at the only university geography department in New Zealand, itself founded only in 1937. Thus, Clark has an authentic place as a pioneer figure in New Zealand university geography. Jobberns had visited the US on a Carnegie Fellowship in 1939, where he met many of the leading American geographers, including Sauer and, as a fellow recruit from geology, he was much impressed by the latter's cultural landscapes approach to geography.¹² Clark replaced Robert Bowman, another Berkeley student and an earlier appointment to Canterbury.

When Clark and his wife Louise arrived in New Zealand, he had reached another of the White Settler Dominions, but one of recent settlement; by Polynesians as late as the thirteenth century, while the European settler population had arrived only in numbers in the mid nineteenth century. The South Island, where Clark was bound, had an alpine backbone with mountains up

to four thousand meters, a heavily forested west coast and much of the country's grassland plains on the east coast. Geologically young, with a dynamic environment, its landscapes had been further modified by human activity all within a relatively short space of time. The country was an "open book" for young and energetic geographers and in this respect Clark found the presence of new colleague Ken Cumberland, a sharp minded British-trained geographer recruited in 1938, a stimulus. Cumberland's original training was in agricultural geography, but in New Zealand he developed a strong interest in historical geography and produced work influenced by both Sauer and Darby. Jobberns was a shrewd avuncular figure; he took Clark into the field and passed on his rich understanding of the regional landscapes of the South Island. Lance McCaskill, a friend of Jobberns', then a Teachers Training College lecturer and an indefatigable campaigner against soil erosion, whose efforts contributed to the enactment of the Soil Conservation and Rivers Control Act, 1941, also helped Clark make sense of the history of land use in New Zealand.

On arrival, Clark had intended to investigate soil erosion for his thesis but subsequently adopted a broader topic dealing with the diffusion of various exotic species of plants and animals to New Zealand. Clark to Clark to consider other possibilities. Clark described the pivotal moment as listening to a bitter informal debate between two well-informed New Zealand scholars, one an Anglophile and the other an Anglophobe, as to the net effect of British influence on New Zealand. Both parties accepted without question that New Zealand was a second Britain and only differed as to the desirability of this fact. Lance's son Murray McCaskill, a Canterbury student in 1944, later an historical geography graduate and thereafter a faculty member, considered that Clark's labelling of the debate as bitter was merely lively and speculated that the potential candidates could be George Wilson, a left wing Junior Lecturer in History as the "Anglophobe" and Alice Candy, his senior in the department and a traditional "Anglophile." Jobberns, he positioned as a mild critic of Britain. In this context it now seems significant that Wilson was acknowledged in the preface of Clark's *Invasion of New Zealand by People Plants and Animals*.

Clark mined his thesis and time in New Zealand to good effect, producing three journal articles from 1945 to 1947, chapters in 1947 and 1956, as well as a book in 1949. Prior to coming to New Zealand Clark had commenced research on Prince Edward Island. He now shifted his attention to what must have, at the time, been an equally small, distant, and insular New Zealand. Yet in what might seem to be unpromising surroundings Clark found considerable inspiration. The lack of a university tradition in geography provided opportunity. Amongst time consuming obligations, in 1941 for instance, he delivered an address to school teachers in which he outlined "A Philosophy of Geography for New Zealand Schools" which forced him to articulate his own position on the nature of the discipline.²² Delivered early in his time in New Zealand, it doubtless summarized ideas from his Canadian and US experiences. Clark observed that school textbooks were frequently dogmatic about the nature of geography and he challenged the rump of deterministic thinking then present in the New Zealand school syllabus.²³ He expressed concern about "unjustified generalisation," which became a career long concern and complaint. He urged teachers to acknowledge that some explanations were complex and partial and that this ought not to be disguised from students even at an early stage. Finally, he rejected geography as "people and environment" because he was concerned that it implied a narrow deterministic control of people by environment. Much later, in a volume published in memory of Griffith Taylor, he expounded on his position more fully: people, he observed sometimes "made substantial changes in the face of the earth; sometimes they appeared to make little impression on the milieu but were themselves profoundly affected in culture . . . to assure the viability of their occupance."24 The working definition of geography that he put forward for teachers in 1941 was, "studying the

character form and arrangement of the things which make up the surface of the earth as he sees it – the very landscape in parts of which man lives."²⁵

Clark later described himself as a reluctant participant in philosophical and methodological debates: "I almost inescapably have been drawn from time to time into the methodological lists. I don't think my efforts have been particularly successful because, among other handicaps, my heart never really was in them." There are other philosophical and methodological points made in Clark's New Zealand work, though they tend to be embedded in his prose, made very much in context rather than as standalone statements. For instance, in his observation, laced with Berkeley undertones, that:

It is impossible to discuss the natural endowment so abstractly as to ignore the presence of man. Hence the present-day New Zealand landscape cannot be analysed and interpreted adequately unless it is seen as result of the interaction of the occupying society and the natural habitat.²⁷

In "The Historical Explanation of Land Use in New Zealand," Clark challenged the accepted explanation that a mix of British settlers and a climatic regime somewhat milder than Britain produced a pastoral economy in New Zealand. Instead, he made a case for the importance of the "relative location" of Australia and, with shades of Sauer, the diffusion of a pastoral economy from New South Wales to New Zealand. However, Clark remained alert to "the delicate chain of coincidence" which had led to this outcome. This paper thus contained another feature of Clark's later work; his reluctance to unquestioningly accept the status quo interpretation.

Clark was always wary of the dangers of over generalization, a tendency that intensified in his work as time progressed. Writing in the *Professional Geographer* and drawing on his research efforts in New Zealand in 1946, he was clear and firm in his statement against generalization; "the facts with regard to location, arrangements, and characteristics of the phenomena must be gathered before we proceed to generalize, suggest causal connections and interrelationships, or characterize regions."²⁹ Clark accordingly adopted a more inductive approach to research; at least for the first cluster of New Zealand inspired writing. His reservations about generalization also ran counter to wider trajectories in geography as the discipline moved towards nomothetic approaches from the late 1950s.

His suspicion of generalizations resurfaced in a 1947 comparative piece of two islands with which he was familiar – Prince Edward Island and the South Island:

Generalisations which are not almost self-evident truths would seem to be highly speculative. To a large extent the 'insularity' which might be stressed is rather to be read as 'maritime locations' or 'relative location'. The use of the word 'insular' in cultural connections has well-established precedents, but the connection with insularity in a physical sense is, at best an obscure and complicated one.³⁰

A good example of Clark's hyperempiricism is also provided by the manner in which he addressed the question of who had emigrated to the New Zealand Company settlements in the 1840s. He dismissed the assertion that they were carefully selected, quality migrants particularly of the yeoman farming type, as lacking any supporting evidence.³¹ Instead he then embarked on an in depth survey of New Zealand Company Papers, shipping lists in the New Zealand archives, official publications, and newspapers which enabled him to identify, to his own satisfaction, the low proportion of those with "agricultural or pastoral skills." Indeed, he considered that, comparatively, North America was a more attractive destination; being closer and with land more

readily available so that the inducement to select New Zealand would have been low. Instead he noted "the existing evidence points as strongly toward a generally urban background as toward their poverty."³³

Clark spent only two years in New Zealand, where he had a full teaching load but still managed to undertake detailed archival work and a considerable amount of field work for his thesis. This was all the more impressive given the rudimentary state of archival collections at the time and the real difficulties posed by travel restrictions under war time conditions. After his return to the US in 1942, he lectured on meteorology to Army Air force and on Italy to Army personnel before joining the Office of Strategic Services (OSS) where he was one amongst a number of geographers and visited China. Declining a State Department position in 1946, he instead became the foundation geography appointment at Rutgers University.³⁴

Clark converted his thesis into a book published, after some delays, by Rutgers University Press in 1949, as The Invasion of New Zealand by People Plants and Animals. He commenced by laying out what he termed the "primitive habitat" of climate, soils, and vegetation before treating people, animals, and plants in separate, parallel descriptive and interpretative accounts, concluding with a recounting of the "geographical present" of the South Island in 1940, augmented by dot distribution maps. The strength of the approach is in its attention to origins and change over time, while it weakness lies in the disconnection that can occur between the vertical themes. Clark's handling of the rabbit pest shows some deftness in ensuring that it is also understood as part of and not entirely separate from the sheep narrative. In point of fact the volume focused only on the South Island and indeed, it would be difficult to apply his approach so convincingly to the North Island if only because of the significance and resistance of the Maori population which disrupts a straight forward narrative of successive waves of invasions.³⁵ The title *Invasion* also aligns itself easily enough with Sauer's "Theme of Plant and Animal Destruction in Economic History" dating from 1938.³⁶ As early as 1939, Jobberns had also prefigured some these ideas in terms of British settlers bringing a new flora and fauna and exterminating some of the old.³⁷ Cumberland was also working on a major paper, Sauer inspired, entitled "A Century's Change: Natural to Cultural Vegetation in New Zealand" published in 1941, which argued that in terms of the rate and scale of change, New Zealand had been made over in a century; while similar North American transformations had taken four centuries and those of Europe, two thousand years.³⁸ Their collective influence can be seen in Clark's approach to understanding the geography of New Zealand. In the preface to *Invasion*, Clark however, took a step away from the Berkeley school of geography in announcing that the book was "a report on the revolutionary change in the character of a region, which occurred in the period of less than two centuries."³⁹ It became a little less statement about landscapes and rather more a work in historical geography.

Australasian historical geographers, Heathcote and McCaskill later applauded Clark's *Invasion*, but were critical of his including distribution maps only for 1940 when (while acknowledging the difficulties of their construction) those for 1860 and 1890 "would have provided more valuable illustration of his themes." *Invasion* was singular in some respects; Clark never again produced such a "pure" study of vertical themes to interpret geographical change. *Invasion* can be seen as an outgrowth of Sauer's concern with cultural landscapes and implicitly contained the element of change over time. As Clark (without antagonism) moved further away from from the Berkeley school of cultural geography and "landscape," to historical geography per se and a closer engagement with Hartshorne's ideas about geography; diachronic work was set to one side in favor of the challenging task of depicting change over time in a way that was compatible with a view of geography as a chorological science. Through mapping rates of change in *Three Centuries* and separately in other work on Prince Edward Island, he offered a methodology for studying regional geographical change; one that had some of the trappings of a

deductivist approach.⁴¹ In his 1962 AAG address, Clark in effect repudiated the method taken in *Invasion* when he claimed, "there is no end to the search for ultimate origins except in the happy hunting grounds of physical or metaphysical theory."⁴²

In 1956 Clark was a participant in the famous symposium on *Man's Role in Changing the Face of the Earth*, speaking on "The Impact of Exotic Invasion on the Remaining New World Midlatitude Grasslands" where he narrowed the discussion to the un-ploughed grasslands of the US Great Plains, California, and the South Island of New Zealand. He distinguished historical from "processual" investigations; "the former is concerned with the fact of circumstance and change; the latter aims to assign relationships between the characteristics and changes and the processes observed is hypothesized." While he recognized that much grasslands research took the latter approach, he considered their "wells of historical material [to be] running dry." Some of the theory about land use and environmental change was, he suggested, based on very limited evidence. He later illustrated this with respect to the South Island, noting that much research had not been able to separate the effects of rabbits, sheep, and fire; though in combination they had clearly transformed the grassland environment. One of his concluding points was a warning to be "wary of the generalization 'grassland' for similar histories of exotic invasion had not led to similar changes'. Some

Clark on landscapes and geographical change

Although he opened *Invasion* with the comment that it was a study of revolutionary geographical change, unsurprisingly he did not collect his ideas together in anything like a "theory of geographical change" or even an "hypothesis of geographical change" or of "landscape change" - such a statement would have been antithetical to the way in which he worked and in any case, he wrote elsewhere of the "semantic mire" of landschaft and its translation as "landscape." 46 Invasion – all 465 pages of it – was his statement of geographical change in New Zealand and he did not derive any standalone abstractions from it. For all that, elsewhere in his New Zealand writing, Clark presented an implicit methodology for studying geographical change. This began with a comprehensive reading of the secondary literature in order to understand the wider topic and identify some potential research questions. His approach had four elements: field work and field observation; mastery of textual, photographic, and statistical sources; interviews; and the creation of maps depicting change.⁴⁷ He discussed the role of fieldwork in historical geography, drawing explicitly on his New Zealand work at the American Society of Professional Geographers meeting in Washington. 48 Fieldwork was to be "purposeful" and not an "omnibus compilation;" but neither was it merely an exercise in hypothesis testing buttressed by poor observation.⁴⁹ One of Clark's more illustrious students did suggest to me that over time he actually made greater use of regional economic statistics and spent rather less time on fieldwork that his 1946 paper put forward.50

Clark regarded the camera as an adjunct tool for observation and extended this potentially to include, the then still comparatively new techniques of aerial photograph interpretation. *Invasion* was copiously illustrated, featuring 46 photographs with several oblique views, including 30 of his own selected from a larger set that he took as part of his fieldwork.⁵¹ In this respect, it contrasts with the 155 maps and absence of plates in *Three Centuries* and 5 plates in *Acadia*, none of which were taken by Clark. All the key official statistical sources were used in the New Zealand work as well, as some obscure early inventories included in early newspaper accounts (e.g. the list for free immigrants and their occupations included in the *Nelson Examiner* in March 1842).⁵² Clark made use of conventional dot distribution and choropleth mapping – particularly for livestock – but did also produce a more innovative piece of cartography to show the early settlement of the Nelson region, by placing west rather than north at the top of the map.⁵³ Clark used maps in his

comparative study of Prince Edward Island and South Island and mimicking a technique used by Griffith Taylor, he mapped both Islands in overlay with reference to latitude and longitude as if they were in the same hemisphere.⁵⁴

Clark also readily incorporated interviews into his research strategy noting that "one conclusion became more and more apparent; the most valuable information must come from the land itself, and from interviews with the people who lived on it, worked it, and remembered what their fathers and grandfathers have done with and to it." Discussions with farmers were instrumental in shaping his views about water races on the Canterbury plains. He was alert to the need to establish a rapport with the interviewee and realized the importance of having a prior working knowledge of the subjects to be discussed, along with the merits of what would today be termed semi-structured interviews. At the same time he was well aware that oral testimony could not be used uncritically, wryly noting "the old maxim of the historians and rural sociologists that the word of the oldest inhabitant is the most unreliable bit of evidence that can be garnered on a field trip," but characteristically he continued to say this was not always the case.⁵⁷

For *Invasion* Clark undertook successive periods of secondary reading, archival, and field work and put this forward as a preferable approach rather than envisaging these as a succession of discrete linear tasks. Fieldwork and mastery of documents were also, in Clark's view, connected rather than separate exercises; early on he stated "field and archival work undertaken together are each improved by a cross fertilization of ideas," 58 while in *Acadia* he echoed this sentiment: "But to a geographer, the documents, however critical, can only be a part of the evidence. The historical human geography of any territory or people is the closely interwoven story of man and land." 59

Clark used "geographical change" to signal that historical geographers need not be entirely concerned with the reconstruction of a specific past time. Meinig observes that Clark eventually used "geographical change," "geography of change," and "changing geographies" interchangeably but not entirely synonymously. In *Invasion*, Clark wrote about the introduction and diffusion of people, plants and animals but never sought to map the phenomenon which, in Meinig's view, limited "geographical change" to "a study of certain periodic results of change." In his later work and particularly in *Three Centuries and the Island*, he made use of an extensive suite of maps to try and depict how, singly and in combination, different phenomena varied between fixed points in time and how much change there had been them. A later criticism was that Clark's view of history, influenced by Sauer's thinking, tended to be a "natural history conception," where history embraced the natural and human world; and that *Invasion* in particular exemplified this approach in which humans are "an integral part of Nature." Extending his line of argument, Guelke further suggested that Clark's notion of history was restricted to that of past time, proposing instead the case for more attention to internal relationships in order to better understand human societies.

Rereading Clark

Rereading Clark today, some of the elements of his work that were out of step with quantification, model building, and generalization in the 1960s now make for easier consumption, even though he is an unlikely candidate for rehabilitation as some sort of exemplar for historical geography in the twenty-first century. Clark's detailed work was, though, quite sensitive to difference and diversity, as instanced in his comment: "It is the fate of small bands of people, in small areas to be overlooked and even forgotten as, in our passion for historical and geographical generalisation, we attach them for convenience to larger groups or regions." His view that researchers ought to return something to the communities which they studied resonates strongly with present day viewpoints. Clark expressed concern that this opportunity was missed with his

study of Prince Edward Island. *Invasion* has also been rediscovered, though not always regarded in a favorable light, by a newly emergent cadre of environmental historians and others. ⁶³ *Invasion* as a title has a decidedly postcolonial tone, but this is a chimera; the Maori tend to be relegated to the past rather than being on-going presence in the text, and there is no real discussion of "power."

Clark's three books focused on two islands and a peninsula; this scale enabled him to work at a level of considerable empirical detail and still keep the results to a (barely) manageable length. Working alone on remote localities to study the interplay of environment, culture, and economy in regional settings meant that Clark addressed issues of isolation and insularity in his work. However, this was not a metaphor for his relationship to other parts of the discipline during a time when it was undergoing considerable change. In his 1962 AAG address he spoke of looking backwards "without distress and forwards without dismay." ⁶⁴ Later work did, however, betray some irritation with what he regarded as the misuse of statistical techniques in geography. Three Centuries and the Island was laden with maps, including those showing the distribution of various arithmetic indexes, most notably the swine ratio and many attempts to map geographical change so that he cannot be dismissed as unwilling to engage in computational inquiry. Rather, he considered that some of the emerging enthusiasm for statistical techniques would produce "pyrotechnics" but little "scholarly illumination" when they were applied without reference to regional or systematic knowledge. 65 As he remarked elsewhere, he had trained in mathematics and 'labored long years in the statistical vineyard" so his criticisms of the emerging quantitative geography ought not to be dismissed as simply those of a reactionary and innumerate regional geographer.66

Invasion and the strong influence of his time in New Zealand might be considered to mark the first phase of Clark's approach to the study of geographical change. In contrast, Three Centuries and the Island, with its many synchronic maps and other maps which endeavored to measure changes between fixed points in time, represented a distinct second phase. In Invasion Clark carefully sieved through the limited colonial statistics in order to uncover the changing population and occupations of the Europeans settlers and incorporated these with a diachronic analysis. He presented Three Centuries and the Island as "experimental," a pilot study for projected research on Nova Scotia, Australia and South Africa in terms of method. In doing so he now rather diminished Invasion as "an earlier attempt in the broader field of study [which] had the same basic purpose, although its particular problems suggested a different approach." Three Centuries and the Island was also a product of a different set of influences, ranging from H. C. Darby to Richard Hartshorne. On leave in Darby's department at University College London, Clark had delivered preliminary material from the book in 1954.68 That same year Clark published a major statement about the nature and state of North American historical geography.⁶⁹ Richard Hartshorne—a staunch disciplinary boundary rider - had, in The Nature of Geography, offered only a limited space for "historical geography." Clark and Cumberland had debated Hartshorne's ideas in New Zealand and *Three Centuries* attempted to reconcile Clark's earlier interest in geographical change with Hartshorne's narrow admission to the discipline of historical geography only as synchronic cross sections.⁷⁰ Somewhat ironically, as Clark shifted his ground so did Hartshorne in *Perspective* on the Nature of Geography, to provide a more expansive place for geographical change in historical geography.⁷¹ Clark at the time was editor of this AAG monograph series and this, together with the fact that Hartshorne was a geography colleague at Wisconsin doubtless played a part in the latter's change of view in *Perspective*. Arguably both were moving in opposite directions; Hartshorne sanctioning a wider range of historical geographies while Clark moved away from the diachronic approach of *Invasion*. But he did not accept the limited ahistorical synchronic approach and sought instead, as he later put it to "move beyond cross-sectional geographies of the past" in favor of "greater engagement with geographical change."⁷² Former colleague Cumberland was one who now contested Clark's views about historical geography as the study of geographical change through time by reiterating a very traditional Hartshornian view that changes over time were the province of history.⁷³

Three Centuries ultimately overshadowed Invasion in statements about the nature of historical geography. In the preface to Invasion, which Clark labelled a "pioneering venture," he had referred to his grand project; a series of studies dealing with similar problems of the development of patterns and practices of land use in mid latitude areas overseas settled by people from the shores of the North Sea. This he reiterated in a slightly different manner in Three Centuries, but given his mode of working it is unsurprising that it could not be brought to anything like completion.⁷⁴ Even if he had succeeded, such a "grand narrative," too wordy and empirical for 1960s and 1970s historical geographers would be subject to close scrutiny and probably destructive criticism from the 1990s by any number of postcolonial vantage points.

Discussion

Analyzing Clark in his own terms means considering environment, economy, and region. He utilized in New Zealand an intellectual endowment from Sauer and Taylor, the latter inversely so in his rejection of determinism, and to a lesser extent Innis, whose thinking he drew on to reinterpret the land use history of the South Island. The South Island of New Zealand as a recently and much modified island landscape provided inspiration for Clark. He considered and rejected local explanations of the Island's modification, which ultimately produced *Invasion*, with its then novel focus on geographical change, particularly in terms of the way in which he structured it with parallel accounts of different invading species.

Clark temperamentally was able to thrive in an environment when he was amongst a very small group of pioneering university geographers. What was it about New Zealand? Murray McCaskill expressed the view that, "to the extent that our thinking is fashioned by those we interact with and the places we visit, especially in our early careers, Clark was probably strongly influenced by his NZ experience." The real significance of New Zealand, long term, in Clark's thinking, related to geographical change: by commencing sustained research in New Zealand, he was situated in an environment where geographical change was rapid and extensive. New Zealand represented "one extreme" in "the varied continuum of experience." Acadia, in contrast, represented the other; being little altered by European occupation to 1760. If Clark had completed his doctoral thesis on a region where environmental change was less significant, it would have taken a very different shape and geographical change might never have figured so centrally in his later work. In addition, it is arguable that the sort of intellectual and methodological ruminations that took Clark from *Invasion* to *Three Centuries* would never have arisen. The regional emphasis would likely have remained and — if speculation is permitted — he might, perhaps, have produced work like *Acadia* earlier in his career. He might also never have conceived his "grand project."

In *Acadia*, Clark also ruminated on the value of Turner's frontier thesis to that region of Canada before rejecting it. Yet as a metaphor, "frontier" is a useful term for dissecting Clark's New Zealand sojourn. New Zealand was for Clark in several senses, a frontier. As a land of recent settlement, New Zealand had been transformed in a short period of time and to a large extent, particularly by European settlers. This transformation involved accelerated erosion, land degradation and species extinction as well as the introduction of European and other flora and fauna. Clark made what he must have considered to be a justifiable generalization, that "the New Zealander, whether farmer or townsman, is essentially a practical man rather than a dreamer, and practical men too often lack vision for the long future." New Zealand though was to prove to be an ideal geographical laboratory for Clark to develop his interest in geographical change.

Clark was one of three staff in a newly established university department. He brought a trained eye to New Zealand and was part of a "frontier geography." It was a frontier in the sense that it was the real beginning of Clark's career as an academic. But this frontier was also one of opportunity. Jobberns was writing about geography and national development, Cumberland on land use and agricultural policy. They were a small team that mutually reinforced each other's endeavors and debated the merits of Sauer and Hartshorne's approaches to geography. Clark seized the opportunity to work in virgin intellectual terrain and was to do so in a novel and insightful manner as manifest in *Invasion*. At this point, Clark might be thought of as engaging with another type of "frontier" as margin, that of "geography at the frontier." Left to his own devices in this setting, Clark moved away from Berkeley cultural geography.

Clark referred to the "delicacy of the chain of coincidence" in his paper on land use in New Zealand. This phrase can also be used to scrutinize his time in New Zealand. He brought a range of experiences and intellectual influences from Canada and the US to New Zealand. This breadth of experience included advanced study in mathematics and work as an actuary, survey work for the geological survey, and fieldwork in the Sahara. At a personal level he was adventurous enough to take the opportunity to interrupt his doctoral study in order to move to New Zealand and begin his thesis work on a local topic. Added to this Clark was both exact and questioning of orthodox viewpoints. This was amply demonstrated in the genesis of his choice of topic for *Invasion* but also in his reinterpretation of historical land use patterns.⁸¹

The opportunity for Clark to come to New Zealand was itself highly contingent. The outbreak of World War II had prevented Jobberns from travelling on from the US to the UK. His extended stay in the US instead enabled him to establish connections with many leading figures in US geography, including Sauer. Bowman was initially hired from Berkeley and his resignation provided an unexpected opening for Clark. Cumberland, three year's Clark's junior provided an intellectual foil; the men spent time together in the field, sometimes with Jobberns and developed some parallel research interests and a set of mutually reinforcing publications. Jobberns was a skilled field observer, who Clark put on the same level as Griffith Taylor, Carl Sauer, Joseph Spenser, and Clifford Darby.

Clark brought some clearly defined ideas and capabilities to New Zealand and his university position, as evidenced by his 1941 address, but New Zealand also provided him with a convivial working environment and a field of study that enabled him to develop his skills of argument, his ideas about fieldwork in historical geography, and to conceive of and complete a major study about geographical change. Some of these ideas would potentially have appeared in modified form wherever he had been based. But, with Jobberns as an interpreter of landscape change and Cumberland who regularly challenged orthodoxies of land use and agricultural policy while drawing on Sauer and Hartshorne, Clark was particularly fortunate in terms of his own intellectual development. New Zealand gave Clark both stimulation and space to develop his thinking; he was not crowded out by having to respond to too many competing ideas and individuals. At one level New Zealand was unimportant to Clark's ideas about field work, for these would have developed out of whatever region he was working on; but at another, the South Island provided an ideal "laboratory" in which he became sensitized to studying geographical change because it had been so recent and so extensive. *Invasion* was "revolutionary" in the sense that Clark alluded to in the preface, in that the extent and speed of environmental transformation was profound, but it was also "revolutionary" in a methodological sense with its explicit focus on geographical change, explored through a series of diachronic narratives. New Zealand was a subject of the first phase of his writing and the substantive focus though his interest in taking a purely diachronic approach to understanding geographical change had waned by the mid-1950s to be replaced by variations on synchronic approaches. But by striking upon New Zealand

first it gave impetus to his lifelong, though unfulfilled, project on Europe settlement overseas. It would have been much harder to conceive of such a project if he had not begun in a setting where geographical change was so pronounced. This is arguably the real bequest from New Zealand to Clark.

Clark's efforts as a PhD supervisor have been acknowledged though it ought to be noted that his Wisconsin doctoral supervisions date from 1959 to 1975; that is most of them were undertaken as a mature scholar when, in retrospect, his two most important books, *Invasion* and *Three Centuries* were long completed. Ten of Clark's fifteen doctoral students published book length versions of their theses and his involvement in their writing is acknowledged. He bibliographies of Merrens', Harris' and Ray's studies show the close engagement with archival sources that Clark expected. The use of cartography and the type of tables in Merrens, Lemon, Harris, and Ray are evocative of those used in Clark's own publications. Image Lemon's notable study on German settlers in eighteenth-century Pennsylvania comes the closest to adopting a Clark like stance where in his preface he wrote, after a lead-in discussion about environmental and cultural determinism that: "this study does not deny the power of tradition and environment; but it considers more centrally the decision of the people and their more immediate social conditions. The many decisions that shaped life on the land in the early Pennsylvania were the result of how people perceived their situation." Harris' study of the seigneurial system in Canada challenged long accepted interpretations in a fashion characteristic of Clark's own work.

To the extent that Clark's students concerned themselves with the bigger question of geographical change in regional settings, they were extending a line of inquiry that Clark had settled on in New Zealand. The attention to archival sources and the use of specifically created cartography, rather than just the redrawing of period maps also rests on approaches developed from his New Zealand experience, although much of their more detailed mapping and use of tabulations draws on techniques and questions posed for *Three Centuries*. Overall New Zealand has a more muted presence in the techniques that Clark bequeathed to his doctoral students but still underpinned the focus on geographical change, although after *Three Centuries* and through his research for *Acadia* he was able to draw on North American examples. However, as Clark had moved away from the Berkeley tradition in which he was supervised by Sauer himself, so, it is unsurprising that his own group of PhD students found their own intellectual trajectories which took them far away from their mentor's own interests and concerns.

Conclusion

Clark's time in New Zealand, his fieldwork and engagement with colleagues in the small department of geography sharpened his interest in geographical change. The geographical insights he brought from Berkeley gave him some valuable intellectual tools to work with but Clark's own efforts to rethink what he observed in the New Zealand landscape and how it might be understood should not be underestimated. Chance played its part in Clark coming to New Zealand, but once engaged in his research where landscape change was both rapid and extensive he was in the ideal place to conceive of a comparatively large scale study of European overseas settlement.

New Zealand lingered longer in other still important ways; Clark served as a sounding board for Jobberns with regards to other US geographers recruited to a visiting faculty position at Canterbury and he remained as a conduit of information about American geography more generally into the 1960s. Eventually, he returned to Christchurch on sabbatical in 1967, though by this time his interest was focused on Acadia. While he made no effort to return to any New Zealand research, he did consider that sufficient basic research had now been completed for the writing of the first historical geography of New Zealand.⁸⁸

NOTES

1 Andrew H. Clark, "Historical Geography," in *American Geography Inventory and Prospect*, eds. Preston James, and Clarence Jones (Syracuse: Association of American Geographers by Syracuse University Press, 1954), 70–105, Andrew H. Clark, "Praemia Geographiae: The Incidental Rewards of a Professional Career," *Annals of the Association of American Geographers* 52 (1962): 229–241.

- 2 Andrew H. Clark, *The Invasion of New Zealand by people, plants and animals: the South Island* (New Brunswick: Rutgers University Press, 1949); Andrew H. Clark, *Three Centuries and the Island: a historical geography of settlement and agriculture in Prince Edward Island, Canada* (Toronto: University of Toronto Press, 1959); and Andrew H Clark, *Acadia: the geography of early Nova Scotia to 1760* (Madison: University of Wisconsin Press, 1968). A second volume of Acadia remained uncompleted on his death.
- 3 James R. Gibson, ed., European Settlement and Development in North America (Folkestone: Dawson, 1978).
- 4 Donald W. Meinig, "Prologue: Andrew Hill Clark, historical geographer," in *European Settlement and Development in North America*, ed. James R. Gibson (Folkestone: Dawson, 1978), 3–26.
- 5 David Ward and Michael Solot, "Andrew Hill Clark 1911-1975," in *Geographers Biobibliographical Essays*, Vol. 14, ed. Geoffrey Martin (London: Mansell, 1992), 13–26.
- 6 Graeme Wynn, "W. F. Ganong, A. H. Clark and the Historical Geography of Maritime Canada," *Acadiencis* 10 (1981): 5–28; Michael Conzen, "The historical impulse in geographical writing about the United States 1850-1950," in *A Scholar's Guide to Geographical Writing on the American and Canadian Past* No. 235, eds. Michael Conzen, Thomas Rumney, and Graeme Wynn (Chicago: The University of Chicago Geography Research Paper: 1993), 3–90; Michael Roche, "Andrew Clark and Soil Erosion in New Zealand," *Historical Geography* 21 (1991): 7–8; and Michael Roche, "Andrew H. Clark, A Philosophy of Geography for New Zealand Schools," *New Zealand Journal of Geography* 106 (1998): 19–25.
- 7 This research is part of a larger study of the early years of university geography in New Zealand including the activities of Professor George Jobberns who hired Clark and Dr. (later Professor Ken Cumberland another contemporary of Clark's, see Eric Pawson, "Creating public spaces for geography in New Zealand: Towards an assessment of the contributions of Kenneth Cumberland," New Zealand Geographer 67 (2011): 102–115; and Michael Roche, ed., A Geographer by Declaration, Selected Writing by George Jobberns (Christchurch: Canterbury University Press, 2010). The larger project has included a significant amount of archival work which has provide much important contextual information though this has not been the major source drawn on in this present paper.
- 8 David Ward and Michael Solot, "Andrew Hill Clark 1911-1975," 23.
- 9 Andrew H. Clark, "Praemia Geographiae: The Incidental Rewards of a Professional Career," 234.
- 10 Andrew H. Clark, "Foreword: the Great Plains: Perceptions by any Name," in *Images of the Plains, the role of Human Nature in Settlement*, eds. Brian Blouet and Merlin Lawson (Lincoln: University of Nebraska Press, 1973), ix –xiv; and Andrew H. Clark, "The Look of Canada," *Historical Geography Newsletter* 6 (1976): 59–68.
- 11 Andrew H. Clark, "The South Island of New Zealand: A Geographic Study of the Introduction and Modification of British Rural Patterns and Practices Associated with the Exotic Plants and Animals of the Island" (PhD Thesis, University of California, Berkeley, 1944).

- 12 Michael Roche, ed., A Geographer by Declaration, Selected Writing by George Jobberns.
- 13 Eric Pawson, "Creating public spaces for geography in New Zealand: Towards an assessment of the contributions of Kenneth Cumberland," 102–115.
- 14 Kenneth B. Cumberland, "A Century's Change: Natural to Cultural Vegetation in New Zealand," *Geographical Review* 31 (1941): 529–554; and Kenneth B. Cumberland, "Aotearoa Maori: New Zealand about 1780," *Geographical Review* 39 (1949): 401–424.
- 15 Emeritus Professor W. Barry Johnston, Personal communication, 2012.
- 16 Michael Roche, "Andrew Clark and Soil Erosion in New Zealand," 7-8.
- 17 Kenneth B. Cumberland, *Soil Erosion in New Zealand, A Geographical Reconnaissance* (Wellington: Soil Conservation and Rivers Control Council, 1944); and Eric Pawson, "Creating public spaces for geography in New Zealand: Towards an assessment of the contributions of Kenneth Cumberland," 102–115.
- 18 Andrew H. Clark, "Field Research in Historical Geography," *Professional Geographer* (Old Series) 4 (1946): 17.
- 19 Ibid.
- 20 Murray McCaskill to Michael Roche, Correspondence 1996, Author's Collection.
- 21 Wilson is also acknowledged in the footnote 25 of Clark's paper "The Historical Explanation of Land Use in New Zealand," *Journal of Economic History* 5 (1945): 229, as "a keen and industrious" student of the "economic and social history of Canterbury" and lends some support to McCaskill's conjecture.
- 22 Andrew H. Clark, "A Philosophy of Geography for New Zealand Schools," New Zealand Journal of Geography 106 (1998): 19–25.
- 23 Michael Roche, "George Jobberns and the writing of New Zealand geography: Textbooks from the 1920s to 1940s," *New Zealand Geographer* 67 (2011): 90–101.
- 24 Andrew H. Clark, "A Philosophy of Geography for New Zealand Schools," 19-25.
- 25 Andrew H. Clark, "Acadia and the Acadians: The Creation of a Geographical Entity" in Frontiers and Men, A volume in Memory of Griffith Taylor (1880-1963), ed. John Andrews (Cheshire, Melbourne, 1966), 24.
- 26 Clark in Donald W. Meinig, "Prologue: Andrew Hill Clark, historical geographer," 24.
- 27 Andrew H. Clark, "Physical and Cultural Geography," in *New Zealand*, ed. Horace Belshaw (Berkeley: University of California Press, 1947), 34.
- 28 Andrew H. Clark, "The Historical Explanation of Land Use in New Zealand," 222. Robert Peden, in a recent return to the sheep husbandry argument accepts the early role of Australia as a the original source of stock but places greater stress on the local breeding along with imports from Britain, Europe, and America: Robert Peden, "Pastoralism and the Transformation of the Open Grasslands," in Seeds of Empire, The Environmental Transformation of New Zealand, eds. Tom Brooking and Eric Pawson (London, IB Tauris), 73–93.
- 29 Andrew H. Clark, "Field Research in Historical Geography," 14.
- 30 Andrew H. Clark, "South Island, New Zealand and Prince Edward Island Canada: A Study of Insularity," *New Zealand Geographer* 3 (1947): 150. When Jobberns declined expatriate New Zealand economist Horace Belshaw's invitation to write the chapter he suggested instead that Clark be approached. Jobberns was not entirely fulsome in his comments about Clark's efforts. (Jobberns to Belshaw September 25 1945, Jobberns Papers 93/86 Canterbury Museum, Christchurch).
- 31 Migrants of a later generation perhaps better fitted the view that Clark was rejecting, see Rollo Arnold, *The Farthest Promised Land: English Villagers, New Zealand Immigrants of the 1870s* (Wellington: Victoria University Press and Price Milburn, 1981).

- 32 Andrew H. Clark, "The Historical Explanation of Land Use in New Zealand," 222.
- 33 Ibid.
- 34 David Ward and Michael Solot, "Andrew Hill Clark 1911-1975," 13–26.
- 35 Andrew H. Clark, "Physical and Cultural Geography," 20–47.
- 36 Carl Sauer, "Theme of plant and Animal Destruction in Economic History," *Journal of Farm Economics* 20 (1938): 765–775.
- 37 Michael Roche, "George Jobberns and the writing of New Zealand Geography," 98.
- 38 Kenneth Cumberland, "A Century's Change: Natural to Cultural Vegetation in New Zealand," 529.
- 39 Andrew. H. Clark, The Invasion of New Zealand by people, plants and animals: the South Island, v.
- 40 In *Three Centuries and the Island* he posed different questions and employed numerous temporal cross section maps. Andrew H. Clark, "Field Research in Historical Geography," 21, noted that "field mapping" had limited application to his research problem in *Invasion*.
- 41 Andrew H. Clark, "The Sheep/Swine Ratio as a guide to a Century's Change in the Livestock Geography of Nova Scotia," *Economic Geography* 38 (1962): 38–55.
- 42 Andrew H. Clark, "Praemia Geographiae: The Incidental Rewards of a Professional Career," 230.
- 43 Andrew H. Clark, "The Impact of Exotic Invasion on the Remaining New World Midlatitude Grasslands," in *Man's Role in Changing the Face of the Earth*, eds., W. L. Thomas et al. (Chicago: University of Chicago, 1956), 738.
- 44 Ibid.
- 45 Andrew H. Clark, "The Impact of Exotic Invasion on the Remaining New World Midlatitude Grasslands," 755.
- 46 Andrew H. Clark, "South Island, New Zealand and Prince Edward Island Canada: A Study of Insularity," 137.
- 47 His views on the centrality of making and using maps remained unshaken—see Andrew H. Clark, "Praemia Geographiae: The Incidental Rewards of a Professional Career," 236
- 48 Fieldwork he regarded as both meaningful and enjoyable, though he conceded by the 1960s that it was methodologically out of fashion. See Andrew H. Clark, "Praemia Geographiae: The Incidental Rewards of a Professional Career," 237.
- 49 Andrew H. Clark, "Field Research in Historical Geography," 15–15.
- 50 Jim Lemon, Personal communication.
- 51 Andrew H. Clark, "Field Research in Historical Geography," 17
- 52 Andrew H. Clark, *The Invasion of New Zealand by people, plants and animals: the South Island,* 150–151.
- 53 Andrew H. Clark, *The Invasion of New Zealand by people, plants and animals: the South Island,* 56.
- 54 Andrew H. Clark, "South Island, New Zealand and Prince Edward Island Canada: A Study of Insularity," 137–150.
- 55 Andrew H. Clark, "Field Research in Historical Geography," 18
- 56 Andrew H. Clark, "The Historical Explanation of Land Use in New Zealand," 215–230.
- 57 Andrew H. Clark, "Field Research in Historical Geography," 22.
- 58 Andrew H. Clark, "Field Research in Historical Geography," 22. This is not quite the same as Sauer's famous statement about taking the documents to the field "to see the land with the eyes of its former occupants from the standpoint of their needs and capabilities" see Carl Sauer, "Foreword to historical Geography," *Annals of the Association of American Geographers* 31 (1941): 10.
- 59 Andrew H. Clark, Acadia: the geography of early Nova Scotia to 1760, x.

- 60 Donald W. Meinig, "Prologue: Andrew Hill Clark, historical geographer," 21.
- 61 Leonard Guelke, *Historical Understanding in Geography* (Cambridge: Cambridge University Press 1982), 11.
- 62 Andrew H. Clark, "Acadia and the Acadians: The Creation of a Geographical Entity," 91.
- 63 Bruce Curtis, "Actor-Network Theory Let Loose: Ferality, Colonialism and Other Material Relations," *New Zealand Sociology* 17 (2002): 91–109; and Paul Star, "Environmental History and New Zealand History Environment and History in New Zealand," 4 (2009): 1–13.
- 64 Andrew H. Clark, "Praemia Geographiae: The Incidental Rewards of a Professional Career," 229.
- 65 Andrew H. Clark, "The Sheep/Swine Ratio as a guide to a Century's Change in the Livestock Geography of Nova Scotia," 55.
- 66 Andrew H. Clark, "Geographical Change: A Theme for Economic History," *Journal of Economic History* 20 (1960): 610.
- 67 Andrew H. Clark, Three Centuries and the Island: a historical geography of settlement and agriculture in Prince Edward Island, Canada, v.
- 68 The influences were not all one way by any means; Darby had earlier referred to *Invasion*, while recognizing some criticisms of the approach in his famous paper on the relations between geography and history. See H. Clifford Darby, "On the Relations between History and Geography," *Transactions and Papers of the Institute of British Geographers* 19 (1953): 1–11.
- 69 Andrew H. Clark, "Historical Geography," 70–105. "Island" and "insularity" as threads in Clark's work do not refer to any sort of self-imposed exile, even as his work moved apart from other geographical scholarship as the 1960s unfolded. Rather it was the quantifiers and model builders who with the benefit of hindsight can be said to have actively disengaged with the regional historical geography espoused by Clark and isolated themselves in "spatial science." I am grateful to Prof Gordon Winder for discussion around this point.
- 70 Richard Hartshorne, *The Nature of Geography* (Association of American Geographers, Lancaster, 1939).
- 71 Richard Hartshorne, *Perspective on the Nature of Geography*, (Association of American Geographers, Rand McNally, Chicago, 1959).
- 72 Andrew H. Clark, "Praemia Geographiae: The Incidental Rewards of a Professional Career," 230.
- 73 Kenneth B. Cumberland, "American Geography: Review and commentary," *New Zealand Geographer* 11 (1955): 184–5.
- 74 A convenient way to assess this is to refer to the many entries to A. H. Clark in Green's (1980) compendium volume which gathers together some classic statements dating from 1923 to 1980. It is also in keeping that Clark is much referred to but does not have an authored paper in the volume. See D. Brooks Green, *Historical Geography, A Methodological Portrayal* (Savage: Rowman & Littlefield, 1980).
- 75 Murray McCaskill to Michael Roche 1995 correspondence, Author's Collection.
- 76 Andrew. H Clark, Acadia: the geography of early Nova Scotia to 1760, 176.
- 77 Andrew H. Clark, "Physical and Cultural Geography," 20–47.
- 78 Ibid.
- 79 Andrew H. Clark, "The Historical Explanation of Land Use in New Zealand," 215-230.
- 80 Ibid., 224.
- 81 Ibid., 215-230.
- 82 Kenneth. B. Cumberland, "Canterbury Landscapes: A study of New Zealand Geography," *Geographical Review* 30 (1940): 19–40; Kenneth B. Cumberland, "A Century's Change: Natural to Cultural Vegetation in New Zealand," 529–554; and Kenneth B. Cumberland,

- "High country 'run' the geography of extensive pastoralism in New Zealand," *Economic Geography* 20 (1944): 204–220.
- 83 Andrew H. Clark, "Praemia Geographiae: The Incidental Rewards of a Professional Career," 237.
- 84 James R. Gibson, ed. European Settlement and Development in North America, 229-230.
- 85 Harry Roy Merrens, Colonial North Carolina in the Eighteenth Century, A study in Historical Geography (Chapel Hill: The University of North Carolina Press, 1964); Arthur J. Ray, Indians in the fur trade; their role as rappers, hunters, and middlemen in the lands southwest of Hudson Bay 1660-1870 (Toronto: University of Toronto press, 1974); and R. Cole Harris, The Seigneurial system in Early Canada (Madison: University of Wisconsin Press, 1966)
- 86 James T. Lemon, The Best Poor Mans' Country, a Geographical Study of Early Southeastern *Pennsylvania* (Baltimore: Johns Hopkins Press, 1972, xv).
- 87 R. Cole Harris, The Seigneurial system in Early Canada, 5–8.
- 88 R. Garth Cant, "The Dilemma of Historical Geography," in *Human Geography Concepts and Case Studies*, ed. W.B. Johnston (Christchurch: Department of Geography University of Canterbury 1969), 50. Not until 1994 was A. H. Gray's *Aotearoa & New Zealand* (Christchurch, Canterbury University Press, 1994) published.