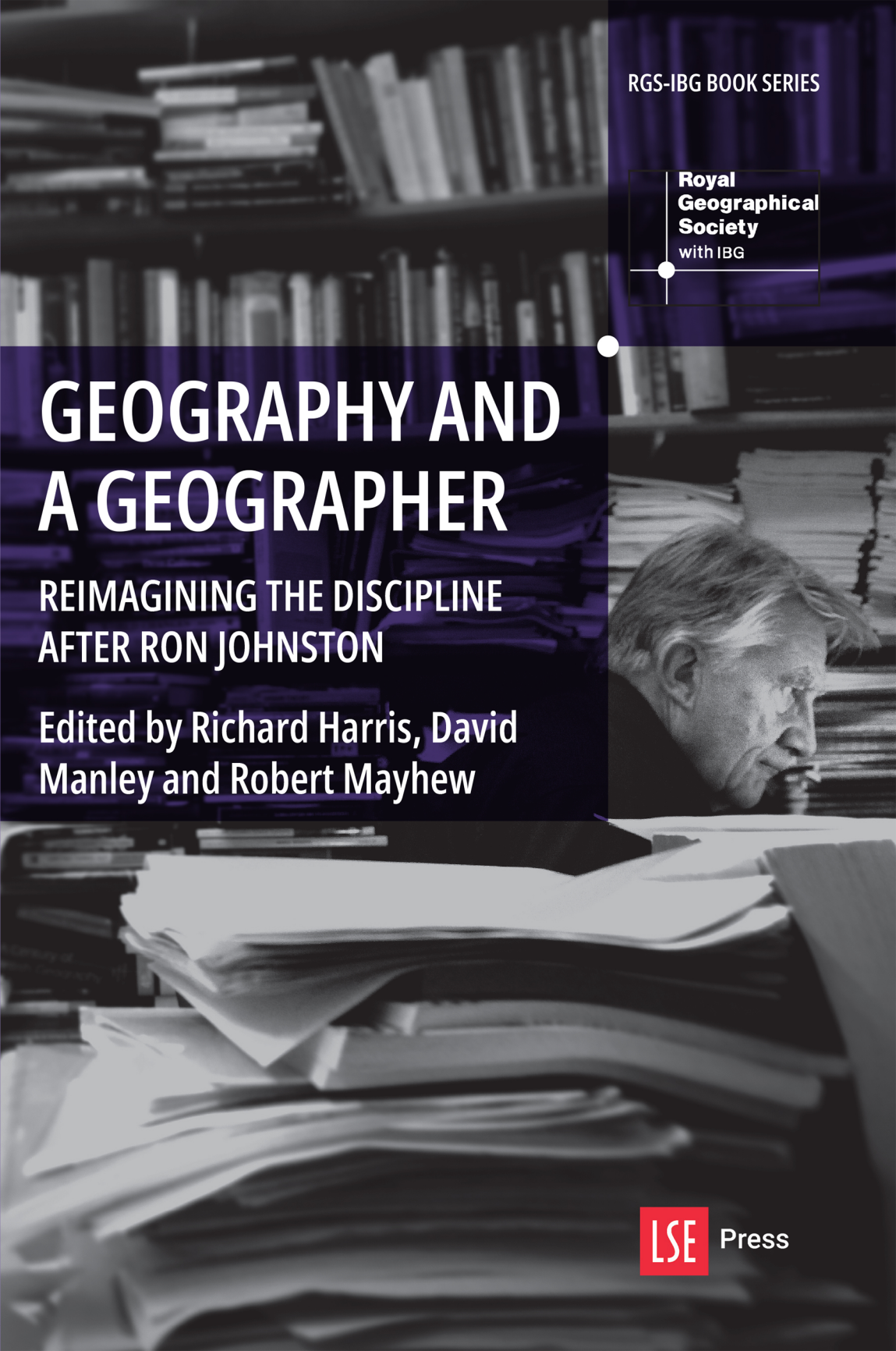

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Royal Geographical Society with IBG
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REIMAGINING THE DISCIPLINE AFTER RON JOHNSTON
Edited by Richard Harris, David Manley and Robert Mayhew
LSE Press

Geography and a Geographer

Reimagining the Discipline After Ron Johnston

Edited by
Richard Harris, David Manley and Robert Mayhew

LSE Press

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To geography, geographers, and a geographer, colleague and friend

Figure i: Photograph of Ron's Long Serving Fellow membership card of the Royal Geographical Society (with IBG)



Source: Archives of the School of Geographical Sciences, University of Bristol.

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About the series

The RGS-IBG Book Series publishes work of the highest international standing. Its emphasis is on distinctive new developments in human and physical geography, although it is also open to contributions from cognate disciplines whose interests overlap with those of geographers. The Series places strong emphasis on theoretically informed and empirically strong texts. Reflecting the vibrant and diverse theoretical and empirical agendas that characterise the contemporary discipline, contributions are expected to inform, challenge and stimulate the reader. Overall, the RGS-IBG Book Series seeks to promote scholarly publications that leave an intellectual mark and change the way readers think about particular issues, methods or theories.

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> [T]he progress of any individual's academic career depends considerably on the actions (and sometimes inactions) of others. No academic is an island.
>
> (Johnston 1979, p. 4, Preface to the first edition of *Geography and Geographers*)

> We are […] often uncertain where we, as individuals, are going, let alone where geography as a set of linked yet frequently anarchic communities is heading. Yet we are making the future of geography as we practise it, just as we have been remaking its past by writing this book.
>
> (Johnston and Sidaway 2016, p. 399, Final words of the seventh and final edition of *Geography and Geographers*)

Preface: Reflections on Ron Johnston's trajectory

Michiel van Meeteren and James D. Sidaway

> 'I had a pre-spatial training. I shall undoubtedly occasionally revert to discussing the uniqueness of places…'
>
> Ron Johnston, February 1975 (Johnston and Harris 2022, p. 22)

This memorial volume is titled *Geography and a Geographer: Reimagining the Discipline After Ron Johnston*. Ron Johnston (1941–2020), of course, was more than the generic scholar the humble phrasing 'a geographer' suggests. He was the most prolific geographer of his generation, pioneering in multiple geographical subdisciplines, and a key voice on the discipline for several decades (Murphy, Sidaway and Van Meeteren 2022; Pattie, Taylor and Jones 2021). By the early 1980s, he had become the second most frequently cited human geographer. When the decade ended, he was still third placed, with only David Harvey and Doreen Massey having accumulated more 1986–1990 citations (Bodman 1992). The chapters in this book traverse several of these key influences in depth. The term 'geography' in the volume title refers to the academic discipline, something which is larger than an individual but certainly something that changes over time. What the discipline is, and how an individual will experience it, differs according to generation and the academic upbringing one is immersed in.

Yet there is also something profoundly generic about the way that Ron Johnston the geographer related to geography the discipline. The geography Ron encountered, and the discipline's trajectory as it unfolded during Ron's life, all sound very familiar. That is because Ron's age cohort and his geographical background, wrote, lived and practiced the generic history of geography commonly considered to be the 'disciplinary mainstream'. The career paths that Ron took, from the UK through Australia, Aotearoa/New Zealand, North America and back again (Johnston 1984a) were well-trodden paths for many scholars of Ron's generation. Circulations between the UK, other Commonwealth realms, and the US and Canada were common from the 1950s onwards. Trevor Barnes, Brian Berry, Kevin Cox, Derek Gregory, David Harvey, David Ley, Doreen Massey (who, in 1972, gained

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an MA in Regional Science from the University of Pennsylvania, then returned to the UK), Dick Peet, Eric Sheppard and Neil Smith are just a few names writing contemporaneously with Ron coming to mind that bring the 'Anglo-America' to Anglo-American geography. Subsequent scholarly generations of UK-born geographers circulated in the same tracks, including many more women; with transatlantic connections and travels also feeding into the surfacing of feminist geography (Domosh and Bondi 2014). These trans-Atlantic circuits also encompassed Ireland (as well as other parts of Europe, notably Sweden), for example, in the trajectory of Anne Buttimer. From the Antipodean side of the former British Empire, there were similarly well-trodden routes (King 2007). The disciplinary twists and turns that Ron's generation encountered ultimately became the generic scaffold to which histories of 20th-century geography are benchmarked. This generic scaffold is subject to justified critique (see Ferretti, Chapter 11, this volume; Samers and Sidaway 1999; Van Meeteren and Sidaway 2020). Yet, the Anglo-American generic scaffold narrative has been influential, a pervasiveness that merits scrutiny. Ron Johnston the geographer, unintentionally, played a key role in establishing the scaffold through his understandings of his place and trajectory in the world.

Geography and geographers

This memorial volume's title refers to what may be the most influential of the 40 or more books Ron wrote or edited: *Geography and Geographers: Anglo-American Human Geography Since 1945* (henceforth, *G&G*). First published in 1979, it was updated into a seventh edition in 2016 (Johnston and Sidaway 2016). The last two editions were co-authored by one of us (James, the co-author since the sixth, 2004, edition), following an email exchange with Ron about the Anglo-American label in the subtitle, which the final editions came to critically reflect on (see also Johnston and Sidaway 2004). Although *G&G* had modest intentions, to many and for a while, it became the guidebook of what mainstream human geography had become. A book that reflected Ron's own lived trajectory within Anglo-American human geography became the way of making sense of geography writ large. The geography of the book (Keighren 2013) became larger than life, indeed living a life of its own (Barnes 2002), shaping the understanding of the field way beyond the authors' initial intentions.

The first edition of *G&G* would be written after Ron's return to the UK in 1974, aged 33, after a few years in Australia and New Zealand, for a professorship in Sheffield. That it endured for seven editions is remarkable. For the last, 2016, edition, James had to persuade Ron that it was still worthwhile. *G&G* was born out of an undergraduate course in the history of geography that Ron taught at Sheffield where he tried to convey the recent changes within the discipline that had happened since his own education in the early 1960s (Johnston 2022). The post-1945 focus had been dictated by the outline of

that course, where someone else taught another class on earlier histories. But it also meant that prior approaches could be reduced to a single chapter in *G&G* on foundations, and Ron could concentrate on what had happened in a condensed period of postwar changes. Ron framed the first edition by noting how:

> As a discipline expands, so the need for a course in its 'contemporary history' will grow too. In the last few decades, for example, most disciplines, and certainly human geography, have expanded greatly, with expansion measured by the number of active participants and their volume of published work. And the more active members there are, almost certainly the greater variety of work undertaken, making it difficult for individual students to provide their own conspectus of the discipline from their own reading. Hence the need for a 'contemporary history' course at the present time (Johnston 1979, p. 1).

G&G would signal the acceleration of Ron's longstanding engagement with the history and philosophy of geography both intellectually and institutionally (Jöns et al. 2024). As Ferretti (Chapter 11, this volume) also stresses, *G&G* always had pluralist intentions, blamed its limited geographical scope on the linguistic shortcomings of the author, and admitted, in the Preface to the first edition, that an objective history of geography was impossible. Although the book used Kuhn's (1962) paradigm model to structure the different flavours of geography, Ron was already critical of the validity of the underlying theory by the time the first edition of the book came out. Whilst concluding that 'there is no consensus, no paradigm-dominance, only a series of mutual accommodations which reflects the liberal democratic societal setting of modern Anglo-American human geography' (Johnston 1979, p. 188), he nevertheless retained the concept as a useful rhetorical device (Johnston in Boyle et al. 2017), and the notion of paradigmatic changes would remain widely taught as one of a series of frameworks for understanding disciplinary change.

Despite all stated caveats, Ron did initially, in the Preface to the first edition, try to write himself out of the story by committing to a 'neutral presentation' (Johnston 1979, p. 2). By the second edition (Preface to Johnston 1983, p. xii) he qualified himself further, by restating the book as 'a reconstruction, from published material, of philosophical and methodological debate within human geography'. When he reworked the book for his renewed educational engagement with the topic on his move to Bristol (Preface to the fifth edition: Johnston 1996c, p. xix), he stated that the

> 'volume does not present "the history" of human geography over the last half century, […], but only "a history", indeed my history, because although it is not presented autobiographically, I have been part of most of it and coloured my interpretation in a great variety of ways.'

In a way it is surprising for a doyen of political geography that the only reflexive element still marginal in *G&G* at this point was a more explicit understanding of disciplinary politics. For Ron, up until this point, still tried to do justice to all flavours of geographical thought that were out there, regardless of his own preferences. He still tended to think and debate in terms of philosophical (in)compatibility to explain changing currents of thought (Johnston 1986a). It was only within debates with his Bristol colleagues (Johnston 2000; 2006; Johnston et al. 2014) that he acknowledged textbook writing as a political act in itself: where writing 'the history' of the discipline may involve conscious exclusion of some variants one does not like. It is after this recognition, that Ron gets much more deeply concerned in writing his own (sometimes largely forgotten) geographies and geographers into the disciplinary history. Works on James Wreford Watson (Johnston 1993), Robert Dickinson (Johnston 2001), Stanley Gregory (Johnston 2018a) and Percy Crowe (Johnston 2018b) come to mind, as well as his attention to geographers in the *Oxford Dictionary of National Biography* (Johnston 2005a; 2007). In the same spirit, he kept his more famed contemporaries's reputations alive, by advocating for sections in *Progress in Human Geography* such as *Classics in Human Geography Revisited* (Dicken et al. 1991) and *The Makers of Modern Human Geography* (Johnston 2005b).

The reason for *G&G*'s success must be larger than the modest explanation Ron himself gave for it – that there were few competitors out there (Johnston 2022, p. 386). Somehow, Ron's book spoke to the concerns of his generation, and it was his generation that had staffed the largest worldwide expansion of universities ever. We feel *G&G* is best read as a biobibliographical history of this generation of geographers, and as such retains value (Sidaway, Van Meeteren and Flint 2022a). Late in his own life Ron decided that *G&G* had reached an end point – that it had become too unwieldy, and that the range of simultaneous disciplinary departures made the original goals of a broadly chronological survey unfeasible. In a reflection that turned out to be one of his last publications (Johnston 2022), Ron wrote that:

> *Geography and Geographers* is dying; this collection [a set of commentaries on the book in a special issue of *Geojournal*] must surely be the last time it is given such attention. That it has endured through seven editions is most gratifying; that something else is now needed is made very clear by the commentaries. They have brought home the clear message that as the world changes so should the way we present it […] Human geography differs in substance—in every sense of that term; much bigger, much broader, much more sophisticated, eclectic and rigorous—from when moves to change it emerged in the 1960s/1970s when the book was conceived. It now needs, indeed deserves, something different from *Geography and Geographers* (Johnston 2022, p. 388).

One of us had earlier written a broadly positive review of the last edition, noting how:

> *G&G*'s ability to acknowledge criticism and revise accordingly makes its resistance to structural changes palatable. Illustrative is *G&G*'s (pp. 290–2) treatment of feminist geography where a recollection of the debate of how to properly integrate the subject in geography textbooks results in a clever exposé about what some of the core issues of feminist geography are. This reflexivity also extends to the battered debates on paradigms and reproduction of Anglo-American hegemony: the final chapter debates alternative ways to structure disciplinary history extensively. The situational awareness renders *G&G* the evolving consciousness of the discipline, the tally of what was regarded important when, in a way that no newly-written book could (Van Meeteren 2019a, p. 960).

Others would be more critical, on the underappreciation of Black Geographies in the book for example (Hall 2022).

Like he did in *G&G* back in 1979, Ron had an amazing ability to put the going concerns of his own thinking and teaching, and with that the concerns of the wider geographical community surrounding him, into writing. He became, in the words of Pattie, Taylor and Jones (2021, p. 89), 'a remarkably energetic, prolific and intellectually curious scholar'. Ron's fruitfulness is in part expressed via his extraordinary capability and discipline to convert his taught courses and literature reviews into textbooks. For instance, Ron's urban geography courses fed into *Urban Residential Patterns* (Johnston 1971; see also Clark, Chapter 7, this volume), *Spatial Structures* (Johnston 1973a) and *City and Society* (Johnston 1984b [1980]). His course in quantitative methodology became *Multivariate Statistical Analysis in Geography* (Johnston 1978). Many of the prefaces to these books are testimony to the following process: he was asked to do a course on something, mastered the literature on the topic and synthesised it in a key textbook. Hence, Ron's books from his most prolific years (1970–1990) tend to represent perfect 'states of the literature' at the moment they appeared. They are memorable still-lifes of geographical debate at historical moments.

Ron's geographical landscape

Yet what remains invisible in the preceding discussion, is an explicit coupling between Ron's personal trajectory and his attempts at geographical synthesis. As a scholar, Ron Johnston fundamentally was a very critical thinker, on the discipline and himself. Although he lived through the transitions from regional geography to spatial science, from spatial science to critical and humanist geography, and from those conjunctures to the critical-realist moment of the 1980s and the cultural turns of the 1990s, he was not always

comfortable with what was left behind, even if he embraced the new waves. To bring fully to life how Ron the geographer relates to Ron's geography, is a herculean task and beyond our scope. However, we can say a few words to signpost these relationships in conjunction with Hoare's and Jones' collected reflections in the Epilogue of this book.

We think that a key pointer should be to consider where Ron spent most of his early years. He was born and brought up within what is the present-day Borough of Swindon, then principally a railway and precision manufacturing town on the railway line between London and Bristol. That birth was in late March 1941, as war was raging in Europe, but before the Soviet Union and the USA directly entered the conflict. Six months before Ron arrived, the late summer and early autumn of 1940, witnessed the most intense phase of *Die Luftschlacht um England* (to Anglophones, The Battle of Britain). But the Luftwaffe were unable to establish the air supremacy over southern England, which Hitler judged to be a prerequisite for invasion. Swindon itself appeared on June 1941 *Luftwaffe Kommando 2* target maps; outlining the Great Western Railway's *Werkstatten fur Lokomotiven und Waggons*. It is unclear therefore why the town largely escaped destruction. The railways that eventually made Swindon such a strategic manufacturing hub had been built in the century before, connecting London with the West Country (from the 1840s), and the English Midlands with the South Coast ports (from the 1880s). An early 1960s account of Swindon's (re)development notes how:

> When Brunel and Gooch planned their great railway centre in the 1840s near a small town north of the remote Marlborough Downs, they planted Swindon firmly on the map of Industrial England. Besides the works grew New Swindon – a small model village of 300 stone cottages laid out symmetrically on either side of a boulevard which led straight to the Institute and the Works Gates – a Saltaire of the South. A prince among railway towns, Swindon had grown from 2,000 people in 1840 to nearly 69,000 in 1954 (Ginsburg 1962, p. 705).

Armaments manufacturing yielded Swindon's wartime expansion and diversification, which continued following a 1952 agreement with London County Council to receive 20,000 people from London and the establishment of new industrial estates. Swindon had already become the largest town in the historic county of Wiltshire. In 1962, Ginsburg noted how, no longer so dependent on railway-related employment,

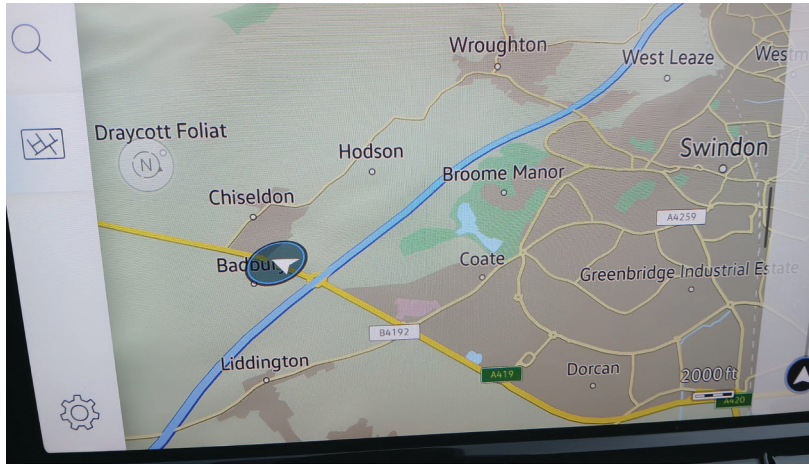
> Swindon is thus becoming a prosperous well balanced town, almost entirely through her own initial efforts, and a potential starting point for a regional development in the south, pulling away from the south-eastern magnet.

Amongst the many other things he will be remembered for was Ron's unwavering support of Swindon Town FC (founded in 1879), who currently play in the fourth tier of the English league system. A dispatch from the 1991 IBG annual conference, held at University of Sheffield, notes how at the opening lecture by Ron (who was then President of the IBG), 'All who were present clearly heard this rallying call [for Geography] and can even forgive the plugs for Swindon and its football club' (Sparks 1991, p. 167). The subsequent published version of the lecture maps another of Ron's passions; (church) bell-ringing (Epilogue). Whilst Ron does not cite Swindon (nor its soccer team), the example of 'identification with a football team, and even those of their supporters (and their typical behaviour) who occupy certain parts of their ground' is offered while discussing 'territoriality' (Johnston 1991, p. 143).

But as a child, Ron lived a few miles outside the town, in the village of Chiseldon. One of us (James) first visited the village (which, since 1971, has been on the 'other' side from Swindon of the London to Wales M4 motorway) on a Saturday afternoon in 2022, for 'fieldwork' to revisit the main places of Ron's upbringing that comprised walking, talking to some members of the local history group[1] and an hour at the museum (which opens on Saturday afternoons in the summer months) they curate in a former chapel. A long-distance path – the Sarsen Way – also now cuts through Chiseldon, running from the outskirts of Swindon to Salisbury Cathedral (Davison 2024). On return visits in December 2024, James paused for tea at the Plough on the Hill (established more than 200 years ago)[2] along the A346 Marlborough Road (originally a Roman Road), that runs southwards past Chiseldon from the M4's Junction 15 – see Figure P.1. He later walked there again, to Chiseldon's former post office – see Figure P.2. In the first half of the 1940s, Ron's mother and maternal grandparents ran that Chiseldon post office. (His father was away for Ron's early years, serving in the Royal Army Medical Corps, and then hospitalised for some years after the war.)

Just beyond Chiseldon, on the higher ground to its south, was a Royal Airforce base, and an army camp and military hospital. These dated back to the First World War. The railways that crossed the vicinity enabled that First World War camp and training grounds (the terrain also turned out to be suitable for trench warfare training) that saw many thousands of British, Imperial and American troops pass through. Soon after Ron was born, when the USA entered the Second World War, American forces returned too, joining the Canadians already based there. Tens of thousands of allied troops would again come to the base, which became a major military logistic node. Ron's older cousin Diana (1931–1984) would sometimes join her father, who worked as a pianist (in addition to his day-job as a railway clerk in Swindon) at local entertainment venues for American troops.[3] She then left Swindon aged 15, to attend drama school in London. By the 1950s, Diana was a major celebrity, starring mostly in British-made films, increasingly influenced by Hollywood. In a personal communication with us, Peter Taylor recalls how,

Figure P.1: Satnav display in a rental car, en route to Chiseldon, Wiltshire, 4 December 2024



Source: Photograph by James D. Sidaway.

when introducing Ron at a conference in Virgina in the early 1990s, a flutter of excitement swept the room when it was revealed that Diana Dors had been Ron's cousin.

Back in Wiltshire today, almost nothing remains of the camp. The base closed in 1962. A memorial – see Figure P.3 – was placed there by Chiseldon's Local History Group in 1999, but later had to be relocated nearby following disputes with the landowner. The old post office is now a private residence (there is a new post office elsewhere in the village).

However, Anglo-American connections, which Ron would later scrutinise in the discipline, had shaped his formative years. In an unpublished, partly completed memoir, Ron recalls that during the war years, the family-run post office, the nearest to the camp, was 'incredibly busy' (Johnston n.d., p. 2). He then went to a selective (by examination) state school in Swindon. Notably, although he was also good at mathematics (significantly as it would turn out), Ron didn't do any science subjects. Nor did he pass exams in Latin that might have enabled applications to a wider range of universities. But there were scholarships available from the local government, and he applied to several northern England universities to study geography – which he had enjoyed and done well in at school.

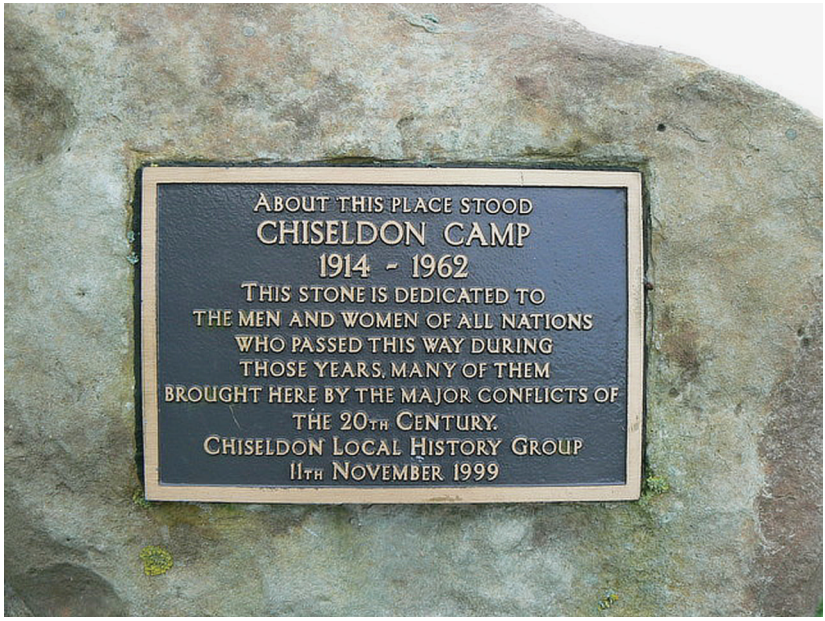
In 1959, Ron went to Manchester University. There he encountered a curriculum that was focused on the traditional regional geography that forms the backdrop to the subsequent paradigmatic revolutions traced in *G&G*. Yet, his key teacher in those years, Thomas Walter Freeman (Buttimer 2003), was quite pragmatic in his geographic approach. Freeman himself wrote a book on history of a century of academic geography, which was published when

Figure P.2: The old post office, Chiseldon, Wiltshire, 6 December 2024



Source: Photograph by James D. Sidaway.

Figure P.3: Close-up of memorial to Chiseldon Camp at SU186780



Source: Photograph by Brian Robert Marshall / CC BY-SA 2.0.

Ron was still at Manchester. Freeman (1961, p. 9) opened his Preface to the book with a note that '[t]he history of geography is not an over-tilled field'. But Freeman was also concerned with social engagement of geographers and critical of the quality of much that was passed as regional geography. His booklet *The Writing of Geography* (Freeman 1971) narrates his advice to students like Ron on how to do geography. In the book he stresses the importance of quality writing, of doing fieldwork and 'seeing for oneself', the importance of connecting to contemporary issues and scholarly societies studying them, all while advocating a meticulous but critical engagement with the literature. These are all qualities many would attribute to Ron when we solicited reactions to Ron's passing for an obituary in the *Annals of the American Association of Geographers* (Murphy, Sidaway and Van Meeteren 2022). In other words, if you are looking for the source code that made Ron Johnston, *The Writing of Geography* is perhaps as close as you can get.

After finishing his Bachelor's degree (1962), which included a dissertation on the urban geography of Swindon, Ron received a studentship to stay in Manchester for a Master's degree (1964) and he was reading the academic journals available in the library. These took him beyond what was taught in the classrooms; for the quantitative revolution was stirring.

Ron responded. This was not a conversion, and although Ron loved statistical analysis, he never became a quantitative zealot. Ron's approach to quantitative methods was, as Harris notes, 'pragmatic' (Johnston and Harris 2022, p. 10; see also Chapter 9, this volume). He simply started to apply the methods to subjects that interested him. He also started to meet (beyond Manchester, at conferences) others using them. They were a means to a wider critical end. That pragmatic approach endured. He put considerable effort into translating the abstract theory and methods of quantitative geography to the concrete and issue-driven world of school geography that was steeped in the regional tradition (Johnston 1973b). However, his farewell gift to New Zealand was a monograph titled *The New Zealanders: How They Live and Work* (Johnston 1976). This book, part of a series of 'how they live and work' books intended for a general audience, is comprised entirely of regional description. It shows that to Ron, regional geography was not per definition a step backwards, but simply a different genre of writing with its own purpose.

Over time, Ron's pluralist capacity evolved into an appreciation of different approaches as complementary. By 1982, reflecting on 'positivist, humanistic/hermeneutic and structural' stands in human geography, he wrote that, 'I see these as complementary routes to explanation, not as alternatives to be used in an eclectic way' (Johnston 1982, p. 124). Eventually he landed, together with many others in his generation, on a full-fledged endorsement of the critical realist philosophical position (Johnston 1986b; see also Chapter 4, this volume). A consequence of that philosophical shift was a realisation that his own quantitative specialism was not the instrument that the moment required. Ron subsequently relegated himself to a position of an 'observer and commentator' in urban geography, an early critic of GIS (Murphy, Sidaway and Van Meeteren 2022), and ultimately a university and disciplinary administrator. Ever the astute observer and field note maker, Ron noted that this latter fate, and the responsibility to preserve the discipline bureaucratically in the Thatcher years, also was something baked into his generation's mission (Johnston 1995). His (implicit) autobiographical account of being a university bureaucrat narrates how it was impossible for him to live up to the standards he set himself in that role: allow others enough freedom of mind and time to excel as critical researchers and teachers (Johnston 1996a). This realisation could very well have played a part in his move to Bristol, where – settled amongst quantitative and other human geographers again – he wanted to 'restart his research career and do some teaching, but never again had to take on major administrative responsibilities and attend unending streams of meetings' (Johnston 2016, p. 151). It is at Bristol where Ron Johnston found that his best way to have a lasting impact on the discipline would be as a role model, rather than somebody directly manipulating the academic machinery. And this volume is testimony to the success and joy he found in that role.

On several occasions above, Ron's tendency to background himself personally in the disciplinary historical narrative has been noted. Thus, Ron might not have wholeheartedly agreed with Clout's (2024, p. 23) recently stated

> firm belief that the shaping of our subject is best illuminated by charting the lives and works of individual geographers and by identifying how their career stories have been guided by ideas and advice received from influential others.

Instead, he would likely have emphasised the *relationships* of such individual agency with wider structures (or 'contexts' as he would have said; see Chapters 4, 5 and 6). Ron certainly had an enduring interest in individual trajectories and careers though, including those he felt had become unduly marginalised in disciplinary histories, such as his paper scrutinising what he termed the 'missed influence' of James Wreford Watson (1915–1990) (Johnston 1993). In that paper (which originated as the First Wreford Watson Memorial Lecture at the Department of Geography, University of Edinburgh, 15 December 1992), he wrote that:

> Of the various frameworks offered as accounts for what has happened within the discipline, the contextual approach gets substantial support, for it sets understanding of the community of geographers into a favoured framework for the appreciation of all relationships between structures and agents….Thus what geographers choose to do, collectively and individually, must be seen in the context of the constraints within which they work – which may be very severe […] or may rely on their individual perceptions of both the demands being made of them by society and the state and of changes in associated disciplines (Johnston 1993, p. 320).

The paper then proceeded to chart the causes and (mostly deleterious in Ron's view) consequences of the ways that, 'higher education is increasingly being treated as a business' (p. 327), in a remarkably thoughtful critique. At the time, Ron was Vice-Chancellor at the University of Essex.

Clout's aforementioned contribution is part of a recent special issue on 'Reflections on histories and philosophies of geography' in the *Journal of Historical Geography*. That issue was to commemorate the 40th anniversary of the History and Philosophy of Geography Research Group (HPGRG) of the Royal Geographical Society (with IBG) (RGS-IBG). The issue shows some glimpses of Ron's imprint on the institutional fabric of British geography. Ron had chaired the inaugural conference session (held on 6 January 1981 at the Institute of British Geographers Annual Conference, University of Leicester) of what was to become the HPGRG (Jöns et al. 2024). Ron's early mentor Thomas Walter Freeman (who had retired from Manchester in 1976) was amongst the speakers on that winter day in Leicester. In the

afterword to the issue, Richard Powell remarks that 'across the range of eighteen papers here […] the enduring importance of *auto*biographical methods is reinforced' (Powell 2024, p. 103). Yet Ron more often seemed to prefer to talk and write about other geographers than about himself. He did leave an unpublished 41 page 'attempt at autobiography/memoir', which we have been able to consult (Johnston n.d.). But amongst his hundreds of publications, perhaps the most autobiographical were Ron's relatively brief reflection on his early encounters with geography's quantitative revolution (Johnston 1984a) and his essay on his 'paid retirement' (Johnston 2016).

Conclusion

In August 2019 we were – after some efforts, including persuasion from Peter Taylor (Ron's frequent co-author in works on electoral geography) – able to convince Ron to come to the RGS-IBG conference in London to reflect on *G&G* one more time (Sidaway, Van Meeteren and Flint 2022b) – see Figure P.4. In the slipstream of that presence, Ron also responded to a lecture about the autobiographical turn Arild Holt-Jensen (1937–2022) had recently given to his history of geography textbook (Holt-Jensen 2018; 2019; Van Meeteren 2019b). In his response to Holt-Jensen (Johnston 2019), Ron took up the gauntlet and provided an extra layer of autobiography to his own story and the history of geography of *G&G* that was now fully acknowledged as *Ron's* history of geography. The conference took place at the same time as demonstrations about how the UK government of then Prime Minister Boris Johnson was handling the lead up to the Brexit process, by suspending the Parliament (a move that was later deemed unlawful by the UK's highest court). Ron declared that had it not been for the fact that he had a knee injury at the time, he would have slipped away from the conference to join the demonstrations in Parliament Square.

Little did we know back then that it would be the last time Arild and Ron would interact, and the last time either of them attended a major in-person conference. Within six months, the academic world would shrink into the claustrophobic zoomscape of the COVID-19 pandemic. Both authors would not witness the world's post-COVID re-emergence. If he could have, no doubt Ron would have reminded us of Cliff and Haggett's work on pandemic diffusion (for example, Cliff and Haggett 1989) to understand COVID's trajectory, or reminded us of the 1980's debates on ecological sustainability (Johnston 1996b [1989]) to historicise the science-society interface around climate change politics; let alone his astute observations on American and British elections, and the long history of politicisation of the US supreme court (Johnston 1984c) to contextualise the moves of the Trump presidencies.

In her first response (31 May 2020) to Ron's passing on the mourning message circulating through the political geography community, Amsterdam-based

Figure P.4: Ron in action at the London RGS-IBG conference, 29 August 2019



Source: Photograph by Heike Jöns.

political geographer Virginie Mamadouh invoked the Malian writer, poet and ethnologist Amadou Hampâté Bâ (1901–1991): 'Whenever an elder dies, a library burns down' to reflect on the consequence of Ron's passing. Hampâté Bâ was a champion of West-African oral history and presented the statement in the form of an African proverb. We have thought about that proverb a lot since. Ron was not just an important source of disciplinary consciousness; he also embodied the index to a pivotal history of geography. Luckily his oeuvre reflects that consciousness much more than one realises. This volume provides an additional portal into that daunting, expansive, but also inviting index.

Notes

[1] See www.chiseldonlhg.org.uk/

[2] See https://theploughonthehill.com/

[3] See www.dianadors.co.uk/

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1. Life, ideas and legacies: about geography and a geographer

Richard Harris, Robert Mayhew and David Manley

> Professor Johnston is a distinguished scholar specialising in electoral geography, urban studies, and quantitative methods. Their research explores the spatial dimensions of voting behaviour, ethnic residential segregation, and the intersection of socio-economic factors within urban environments. With a focus on the UK, US, and Australia, Professor Johnston has contributed significantly to understanding how geography influences political outcomes and social integration. Their work often employs advanced statistical modelling to uncover the intricate relationships between place, identity, and politics, making them a leading voice in contemporary human geography (ChatGPT's 100 word 'bio' for Ron generated, in 2024, from the titles of his publications listed on Scopus).

> Human geography is the study of how people shape and are shaped by the spaces and places they inhabit, focusing on cultural, economic, social, and political patterns across the Earth's surface. It is linked to physical geography through their shared concern with the environment, as many human activities are influenced by natural features and processes. This connection allows geography to function as an integrated discipline, examining the interactions between humans and the physical world (ChatGPT's answer to the prompt, 'Please provide a short description of human geography and what, if anything, links it to physical geography', generated 2025).

ChatGPT is correct. Professor Ron Johnston, OBE, FAcSS, FBA, was certainly a distinguished scholar, interested in electoral geography, urban studies and quantitative methods. He did study voting behaviour and residential segregation, and often employed advanced statistical modelling in his research. However, it is the 'sin' of omission, not commission, that the technology is guilty of here. Its 'pen portrait' is respectful but it does not capture Ron's fully polymathic range (or that New Zealand as well as Australia, the UK and the US should get a geographical mention; see the Preface and Epilogue to this book). In its description of human geography, Ron would probably have agreed that human geography is about people, places and the interactions between the two. But does it just focus on patterns? And, is 'the environment' really the glue that holds human and physical geography together? As we shall

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Harris, Richard, Manley, David and Mayhew, Robert (2026) 'Life, ideas, and legacies: about Geography and A Geographer', in: Harris, Richard, Manley, David and Mayhew, Robert (eds) *Geography and a Geographer: Reimagining the Discipline After Ron Johnston*, London: LSE Press, pp. 1–18. https://doi.org/10.31389/lsepress.gag.b

explore, there are entries in Ron's body of work to suggest he was sceptical of geography being 'an integrated discipline'.

Quite what Ron would have made of ChatGPT itself, we shall never know. It is not inconceivable that he would have used or written about it in some way. In quantitative geography, Ron was often at the cutting edge of statistical approaches, so he may well have grasped the opportunity for 'geoAI' (the integration of artificial intelligence, especially machine learning, with geographic data and spatial analysis) to explore ethnic segregation or political voting. But, as this volume makes clear, Ron was never 'just' the quantitative geographer, nor did he seem entirely at ease with the type of geography promoted by its 'quantitative revolution' (Johnston 1984 and Chapter 9, this volume). As a thoughtful and socially minded academic, he surely would have recognised the less benign potential of such technologies to reconfigure employment and other socio-economic practices, to become too dominant in the shaping and transmission of knowledge (with its risks of falsehoods, biases and 'hallucinations'), to contribute to changing digital and socio-spatial processes and divides, and to (mis)represent people and places with (geographical) consequences that have yet to be understood.

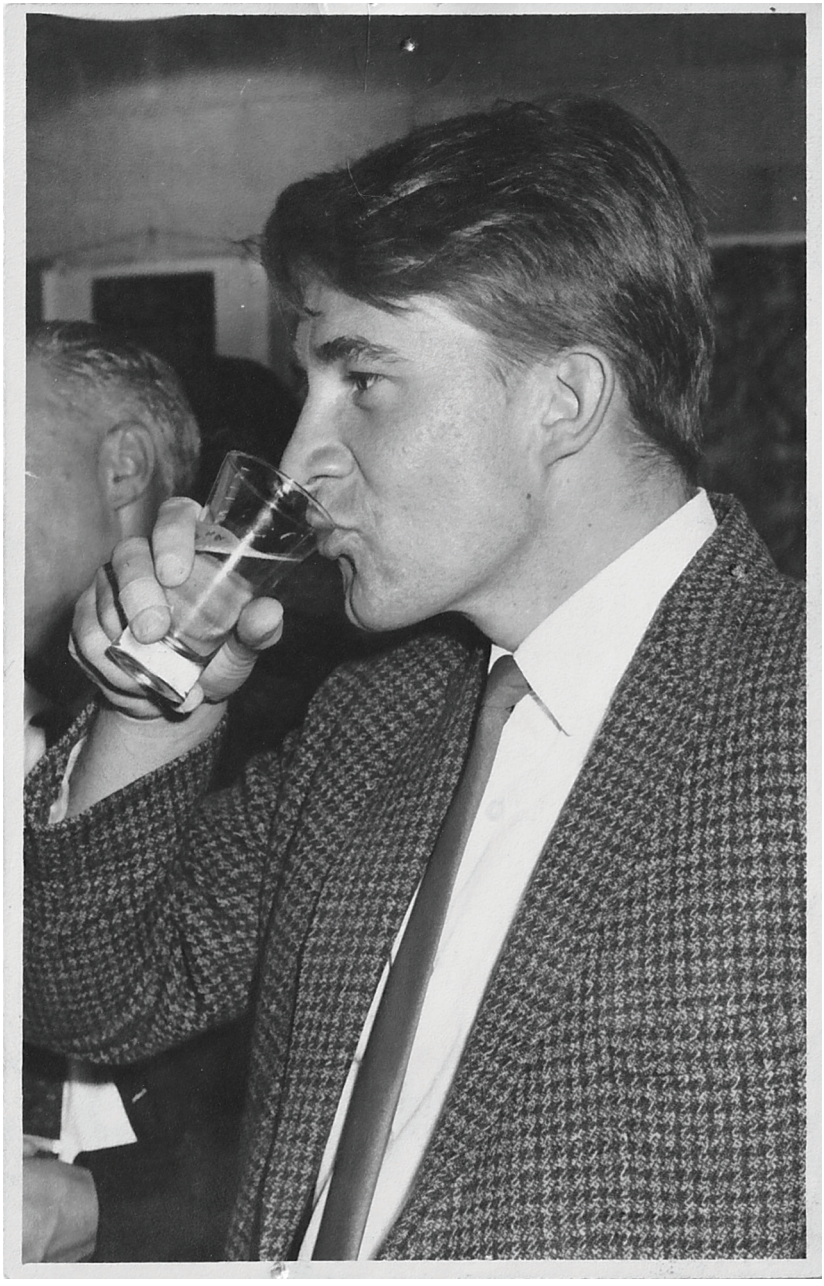
Fortunately, we are not yet reliant on artificial intelligence to identify a distinguished scholar and leading voice in human geography. The publication record, the esteem the person is held in, and the many prizes and awards they receive all speak for themselves. That is especially true of Ron – pictured in Figure 1.1 – one of the most prolific, enthusiastic and respected scholars, commentators and champions of the discipline that British geography has ever had. To assist those who are interested in Ron's work, or in the history of the discipline more generally, links to his extensive publication record are available at profrichharris.github.io/ronbook.

1.1 This book's approach to Ron and his work

By the time of this book's publication, it will be more than five years since Ron's passing. Stepping back that half decade to when two of us were given the unhappy task of clearing his office (or 'library'; see Chapter 9) in the School of Geographical Sciences, University of Bristol, the sheer magnitude of the loss was apparent in the material form of what that office contained: Ron read and contributed so much to the discipline with which he had a lifelong fascination that the shelves were straining under the weight of his many outputs and other collected volumes. To describe him as a polymath of geography might be a contradiction in terms but he had interests and expertise that were wide-ranging even for a wide-ranging discipline.

Ron's publication count is the stuff of legend, but no myth is involved. He was the author, co-author and/or editor of more than 1,000 publications, including 100 or so books of various editions and translations. Awarded an OBE for services to geography in 2011, he also received, amongst other prizes and recognitions, the Murchison Award (1985) and the Victoria Medal (1990)

Figure 1.1: A photograph of Ron Johnston, found in his office



Source: Unknown from Royal Geographical Society with IBG archives.

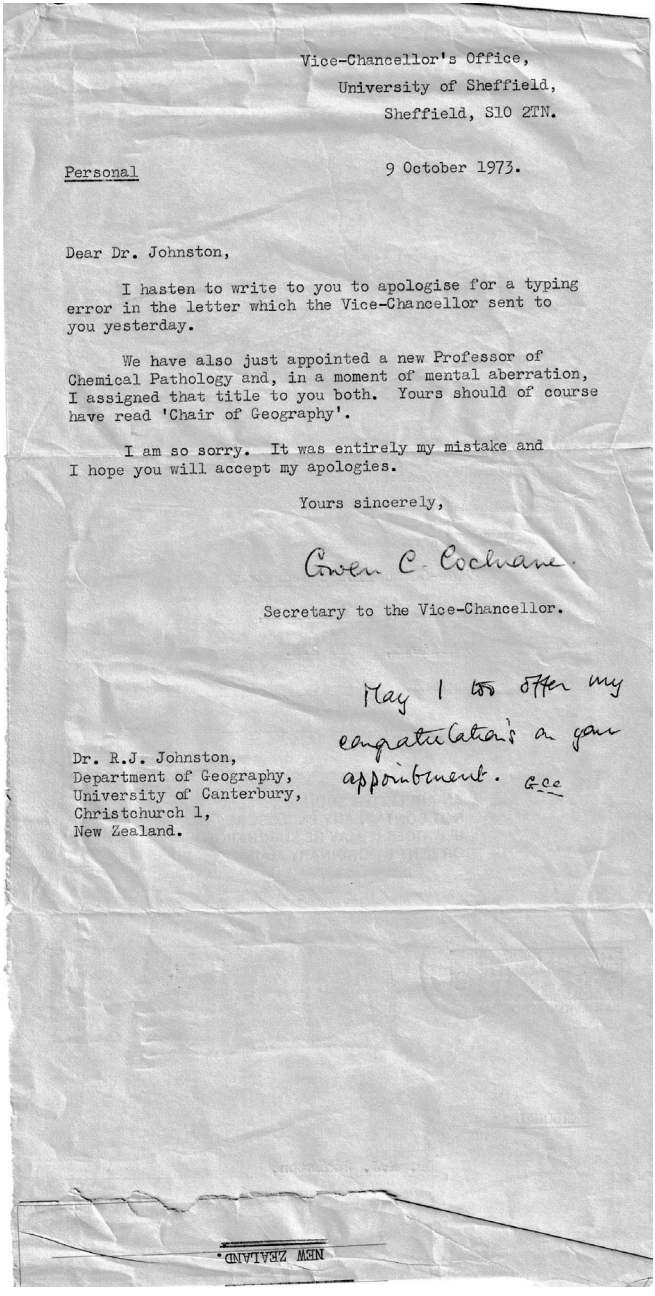
from the Royal Geographical Society; the *Prix International de Géographie Vautrin Lud*, the highest award in the field of geography, at the International Geography Festival (1999); and, a lifetime achievement award from the Association of American Geographers (2009). He was a Fellow of the British Academy (elected 1999) and a founding fellow (then called academician) of the Academy of Social Sciences (also 1999). He might also have been a Professor of Chemical Pathology, but that turned out to be an administrative error – see Figure 1.2.

As outstanding as these achievements are, what is equally impressive – and how we often remember him – is how he invested time and interest not only in geography the discipline but also in geographers, the people: in peers, colleagues, and also more junior and early career staff; their work but also as individuals. In their Preface to this book, Michiel and James observe that, at Bristol, Ron was a role model. It is true. All three of us (the authors of this chapter) benefitted from his advice and informal mentoring. He was instrumental to our own appointments to the University, at which two of us remain. Ron did not just write about geography and geographers; he helped to shape and guide them.

Yet, despite these recollections and the fondness we attach to them, this is not actually a book about Ron. At least, not wholly so. It is a book *for* Ron. Admittedly, the distinction between about and for is blurred. *Geography and a Geographer* is an edited volume that pays tribute to Ron's life and work and acts as an engagement with the ideas and concepts he explored through his research. As such, there is an element of looking backward in terms of situating those ideas within his and others' writings, and in sharing memories of Ron. There are parts of this book that touch upon memoir and biography. There are even traces of autobiography, where Ron wrote (somewhat rarely; see Preface) about his own life and work. We hope that these recollections bring a smile to those who knew Ron and, to those who did not, provide a warm impression, albeit inevitably partial, of a much-missed scholar and keen observer of geography. Ron was not only a geographer *par excellence*, but also a geographer-*grapher*: a leading writer of the discipline.

Whilst the Preface and the Conclusion trace-out some of the key places in Ron's time-space geography, and other chapters add their own reminiscences and reflections, none of this, either individually or in total, is a complete (geo) history of Ron's life or research. It was never intended to be so. For us, as editors, the reality is that one of us was not born when Ron was appointed Professor at the University of Sheffield – although unbeknownst to either party, they subsequently lived a street apart in the same city – and the other two were not yet able to spell geography (or probably say it either). The Ron we knew personally was the Ron who returned to 'departmental geography' after a spell as the Vice-Chancellor of Essex. That 'department' is the School of Geographical Sciences at Bristol where, largely free from teaching and the seemingly endless proliferation of administrative roles that the modern university thrives at creating, he could focus on the subject at hand. There are many others, amongst his contemporaries and beyond, whose anecdotes and recollections would

Figure 1.2: Ron was briefly offered the job of Professor of Chemical Pathology



Vice-Chancellor's Office,
University of Sheffield,
Sheffield, S10 2TN.

Personal

9 October 1973.

Dear Dr. Johnston,

I hasten to write to you to apologise for a typing error in the letter which the Vice-Chancellor sent to you yesterday.

We have also just appointed a new Professor of Chemical Pathology and, in a moment of mental aberration, I assigned that title to you both. Yours should of course have read 'Chair of Geography'.

I am so sorry. It was entirely my mistake and I hope you will accept my apologies.

Yours sincerely,

Owen C. Cochrane.

Secretary to the Vice-Chancellor.

May I too offer my congratulations on your appointment. Gee

Dr. R.J. Johnston,
Department of Geography,
University of Canterbury,
Christchurch 1,
New Zealand.

NEW ZEALAND.

Source: Royal Geographical Society with IBG archives.

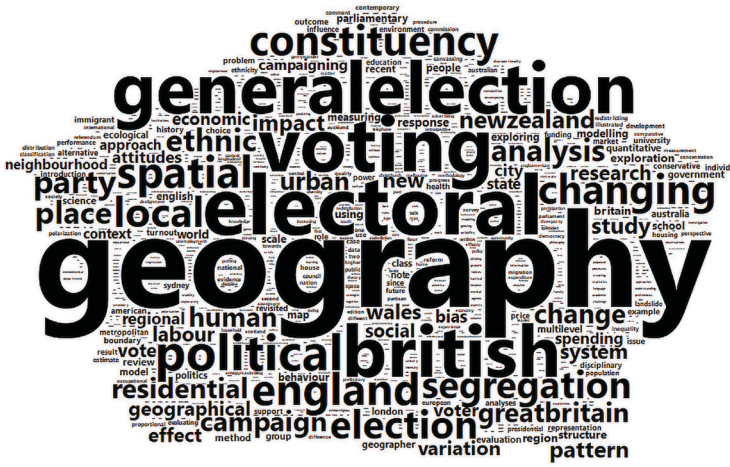
further enrich and enliven the biographical record should a fuller account ever be undertaken. Some have contributed to the Epilogue to this book.

Ron, in his own work, was not adverse to looking backward, sometimes to chart a (modern) 'textbook' history of the discipline (see the Preface and Chapter 11 of this volume), sometimes to contextualise and/or refresh (arguably, rehabilitate) understanding of a particular part of the discipline and the methods and philosophies it contains (notably quantitative geography; Johnston et al. 2020), and, on at least one occasion, to give due credit to a geographer that Ron clearly felt deserved more recognition within the discipline (Johnston 2019; there are elements of Ron doing the same in Harris et al. 2007, which pays generous and deserved tribute to Ron's Bristol colleague, Les Hepple; see also, Chapter 10).[1]

Nevertheless, despite his interest in the history of geographical ideas, and his commentaries on where the discipline was presently at and how, in its modern era, it had got there, Ron was also active in moving the discipline forward, seeing opportunities to do so. In his years at Bristol this was particularly evident in his ability to take innovations in quantitative social science and apply them to geographical enquiry; this often founded on a fruitful partnership with Kelvyn Jones and applications of multilevel modelling. Such applications, however, also revealed continuity with a younger Ron and his interests in a 'sociological theory of structural effects', with its postulation of an 'environmental impact [that] is the structural, or neighbourhood effect' that alters how individuals might otherwise behave (the words are those of Ron in 1976: see Johnston and Harris 2022, pp. 118–119). Such effects are often frustratingly elusive for those who seek to find them but are more evident in electoral voting, therefore of interest to Ron the political geographer (see Chapters 3 to 6). This is not intended to suggest a solely unidirectional relationship whereby structures form places and geographical contexts that shape, constrain or contribute to individual agency. Ron (in Johnston 1986b, after; Giddens 1984) understood that agents and structures (as well as spatial contexts) are interdependent. They are co-constituted. However, in his words, 'structuration provides a framework for research, not a methodology' (Johnston 1986b, p. 62). Doing research requires abstraction and for parts to be isolated from the whole. Joe Painter (in Chapter 6) suggests that spanning across Ron's work are the tenets of philosophical realism.

Inspired by that 'ever onward', which looks forward without entirely breaking from the past, an ambition of this book is to reflect upon where Ron's work can take us next as geographers. Our 'agents' are our contributors. The context is geography and what Ron has contributed to it. There is no attempt at complete synthesis or even summary of the various strands of Ron's oeuvre.[2] Instead, this book is loosely structured around three substantive research themes that reflect Ron's own narrative about his contributions to the discipline: electoral and political geography (Chapters 3, 4, 5 and 6), urban social geography (Chapters 7 and 8) and the history [and, here, historical antecedents] of human geography (Chapters 2 and 11). Although quantitative geography is absent from those themes – but not from this book (see, especially,

Figure 1.3: A word cloud formed from the titles of Ron's research outputs listed on Scopus



Source: Richard Harris.

Chapters 9 and 10) – those are the research interests that Ron applied himself on media such as the departmental website. Perhaps he regarded quantitative methods as a means to do research rather than a research theme in their own right? In any case, two of the three themes are apparent when we take the approximately 800 documents listed on Scopus with Ron as author or co-author and pass their titles through to a word cloud with some elementary textual cleaning (Figure 1.3).

Political geography stands out most in that figure, despite it not being Ron's initial research leaning. In his own words,

> I had no intention at that stage [of his career, in the late 1960s and early 1970s] of becoming an 'electoral geographer'—indeed I went on leave to Canada and the UK in 1972–1973 with the main intention of working on gravity models and international trade flows (Johnston 2012).

What won him over was

> during a six-month stay at the LSE I used my commuting journeys from Croydon to read a range of recent social science books. The one that grabbed my attention much more than any other was David Butler and Donald Stokes' *Political Change in Britain* [1971], which opened my eyes to the potential of work studying elections from a wider spatial (i.e. geographical) perspective than that stimulated by Cox's essay [see Chapters 5 and 6] and other papers. I started such work when I returned to New Zealand (Johnston 2012).

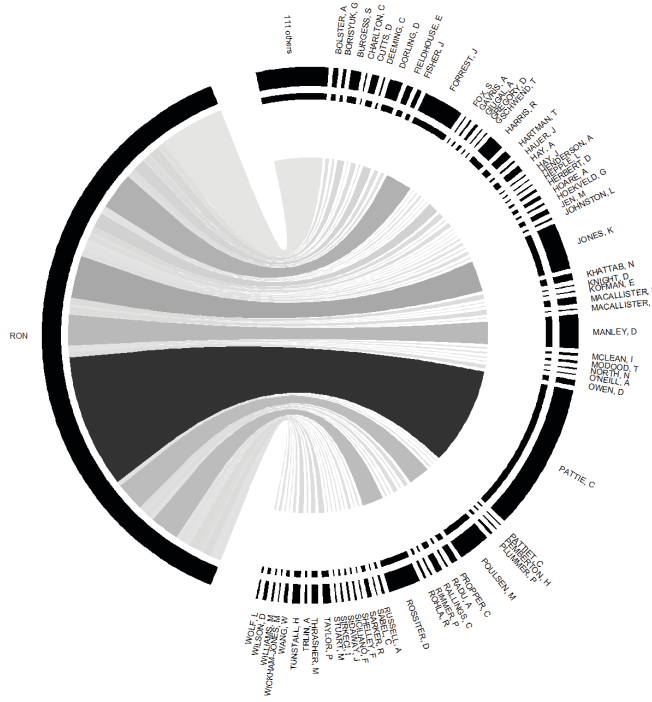
He did still write a book on world trade though (Johnston 1976).

The language of elections is immediately evident in the word cloud: electoral, voting, constituency and so forth. Also visible is the nomenclature of a quantitatively leaning urban and social geography: spatial, residential, segregation, analysis, pattern (so maybe ChatGPT was right about human geographers studying patterns?). The work on the history of human geography is less obvious in the word cloud just as it is invisible in the ChatGPT biography with which we opened. This is possibly because that area of study has a less distinct vocabulary of its own, but it also highlights the limitations of these two examples of textual mining: it is surely *Geography and Geographers*, his survey of Anglo-American human geography since 1945 (see the Preface and Chapter 11 of this book), that has been the most read by students and scholars alike, and that has ensured Ron's stature as, to use our previous phrasing, a champion of geography. We, of course, also honour that contribution in the title we've chosen for this project. And yet, the word cloud has its virtues as an encapsulation of Ron's contributions, perhaps most satisfyingly in that, amongst all the words, geography is the largest, reflecting its greatest frequency of use in Ron's publications.

Did we manipulate the image? Yes, although not in the direction that an exaggerated focus on geography would require. In fact, we were forced to downplay it. The word geography appeared so large relative to the others that we had to make it smaller to avoid crowding others out of the chart. Even so, the centrality of geography to Ron's work is semantically obvious. It was central to his whole life.

Amongst the publications, more than 60 percent were written with a co-author. Most are men, although that is not especially surprisingly given the highly male-dominated academic community of much of his life. An initial plan for this volume recognised Ron's apparent preference for co-authorship and especially his interest in mentoring younger scholars. As such, we intended to invite contributions from people who co-authored and worked with Ron for many years, others by colleagues and interlocutors who engaged with his ideas, and further contributions by earlier career scholars who are engaging with the many conceptual and empirical debates that Ron helped to shape. For the most part we succeeded. Ron's co-authors are shown in Figure 1.4. Several of the most frequent have contributed to this book, including Charles Pattie (Chapter 5) and Kelvyn Jones (Epilogue), as well as former colleagues at Bristol (members of the Quantitative Spatial Science Research Group, Chapter 9, and Paul Plummer, Chapter 10), and Ron's co-author for later editions of *Geography and Geographers*, James Sidaway (Preface). Whereas these contributors worked closely with Ron at various stages in his career, others knew him less well personally but 'met him' through his work. Some, like us, feel uncomfortable using the formality of a surname when referring directly to Ron; some in this volume might regard using his first name (or, rather, its shortened form: his full name was Ronald John Johnston) as over-familiar. Consequently, there is a diversity of naming styles in this volume.

Figure 1.4: Ron and his co-authors for the outputs listed on Scopus



Source: Richard Harris.

We did not prescribe how the chapters should link to Ron's work. Instead, our contributors have engaged with Ron's writings in a range of ways. Some focus-in on specific texts. Others take a broader approach. There is exploration of topics that Ron researched (for example, politics, states, contextual/neighbourhood effects and social/ethno-cultural geographies; see Chapters 3 to 9), as well as those that Ron did not directly study but share, for example, an underlying interest in histories of geographical thought and knowledge (Chapters 2, 3 and 11), albeit over a longer period than that of the modern Anglo-American-Antipodean discipline which Ron was a part of. Others write in response to calls to decolonise and pluralise what it means to narrate and practise geography (Chapter 11), or encourage us to think deeper about causality in quantitative human geography (Chapter 12). There are cross-cutting themes, too, that weave in and out of the chapters. These include Ron's intellectual legacy, the evolution of human geography, quantitative geography

and methodology, disciplinary history and memory, mentorship, collaboration and collegiality, and place and biography. But there are also blind spots. For example, Ron wrote about environmental geography (Johnston 1986c). He was aiming to make physical geographers more aware of the social causes of environmental problems (Walls 1997).

Where we have been less successful is in avoiding the effects of *tempus fugit*. This book has had quite a long gestation period. The time from conception to 'birth' undoubtedly constitutes tardiness when set against Ron's prolific work rate. Still using the Scopus data, which is not a complete record, during the five-year period from 2008 (by which Ron was eligible for a State Pension) to 2012, Ron published 115 research outputs. That 'peak' showed little sign of attenuation in subsequent years. In his final five years, he recorded about 90. There appeared to be little prospect of Ron retiring. Perhaps that is never a possibility if the geographical is not just what you do but who you are. Although we could appeal to geographical contingencies and locally contextual factors to justify our own more snail-like pace, knowing how it happened does not, by itself, change the outcome. In this case, the main consequence of the time taken is that it is increasingly anachronistic to describe any of our contributors as 'earlier career', not just because of their unavoidable ageing, but because they are rightly established and well-respected within the discipline. In any case, we are grateful to all our authors for accepting the invitation, for each of their thoughtful and engaging contributions, and for their support and patience.

1.2 Learning from Ron

Who is our intended audience for this book? Primarily it is one that we cannot now reach but only honour. It is Ron himself. Our guiding aspiration has been for a book that Ron would have enjoyed reading, not because it is in tribute to him, but because of its varied yet distinctly geographical content. In our minds we can imagine a journal editor sending it to Ron to review and it occupying his rail journey from Salisbury to Bristol Temple Meads and back again (assuming he was not chatting to the then Vice-Chancellor of Bristol who sometimes travelled on the same train). There may be an element of careful what you wish for in that imagining because some of Ron's reviews could be – how shall we say? – blunt. On one occasion one of us commissioned a review from Ron that turned out to be both overlength and quite sharply negative towards the book. Knowing he would be irritated by a requested word reduction, we took the opportunity to offer a suggested edit that watered-down the criticisms. On return, the review was indeed shortened, but the criticisms were undiluted!

Even so, maybe the better word here is honest rather than blunt. What he embodied was the ability to debate, and to learn through offering and listening to sometimes sharply opposing viewpoints and counterpoints. In today's society, where the polemics of social media are intended to capitalise on

division and not to find common understanding, there is much to be said for teaching students to argue respectfully outside of an echo chamber, with a willingness to modify not merely browbeat others with an initial view (it is one of many reasons why teaching, not just research, is so central to universities and their social importance). We would have been disappointed if Ron had not found anything in this text to debate further and respond to in writing.

The same sentiment applies to what we hope will be our actual audience, including undergraduate and other geographers interested both in the history of the discipline and the state of the art in some important areas within it. To underline a point raised earlier, this is not a textbook introduction to Ron's work, it is not a synthesis of it, it is not a selection of key readings. But it *is* a book drawing on and finding inspiration in his work and its continued relevance to geography. If this book encourages you to make connections between your own learning, what has come before and where it could go next, then we will have achieved, in a small way, the sort of 'conversation' that Ron also liked to facilitate.

There are other aspects of Ron's approach to geography that we should like to see emulated. First, it seems catholic in its appreciation of study across the discipline.[3] In Chapter 9, members of the Quantitative Spatial Science Research Group at Bristol note that in the 1980s, when quantitative human geography was facing critical examination for its positivistic underpinnings, Ron sought a position of mutual accommodation between its practitioners and its critics. In an unpublished (we think) work written at about the same time at the University of Sheffield, Ron comments on three authors who have responded to the criticisms of positivism in quantitative human geography by, in effect, denial; they argue that their work is not underpinned by positivism and so the criticisms are misplaced. Ron is not convinced by this attempted repudiation, and his conclusion is intriguing: 'if you want to be positivist then be one, and don't be ashamed of the fact' (Johnston, n.d., p. 10). The point appears to be that the work should be valued for what it is and what it brings to geographical understanding. It is a good way to read the discipline.

What Ron did not seem to seek was some overarching framework for the whole of geography in the manner of Peter Haggett (for example, Haggett 2001), another member of the School of Geographical Sciences at Bristol and a further giant of the discipline, who sadly died during the period over which this book was written (Harris et al. 2025). Indeed, Ron's views on geography may be surprising for someone so important to the discipline. Reflecting on his time in New Zealand, Ron wrote that, 'I had decided that human and physical geography should be divorced, because techniques alone were insufficient to hold them together' (Johnston 1984, pp. 48–49). This decision was echoed in Ron's willingness to pen a book called *On Human Geography* for Blackwell Publishing (Johnston 1986b). Ron's contemporary, David Stoddart, was asked by Blackwell to write a parallel book to be titled '*On Physical Geography*' but he refused, arguing that the holistic

nature of geography meant only the title under which his book was finally published, also in 1986, *On Geography*, was appropriate (Stoddart 1986). Ron's opinion may have changed over time because, at Bristol, Ron was not a Professor of, say, Political Geography, and not of Human Geography either. He was Professor of Geography (and not overly keen on the trend for titles reflecting increasingly narrow specialisms within the discipline). He was still right though: techniques alone are not sufficient to hold the discipline together. Nor are a particular set of philosophies or social theories. There is no distinct canon of literature that delimits what is or is not human geography, let alone geography as a whole. Yet, there is something about the pluralism and diversity that, paradoxically, seems to both stretch the meaning of geography but also give it meaning and identity. Perhaps it is better not to ask, 'what is geography?' or foreclose the possibilities, but to instead ask 'what can I learn from other geographers and what they conceive geography to be?'

Whether Ron would entirely have agreed with the preceding statement is unclear. He might have seen it as an incomplete proposition that does not address, for example, the latent awkwardness of fitting a discipline that spans arts, humanities, social science and science into more narrowly bounded university structures such as faculties and budget sheets (nor, as Peter Haggett observes, the temptation 'to argue for the sweeping away of the old disciplinary boundaries and the merging of geography with its neighbours' (Haggett 1990, p. 175)). Writing about 'the quest for unity in geography' (Johnston 1986b, p. 449), he is conscious of 'the problems of fragmentation' (p. 450); or, rather, the lack of synthesis: 'such fragmentation (or some fragmentation, not necessarily that which we currently practice) is necessary for the accumulation of knowledge, but it is only defensible if it is preceded and followed by synthesis'. In saying this, Ron confines his observations to human geography, regardless of whether they might also be applied to physical geography. Doing so presumably reflects Ron's disciplinary interests, but also his belief that physical and human geography cannot be integrated in any university-level or research sense, although he is no longer thinking in terms of divorce:

> No human geographer would deny the necessity of taking the physical environment into account, whenever relevant, and all physical geographers would accept that human activities can have major impacts on environmental processes. Each needs the vernacular of the other. This is not, however, the base for an argument that the two academic activities should, indeed can, be integrated. I believe that they cannot, because they have different epistemologies, for one (human geography) but not the other is dealing with a pre-interpreted world of meanings; the subject matter is a human creation that is not subject to the operation of general laws (Johnston 1986b, p. 450).[4]

Where Ron does find potential for unity is 'based on the holistic viewpoints of environmental and social science, the understanding of which is advanced through the application of geographical perspectives, as are the interactions between the two' (Johnston 1986b, p. 452). For human geography, that understanding comes close to a traditional view of geography as the interaction between a person and their environment (as well as to ChatGPT's earlier belief that the environment is the link between physical and human geography), except that the meaning of 'environment' (or context, or locale, or place) is wide-ranging and includes the social, cultural, economic, political and so forth – which is why geography is not reducible to environmental studies or science – and the interest is in the particular and the general, the idiographic and the nomothetic too:

> We must show how people have created places, how the processes of socialization in places create people [Ron references Pred (1984)] and how people change places and themselves through these processes. Without such an appreciation of the role of place-bound and -structured human agency we will never be able to account for that which we observe […] We must produce general theories of the economic, social and political manipulation of space [Ron cites David Harvey], in order to understand particular events, places and periods (Johnston 1986b, p. 452).

That interest in the interactions between people and places, and in the processes that shape and are shaped by both, at a variety of scales, permeates through Ron's research and thinking. As alluded to earlier, it is as evident in his inaugural lecture at the University of Sheffield (Johnston 2022 [Johnston's lecture was in 1975]) as in later work on voting and segregation. A reviewer of *On Human Geography* writes,

> As a geographer, Johnston wants to understand the constant restructuring of places, all of which are inherently unjust because they are not equal. Some have too much, others not enough. How he proceeds is informed constantly by the model he has created, namely three sets of things—societies, people, and mechanisms—arranged vertically in an interacting tier. All have to be appreciated to 'do geography' satisfactorily […] (Gould 1987, p. 610).

Many geographers will identify with how 'Johnston is unhappy with the world [and its social injustices]' – that 'things are not right' – regardless of whether they share '[Ron's] moral discontent grounded in a sense of guilt' (Gould 1987, p. 609). They will also find themselves 'thrown into a world not of his [their] own making [although a making in which they play a part], a world in which some have more than others', and 'since it is such an unjust and inequitable world', want 'to understand why it is that way' (Gould 1987), seeking to

change it for the better. Those geographers include human and physical ones, quantitative and qualitative ones, those who are empirically minded, and those that offer theoretical formulations. The methods may differ, as might the nature, foci and scales of the impacts – and whether they are principally student-facing, research-driven or administrative – but not necessarily the motivation to make a difference. This is not unique to geography, of course, but geographers do often have a close connection with the places that they inhabit and study.

Second, in Ron's approach to geography, and as Michiel and James observe in their Preface, there were multiple occasions when Ron 'was asked to do a course on X, mastered the literature on the topic, and synthesised it in a key textbook.' This was the origin of *Geography and Geographers*, which began life as a course in the history of geography at Sheffield University, and also of his other hugely influential book from the same period, *Philosophy and Human Geography* (Johnston 1983). It is nowadays common to hear higher education institutions talk about 'research-led teaching' (and rather less of the equally important teaching-led research); a consequence, in part, of the 'researchification' of university cultures from the pressures of quasi-marketisation, metrics such as the Research Excellence Framework (REF), and the requirement to demonstrate impact and economic value to government funders. We heard Ron, too, advocating for the intrinsic relationship between research and teaching; for keeping them together as a defining feature of what universities are about. However, what is described of Ron sounds more rounded and synergistic, being primarily about the exchange of knowledge through both research and teaching in a mutually beneficial way: of disciplinary interests informing teaching that becomes a textbook that stimulates research and widens the disciplinary interests. Perhaps we are looking wistfully at a past that is gone, never existed or was a Ron-specific phenomenon, but there is something about the nature and potential of scholarly practice that Ron embodied and continued to embody even when nobody was requiring him to teach X (or Y, or Z) anymore. Possibly our perceived but speculative loss of some aspects of academic life relates to what Michiel and James identify (see Preface) to be Ron's apparently deleterious view of higher education being treated as a business? If so, he would not be the only former Bristol geography staff member with experience as a Vice-Chancellor who is critical of the transformation of British (and other) university systems into 'a set of industrial combines that power a process of mass production which is both downgrading the role of academics and threatening the production of creative work' (Thrift 2026, p.1). An example of Ron speaking out in defence in the sector is shown in Figure 1.5. The newspaper clipping was in his office in Bristol.

Thirdly, Ron was kind, and no amount of robust peer reviews, sharply worded letters or the occasional raised voice at an IT failure changed this. If you read through the testimonies contained in the Epilogue you will find that some are willing to suggest a few foibles, but also that those character observations are rooted in fondness and an appreciation of a thorough and

Figure 1.5: The incoming Vice-Chancellor to Essex University, makes the headlines of the local newspaper



University chief joins attack on Tory record

ESSEX University's new vice-chancellor joined hundreds of other top academics to condemn the Conservatives' record on higher education.

He signed a letter, published in yesterday's *Independent* newspaper, which denounces the impact of Government policies on universities and colleges over the last 13 years as "a national scandal".

The 941 academics who signed the letter included eight from Essex University, and its vice-chancellor elect, Professor Ron Johnston, who is currently at Sheffield University.

He is due to take up his new post at the Wivenhoe Park campus on August 1, succeeding Prof. Martin Harris, who is to become vice-chancellor at Manchester University.

In their letter, the academics accuse the Government of contradictory and confused policies, starting with arbitrary spending cuts and culminating with its present demand for a rapid increase in the number of students in higher education.

The letter says, "We applaud the expansion of educational opportunities, but not within a philosophy which is expressed by the phrase 'pile them high and teach them cheap'".

It also complains of an erosion of research and teaching facilities, the loss of gifted, but disenchanted colleagues to other countries and the growing financial

By Duncan Brodie

pressures on students.

The letter adds, "When the Conservative Party came to power in 1979, Britain had one of the finest systems of higher education in the world. It is a national scandal that this system has been so undermined and those who work and try to study within it have been so demoralised.

"Education should be a key element in the growth and prosperity of our country. The damage that has been done must be repaired and we hope that electors will bear this in mind when choosing a future government."

Prof. Johnston said yesterday he did not wish to add further to the contents of the letter, and felt it would be premature to comment on Essex University in particular until he took up his new post. "I signed the letter because I agree with it and I felt it was important to make that contribution at a time when education was so central in the election campaign," he added.

Other signatories of the letter from Essex University were: Dr. Valerie Fraser (head of the department of art history); Prof. J.M. Bernstein (head of the department of philosophy); Dr. H.M. Lubasz, Prof. Geoffrey Crossick, Dr. Pamela Sharpe, Dr. Cathy Crawford and Dr. Joan Davies (all from the department of history); and Prof. David McKay (head of the department of government).

Professor Ron Johnston, vice chancellor elect of Essex University, who has attacked the Tories' record on higher education

Source: Photograph of the East Anglican Daily Times, 4 April 1992, p. 5.

foundational decency. Kindness does not appear in the league tables and rankings of institutions, but maybe it should. Perhaps the most important geography the world might benefit from at present is one that is collegiate, informed by a concern for other people, has an interest in and empathy towards their social, ethno-cultural and other circumstances, exhibits an open-mindedness to listen, debate and to learn, and is driven by an insistence that geography is not a benign force, but shapes, and is shaped by, people, places and the opportunities or exclusions that underpin them, in the present and in the past. Kindness begins with how we treat our colleagues and students, and therefore our discipline. It is affective and effective too.

1.3 Conclusion

Returning to the recent past, to celebrate the occasion of Ron's 70th birthday many of his colleagues in the School of Geographical Sciences gathered for a private dinner in the upstairs of a restaurant then owned by a well-known TV chef. (It was once a university bookshop; it is now a rum bar and distillery.)

Towards the end of the meal, Ron had to leave for the return train back to Salisbury. As he left, we all stood. Ron was rather overcome by this simple gesture of respect and appreciation. It is presumptuous to speculate why this caused an emotional trigger although it is not especially contentious to suggest that to be clearly valued by your colleagues and friends is something that many of us seek and are sometimes surprised by when it is confirmed. In a way, this book picks-up where that dinner left off. It stands as our appreciation of Ron, and testifies to the enormous esteem in which we, our contributors, and the discipline held and still hold him.

Notes

[1] Despite how it appears when cited, Harris et al. (2007) was lead authored by Ron. He was repeatedly generous at giving colleagues credit as co-authors.

[2] As it happens, Ron was something of a self-archivist, with a copy of his various journal papers bound, in chronological order, in a series of lever arch files in his office. Should anyone wish to attempt the daunting task of compiling a complete history of Ron's geographical thought then if they wish to begin with some of his earlier, student work, it is contained in an archive held by the Royal Geographical Society (with IBG) (RGS-IBG).

[3] The church-related adjective being quite apt for someone who lived within Salisbury [Anglican] Cathedral Close and was a trustee of its Preservation Society: Ron co-authored and edited the Society's *A Guide to Salisbury Cathedral Close* in 2018 as well as being a keen church bell-ringer (Johnston 1986a; Johnston et al. 1990; Baldwin and Johnston 2000).

[4] Ron was aware that what physical geography studies and how can also be regarded as a social construction, but his point was more simply that only human geography tends to study social processes and people who are sentient decision-makers.

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2. Geography from ground level: writing the Earth before modernity

Veronica della Dora

In the opening pages of his pioneering *Philosophy and Human Geography* (Johnston 1983), Ron Johnston neatly captured the dual focus of geography as a modern academic discipline. On the one hand, he argued, geography was the study of the 'vertical' relationships between elements in the same location; on the other hand, it was the study of the 'horizontal' relationships that linked elements in different locations. The 'vertical theme', as he called it, focused, for example, on the relationship between humans and their environment. The 'horizontal theme' studied instead flows and spatial distribution patterns. The former focused on place, the latter on space. The relative importance of these two sets of relationships, Ron argued, varied over time, with contemporary geographers and spatial scientists becoming increasingly interested in horizontal relationships. However, he observed, many geographers (possibly including himself) stressed that 'it is this twin focus, and even more so the integration of these two sets of relationships, that provides the discipline with its identity and integrity' (p. 3).

For all the discipline's fragmentation lamented by Ron in recent years (2020; see also Chapter 1, this volume), the vertical and horizontal themes continue to characterise human geography. Since the publication of *Philosophy*, these two approaches have increasingly embraced (horizontally) the spatial scale of global mobilities, and (vertically) the temporal scale of the Anthropocene, the recently recognised geological era in which humans have taken a leading role in shaping the Earth. In spite of the widened scale, the nature of the two 'themes' nonetheless remains unchanged. Both imply an immobile detached and disembodied eye looking down on the terrestrial surface.

There is, however, a more ancient and largely understudied 'pre-cartographic' way of imagining and describing the Earth that runs counter to modernity; an approach from ground level whereby space is not experienced simultaneously, but serially as a horizontal sequence of places. This approach is closely aligned to investigating through walking – it requires time to reach the end (Purves 2010, p. 2). It emphasises peculiarities and memorability, rather than relationships; form and matter over abstraction; embodiment and movement over

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cartographic detachment and stillness. Linking one place to the next are the road and the coastal sea route. This 'ground-level' approach dominated the pre-modern world, though it largely co-existed with the synoptic view from above and the conceptualisation of places as vertical palimpsests. Is it possible to write a history of geography from ground level? What does this shift in perspective reveal about spatial perceptions and Earth-writing practices? And what does it reveal about geography's nature?

Expanding the histories that Ron developed, this chapter considers expressions of 'the view from ground level' from different moments formative of the pre-modern western geographical tradition in the period c. 30 BCE to 1675. The view from ground level is commonly associated with wayfinding and therefore with spatial practice, rather than with geography in the literal sense of *geō-graphein*.[1] This mode of experiencing space, however, developed into a sophisticated tool for 'writing the Earth'. Grounded in chorography (which I discuss in the next section of the chapter), it took different forms over the centuries: from classical geographers' and historians' hodological (or journey-like) accounts of the inhabited world and its regions to the encyclopaedic aesthetics of late antique and medieval *itineraria*; the circular narratives of *periploi* and portolan charts; the *isolario* and the charms of islanding in the Age of Discovery; and not least, 16th-century antiquarian perambulations and the discovery of the nation. In its different expressions, the view from ground level sheds light on a largely forgotten earlier history of geography, when the Earth was conceived of as a giant archive for human knowledge, and geography as the instrument and framework for organising and archiving this knowledge. In other words, the view from ground level sheds light on geography as an encyclopaedic and mnemonic system, rather than the modern analytical enterprise so masterfully mapped out by Ron – yet one, he would have probably said, not devoid of ideological undertones (Johnston 1989, p. 49).

2.1 Geography and chorography

> To fulfil our role as geographers, we must pay more attention to the world as a whole, not as a series of examples of general models but as a mosaic of different places, inextricably interlinked but also clearly individual (Johnston 1986, p. 458).

As a self-professed social scientist, Ron focused his historiographic work mostly on geography's institutionalised disciplinary past. He therefore seldom crossed the threshold of the late 19th century. His interest lay in the workings of academic geography as an imagined community, with its internal power structures, territorial disputes, contested boundaries and paradigm shifts. In other words, he was more interested in mapping out the trajectory of the

discipline, and its identity, rather than venturing into forgotten, if not obscure, distant pasts. And yet, Ron's insistence on and ability to see the big picture while not losing sight of local specificities, his mastery at surveying, synthesising and harmonising uncannily resonate with the very origins of western geography; with a world in which geography and human knowledge itself were understood as a perfectly integrated whole, and in which, ironically, modern disciplinary boundaries were yet to be drawn, or perhaps even imagined (Lowenthal 2019).

A distinctive trait of the Graeco-Roman geographical tradition, in which the roots of western geography can be traced, was its dual approach. Two ways of looking at the Earth were recognised in antiquity as subject to two distinct, yet complementary, modalities of description and mapping. On the one hand, was the measurement of the Earth as a whole; on the other hand, was the description of the contents of the little portion of the planet inhabited by humans, with its diverse regions, places and peoples. The former was the subject of geography (which was understood as a branch of geometry), the latter of chorography. In his influential *Geōgraphikē Yphēgēsis,* the second-century Alexandrian astronomer Claudius Ptolemy traced a basic distinction between these two modes of description (Berggren and Jones 2000).

Geography was concerned with the cartographic representation of the Earth. It was, in his words, 'an imitation through drawing of the entire known part of the world together with the things that are, broadly speaking, connected with it' (Ptol. *Geog.* 1.1). Geography was linked to cosmography (the description of the universe), for it relied on the use of celestial coordinates to create a grid (latitude and longitude), upon which locations on the surface of the globe could be plotted. Ptolemy's *Geōgraphikē yphēgēsis* mainly consisted of instructions for drawing such a map, including how to project the sphere of the terrestrial globe on to a flat surface, and a list of no less than 8,000 sets of coordinates of locations in the then known world. Geography was therefore quantitative in nature. As such, it was the remit of scientists, whose task was that of constructing models of the Earth through the abstract rules of geometry and mathematical calculation. In short, geography set the pre-condition for Ron's 'horizontal theme' – for seeing the world from above and in its entirety.

Chorography, by contrast, engaged with the form of localised regions and their places. Unlike geography, it did not require mathematical skills, nor any specific training other than the basic artistic (or literary) skills necessary to portray the *qualities* of regions and places. The chorographer may have been a painter, a poet or a scholar of world history. Whereas the task of geography was 'to show the known Earth as a single and continuous entity', chorography set out 'the individual localities, each one independently and by itself, registering practically everything down to the least thing therein (for example, harbours, towns, districts, branches of principal rivers, and so on)' (Ptol. *Geog.* 1.1). To illustrate the integration between geography and chorography, Ptolemy used an effective body metaphor. 'The purpose of chorography', he argued, 'is the

description of the individual parts, as if one were to draw merely an ear or an eye; but the purpose of geography is to gain a view of the whole, as, for example, when one draws the whole head' (Ptol. *Geog.* 1.1). As with the head and its organs, geography and chorography were thus naturally interlocked.

A similar metaphor was used by Strabo of Amaseia (63 BCE–23 CE), who defined his *Geōgraphia* a *kolossourgia,* 'a *kolossos* of a work' (1.1.23). A colossus is a giant statue, and the point of the comparison, the geographer explained, was scale. This time, however, the metaphor was used to conceal, rather than highlight, chorographic detail. Just as a colossal statue produces in the mind of the observer an overall impression, so Strabo intended his *Geōgraphia* to represent the world as a single whole (Pothecary 2005). This initial statement seems nonetheless to contradict the rest of the work. Each of the books (or group of books) of the *Geōgraphia* is indeed devoted to a particular region of the *oikoumenē*, which is described in painstaking detail, including its people, places and the notable events attached to them.[2]

As with Ptolemy's head metaphor, Strabo's use of a statue metaphor evokes the integration of different parts of the body, and thus of different scales and modes of description. Geometry and astronomy, he argues, are 'absolutely indispensable in this science [geography]'. Without their assistance, 'it would be impossible to be accurately acquainted with the configuration of the Earth; its climata, dimensions, and the like information' (1.1.20). While theoretically Strabo's understanding of geography matched Ptolemy's, in practice, however, his work was fundamentally different. Strabo's *Geōgraphia* was meant to assist the statesman, rather than satisfy the intellectual curiosity of the scientist-philosopher. If the latter delighted himself in astronomical observations and in the speculation on the causes of celestial phenomena, the former, Strabo argued, 'can have no leisure, or very little, for such pursuits' (1.1.21). What mattered to the statesman was practical information about places and regions, such as the morphology of their terrain, their people, kind of government, resources and history.

While bearing a title akin to that of Ptolemy's overwhelmingly quantitative work, Strabo's *Geōgraphia* was thus quintessentially qualitative and chorographic. It was an encyclopaedic description of regions, places and people of the *oikoumenē* 'composed in lucid style, suitable alike to the statesman and the general reader, after the fashion of history' (1.1.22). Trained as a historian rather than as a scientist, Strabo, unlike Ptolemy, was not interested in creating a mathematical model of the world, but rather a 'chorographic table' (*chōrographikos pinax*) comprising 'only those things that are worthwhile from a social, political or philosophical point of view'; in other words, a literary map full of peculiarities that are 'worth being remembered' (*mnēmēs axia*). His task was idiographic, which is, to select the *idiōmata tēs chōras* (the properties, peculiarities or remarkable features of a region) and formulate an exposition of local differences (*diaphoras topōn*) (*Geog.* 1.16, 1.22, 1.14; see van Paassen 1957 p. 17). While the geographer set points or positions within a unitary space, the chorographer took any such space as already diversified into concrete places. He viewed regions through their constituent places, and

not as simple blocks of space. In other words, 'the region resid[ed] in its own places' (Casey 2002, p. 167).

Chorography then was the description of the phenomena of tangible place, whereas geography was a generalised science (Olwig 2001, p. 99). The difference between geography and chorography, however, did not simply lie in scale and mode (that is, quantitative vs qualitative). It was also a matter of perspective. Geography required a detached all-seeing eye. By contrast, a systematic description of individual places and their peculiarities 'after the fashion of history' implied their serial ordering in a linear narrative sequence. Strabo thus organised topographic and ethnographic observations as a succession of chorographic segments fitting a universal geography (Koelsch 2004, pp. 508–509). In this, he followed a long tradition of perceiving and describing space from ground level as a chain, or string, of memorable places and place-events.

2.2 Writing places: chorography and the *periplous*

Strabo's chorographic approach can be traced as far back as to Homer's *Odyssey* (one of his principal literary sources). Ulysses' island hopping at the edges of the inhabited world does not simply shape the narrative of the poem; it also gives expression to a specific perception of space from ground, or rather sea, level. Homer conceived of the journey as a sequence of episodes, or place-events. Space and time were not perceived as continuous or homogeneous, but always in terms of destination points. 'What existed in the interstices between these points of interest did not concern him' (Roppen and Sommer 1964, p. 19). The sea was pure movement measured in days of navigation, rather than described. By contrast, islands and coastal locations were places painted in vivid colours, and each was ascribed a distinctive personality. From the sky-scraping cliffs in the land of the giant Laestrygonians to Circe's abode in the dark wooded glens or the sensual landscape surrounding Calypso's cave, the strange topographies of each island (or place) encountered by Ulysses embedded specific qualities that echoed the nature of their monstrous inhabitants. Mapped onto the archetypal self-enclosed space of the island, these *topoi* thus functioned as vivid signposts and effective narrative containers linked to each other through the course of Ulysses' sea voyage.

Homer's narrative reflects an experience of space largely shaped by cabotage, or coastwise navigation, the customary mode of transport in the ancient Mediterranean. Until the invention of steam, the open sea and its boundless horizon were feared and generally avoided. Sailors preferred to keep close visual contact with the coast. Homer's Aegean was especially suitable to this mode of navigation. Its surface was 'so broken up by peninsulas and islands that a ship could not go farther than forty miles from the shore. Moreover, owing to the prevailing high relief of the land, it was always in sight of peak or range in the clear summer weather' (Semple 1932, p. 587). Ancient sailors

thus imagined and experienced the Aegean and the Mediterranean itself as linear sequences of places, rather than as blank surfaces to be crossed or as organic units envisaged from above. Sailing close to the seashore, steering by landmarks, and putting in at night, meant slow but steady progress. This was in line with the main pattern of ancient commercial navigation, which was not primarily destination-conscious, but 'more like a travelling bazaar, treating each stop as an opportunity for trading' (Salway 2004, p. 50).

To assist navigation, Greek and Roman seamen did not use maps, but *periploi* (literally meaning 'circumnavigations'). These were lists of ports, river mouths and coastal markers arranged in the order the sailor could expect to encounter them along a shore, with approximate distances and other practical information (Dilke 1987; Drjivers 2018). While the earliest *periploi* date from Greek Classical times, the genre was still very much alive in late antiquity. Examples range from Menippus of Pergamon's *Periplus maris interni* (30 BCE), including the Black Sea coast, to the *Ora Maritima* of the fourth-century senator Rufus Festus Avienus, which describes the trait of coastline from Marseille to Cadiz (Murphy 1977). A famous yet incomplete Greek *periplous* likely to date around Menippus's is the *Stadiasmus maris magni*. Starting from the islet of Pharos at Alexandria, it records distances in stades between harbours and watering facilities around most of the eastern Mediterranean, covering the North African coast as far west as Utica in Tunisia (Dilke 1987, p. 237). Shrines are also noted, perhaps because of their visibility and therefore their function as valuable landmarks for coastwise navigation (della Dora 2022).

All these *periploi* present detailed yet impersonal accounts of the features of the coast, unadorned as they are of historical or mythical references. The impression on the reader is that of 'a functional product without any literary pretensions' (Salway 2004, p. 67). For this reason, the genre has been usually consigned to the history of wayfinding and 'commonsense geography' (Akerman 2007; Geus and Thiering 2014). *Periploi,* however, were not simple navigational tools. They offered both a template and a true mine of information for chorographic description. This is especially apparent in Hellenistic *periēgēseis*, descriptive journeys in prose or in verse around a place or an area, or even the whole *oikoumenē*, based on the *periplous* mode (Drijvers 2018, p. 366).

The best known of such descriptions is Dionysius of Alexandria's *Oikoumenēs periēgēsis* (second-century CE) (2002), the only major geographical poem from antiquity that has come down to us. In 1,200 Greek hexametres, Dionysios presents the reader with nothing less than a description of the entire known world. The author admits that he has never travelled, hence his work is not based on detailed first-hand observation, but on authoritative literary sources and on *periploi*. After all, the goal of the poet was not to provide guidance for navigation, but to offer his readers (including school pupils) a systematic and accessible description of the world. How was this achieved?

The poem encompasses two types of perspective. In the opening, the reader is offered a view from above, whereby the inhabited world appears as a sling-shot-shaped island encircled by the ocean (cf. Hes., *Theog.* 775; Hom., *Od.* 20.56). Throughout the *periēgēsis*, the outlines of countries and continents are compared to geometrical and other familiar shapes. For example, Libya is likened to a trapezium, Ethiopia to a leopard skin, and so on, a mnemonic technique also employed by Strabo (Mangani 2006, p. 42). More frequently, however, we are taken to ground level and invited to follow imagined segments of a route. In this hodological space, 'ethnographic and geographical objects are listed paratactically, from the perspective of an imaginary subject moving around in space' (Ilyushechkina 2012, p. 131). Like in the *Odyssey* and in Strabo's *Geōgraphia*, the experience of space is therefore dictated by an imagined progression (or circumnavigation):

> Inland of [Neapolis] the Lotus-eater dwell, a people who
> welcome strangers.
> Here the wily Odysseus once came in his wanderings.
> In that region you can see the deserted homes of the
> Nasamones who have perished, for the Ausonian spear
> destroyed this people who paid no heed to Zeus.
> After them are the Asbystae, inland,
> and the precinct of the Libyan god, beneath thick sand,
> and Cyrene of the fine horses, seat of the Amyclaeans.
> Nearby are the Marmaridae who extend before Egypt,
> and the Gaetuli beyond them and the neighbouring
> Nigretes.
> Next after these are the Phaurusii, and beyond them the
> land is inhabited by the innumerable Garamantes
> (vv. 200–210).

The linear horizontal movement of the imaginary journey connects places that are layered with mythical narratives, particularly from the *Odyssey*. These associations had a practical function. For the ancients, memory, vision and movement were deeply interconnected. According to Plato and Aristotle, recollection rested on the seeing of internal pictures imprinted in memory and was stimulated best through serial visualisation. Aristotle recommended memorising items sequentially from a starting place, so that 'by remembering the flanking items you will be able to remember what comes in between'. People, he argued, recollect starting from places 'because they go quickly from one thing to another' (Arist., *De mem.* 452a12). Space was thus conceived as encompassing empty *topoi* in which specific images were placed. Such images evoked memories. The sequential narrative of the *periplous* model, together with the vivid description of places, facilitated the process of memorisation. This can be seen especially in the mnemonic recitation of long epic poems, such as the *Odyssey* (Foulke 2016; Mangani 2006).

This spatial model was especially well-suited to chorographic description. In the *periplous*, places are sited in relation to one another, rather than to an externally imposed grid. Dictated by the movement of the coastwise journey, their sequence, defines a region. This relationship is best exemplified in Pomponius Mela's *De chorographia* (44 CE), the earliest geographical work of any kind that survives in Latin today (Romer 1998, p. 5) and which, similarly to Dionysios' poem, follows the narrative of a *periplous* of the entire known world.

Mela envisaged the world as a gigantic puzzle which he felt tasked to order (*De chor.* 1.1). The sequentiality of the *periplous* structure enabled him to achieve this goal. Having been expounded the shape of the world and its division in continents (1.1–24), the reader is taken around the coastlines of the Mediterranean and of the Atlantic Ocean, sailing around 'both the inside and the outside of the known world and return[ing] to that place whenever [the journey] begun' (1.24). Descriptions of each region usually start from the coast and subsequently advance into the interior. Movement between natural landmarks, peoples and place-events is articulated through words of spatial and temporal progression, such as 'next comes', 'farther on', 'from there to', 'from there on', 'moving right along', 'after that' and so on. More than Dionysios's, Mela's is a repetitive way of moving through space – each place has topographical features and resident peoples. Like Strabo, however, Mela picks up the features he finds interesting and often complements them with historical associations, in order to define places and construct 'a multi-layered world alive with mnemonic components' (Gee 2020, p. 56).

2.3 Hodological space: itineraries and the aesthetics of encyclopaedism

The construction of regions (*chōrai*), and indeed of the whole inhabited world, as concatenations of places was not the preserve of professional geographers, but the product of a widespread spatial sensibility. In discussing hodological space, Alex Purves (2010), for example, takes Herodotus as the primary model and literary example of walking (or travelling) as a means of tracing a literary route through places: 'Herodotus does not stand still to make his observations but moves from place to place, and the flow and direction of his narrative is often marked by the linear thread of pedestrian walking through space' (p. 122). Likewise, William Hutton (2005, p. 118) characterises Pausanias' perception of space as a sort of 'topographical tunnel vision', whereby attention is focused on the itinerary he is following and little regard is paid to the surrounding countryside. In Caesar's commentary, others noted, Gaul is similarly reduced to a sequence of individual destinations signposting his military advance and devoid of any reference to cardinal points (Gee 2020, p. 52; Feldherr 1999).

Linearity and sequentiality also characterise the movement through space of Apollonius Rhodius' Argonauts (Thalmann 2011) and of Virgil's Aeneas,

even in the distant realm of afterlife (Feldherr 1999). And many other examples could be added. In all these instances, places become beads on the string of one's progress. These Greek and Roman authors strike for the relentless linearity of their prose. In their descriptions, they tend to keep to a perspective which takes into account 'only the way how to get from point A to point B without looking left or right, let alone giving a survey of the landscape the path is winding through' (Poiss 2012, p. 145).[3] When bird's- or God's-eye views are introduced, they are usually integrated in this linear narrative.

The sequential, linear view is nonetheless best epitomised not in prose or verse, but in *itineraria*, the Roman land-based counterparts of *periploi*. Indeed, it is this genre that has usually been drawn on by scholars to argue that 'the Roman worldview was hodological and that Romans perceived geographical space principally not by shapes but by the lines of the itineraries' (Drjivers 2018, p. 364; Whittaker 2004). Used for both military and civil purposes, *itineraria* were lists of settlements, hostels, staging posts and other stopping places along a given land route, with the distances between them. Whereas the *periplous* implied a circular movement (*peri-*) dictated by the coastline, the *itinerarium* followed the artificial straight line of the road. The land itinerary was indeed mainly a Roman phenomenon born out of the need to navigate the empire's extensive road network (Salway 2001).

As with *periploi*, itineraries varied in scope: they could cover traits of specific routes or embrace the entire extent of the empire, the first to reach *ad fines orbis terrarum* (to the edges of the Earth). The earliest surviving Roman itineraries are the Vicarello cups (first-century CE), four silver vessels inscribed with a list of 104 successive stopping points from Cadiz to Rome via the Po valley, with the mileage between them (Dilke 1987, p. 235) (Figure 2.1). In late antiquity, itineraries were probably available in codex form, which would have eased consultation en route. Among the most elaborate examples that have come down to us is the *Itinerarium Antonini* (probably compiled in the version as we have it at the end of the third century but likely to date back to early imperial times). This itinerary encompasses a series of routes based on the Roman network of roads and the provincial system, possibly of strategic and practical interest to the emperors of the Antonine dynasty (Salway 2001, pp. 39–43; Drijvers 2018, pp. 363–364).

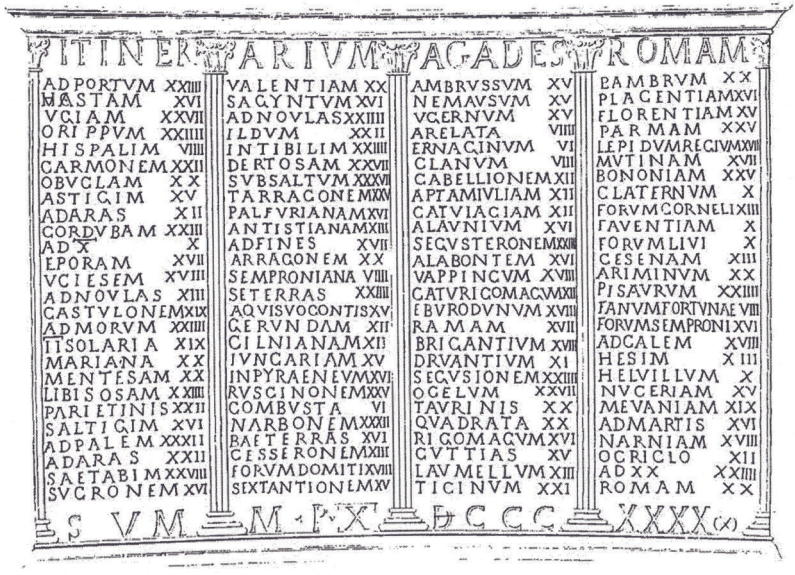
The reason why itineraries, like *periploi*, usually came in textual (rather than graphic) form was purely practical. The main mechanism of wayfinding has always been oral, Catherine Delano-Smith (2006) observes, 'Once the traveller was on the road, all maps were redundant so long as he had his itinerary. Regular checks with other travellers and local people at meeting places such as inns, relay, and coaching stations, and river crossings ensured that the traveller was following the right road' (pp. 45–46). A map would have therefore not added much to the traveller's experience. Logistical demands nonetheless did not prevent the emergence of *itineraria picta*, though these are likely to have had a decorative or symbolic, rather than practical, function.

Figure 2.1a: Vicarello cups



Source: Ryan Baumann, The Votive Deposit of Vicarello/ CC-BY 2.0.

Figure 2.1b: Text on one of the Vicarello cups



Source: Stipe votiva delle Acque Apollinari / CC0.

Such was the case with the Peutinger table (Codex Vindobonensis 324) (Figure 2.2), a seven-metre medieval parchment copy of the only known map of the road network in the fourth-century Roman Empire. Based on textual *itineraria,* the map features an extensive system of routes stretching from Britain to India as a series of roughly parallel lines running across blank spaces, together with rivers and mountain ranges. Destinations and staging posts are marked in order of travel with numerical distances between them. The map was likely to have been commemorative in purpose and to have been possibly inspired by a large map displayed on the walls of the Porticus Vipsania (or 'Porches of the empire') commissioned by Agrippa to celebrate his son-in-law Octavian's victory over Antony and Cleopatra at Actium and to display the extension of the empire to the public (Dilke 1987). Severely foreshortened (north–south) and elongated (east–west), the map squeezes the ancient world into a narrow strip. Italy features horizontally. The Mediterranean is reduced to a thin ribbon of water. As in textual itineraries, the arrangement of places is ruled by topological principles, rather than being based on actual locations and distances. What stands out is the linearity of the space these places and routes articulate. The eye is pushed from one staging point to the next, along the east-west axis. Scale does not apply for anything that lies along the route (Gee 2020, p. 62).

Despite its apparently straightforward linear idiom, the map conjures up a complex and distinctive Roman worldview, with its presences and its silences. It constructs a powerful dialectic between centre and periphery. The former is marked by a striking allegory of the capital to which 'all roads lead'; the latter with sparse settlements and exotic ethnonyms bordering the edges of the known world and evoking the remote and fuzzy frontiers of the empire (Liccardo 2020). To its contemporary viewers, the Peutinger

Figure 2.2: Section of the Peutinger table, from Istria to Rome



Source: ANL/Vienna Cod. 324, segm. 4 (Österreichische Nationalbibliothek) / CC0.

table gave expression to Roman *imperium* in both the descriptive and prescriptive sense, that is, as a schema to be actualised by bringing order to the periphery (Feldherr 1999, p. 90). Besides its insistent horizontality, however, the Peutinger table was also a vertical text overlaid with historical strata in the best chorographic tradition. While it might appear as a simple roadmap, it encompasses cities that no longer existed, as well as names of peoples belonging to different contexts and ages (Liccardo 2020). By moving their gaze from one station to the next, Roman citizens would have undertaken an imaginative journey to the edges of empire and Roman history without ever leaving the capital.

The Peutinger table has been characterised as an 'encyclopaedic ekphrasis of the empire' (Talbert 2010, p. 154). Its historical stratification responds to an 'aesthetics of accumulation' characteristic of Late Antiquity (Johnson 2016). The *itinerarium* format (on which the Peutinger table was based) provided a natural mode for accumulating and structuring present and past knowledge. Given its linear narrative and possibility to be accessed at random points to start a journey, new data could be easily incorporated in the text, effectively making it an open archive (Drijvers 2018, p. 364). This function was expanded with the Christianisation of the empire, as biblical layers added on classical ones and pilgrims set out to uncover them. As the familiar *oikoumenē* was incorporated in a universal vision of the cosmos and mobility increased, geographical awareness augmented and the world itself became 'a vast container for the knowledge of the past' (Johnson 2016, p. 29).

Christian pilgrims travelled the same road system as other Roman wayfarers and used *itineraria* to navigate it. The genre was nonetheless appropriated and adapted to their own needs and worldview. The first surviving Christian itinerary was produced by an anonymous pilgrim who journeyed from Bordeaux to Jerusalem in 333 CE (that is, only two decades after the Edict of Milan, which permanently legalised Christianity within the Roman Empire). Here, the pilgrim moves through a rectilinear geography in which the road and its markers of progress are the main protagonists. As in Pausanias' 'tunnel vision', landscape in the modern scenic sense is almost completely absent from the text; the land remains 'as faceless as the traveller' (Leyerle 1996, p. 119).

> Change at the Twelfth [milestone], 12 miles;
> Rest-stop at the borders, 12 miles;
> Change at the Eighth [milestone], 8 miles;
> City of Turin, 8 miles;
> Change at the Tenth [milestone], 10 miles;
> Rest-stop at Quadratae, 12 miles (Jacobs, *It. Burd.* [2021] 556–557).

As the Holy Land begins to loom on the pilgrim's horizon, however, an increasing number of details, such as mountains, rivers and points of interest,

creep into the list of stations passed and horses changed, together with historical references.

> Change horses at Peripidis, 10 miles. The poet Euripides is buried there.
> …
> City of Tarsus, 12 miles. There was the Apostle Paul (Jacobs, *It. Burd.* [2021] 604).

As the anonymous pilgrim further approaches his destination, simple mentions of holy landmarks are enriched with the biblical narratives associated with the places. Descriptions become increasingly longer and more detailed as the pilgrim enters Jerusalem. Unsurprisingly, the most descriptive parts of the account centre on famous biblical architectural landmarks, such as Constantine's basilica of the Resurrection (the church of the Holy Sepulchre). The Bordeaux itinerary has therefore been envisaged as an ideological innovation signifying the new Constantinian empire of which Jerusalem was the religious centre (Drijvers 2018, p. 364). Even before that, however, the itinerary was an archive. It was a collection, or chorographic map, of *loci memoriae* evoking a sense of continuity with the biblical past. Bridged by the pilgrim's route, places functioned as fastening points between past and present.

The same sequential topographic narrative structures the accounts of Egeria, a Spanish nun (or pious lay woman) who travelled to the Holy Land and Sinai in 384 CE (Wilkinson 2002, 2006). As she makes clear, the function of her itinerary was above all mnemonic and meditative. It was meant to enable her Sisters who remained home 'better [to] picture what happened in these places when you read the books of Holy Moses' and thus better to imprint them in their minds (*Eg.* 5.8). Egeria exploits the peculiarities of places and vivid colours of landscape scenes to maximise the mnemonic power of her account. As compared with the Bordeaux pilgrim's account, here the terrain assumes three-dimensionality and colour. The narrative, however, continues to be ruled by the restless linearity of the *itinerarium*.

More characteristically, Egeria continues to be, above all, a collector of experiences and associations of sites with different pasts in the same fashion as a Pausanias. Descriptions are encrusted with layers of chronology and religious significance starting from the Old Testament and reaching to the present and the 'living sacred quality of the sites' by way of their contemporary holy dwellers. At each site the pious woman 'peels back' the various strata of religious associations (Johnson 2016, pp. 20–23). In this sense, the pilgrim is an equivalent to the archive: both symbolise the systematic collection and organisation of knowledge (Johnson 2016, p. 136).

Emblematically, the connection between knowledge and mobility enshrouded in the pilgrim's itinerary is evoked in Martianus Capella's characterisation of geography (Stahl 1971). For Capella, geography was the branch of geometry devoted to the mathematical measurement of the Earth, and yet at the same time it was deeply connected to the reality of the land (Lozovsky

2000, p. 23). In *De nuptiis Philologiae et Mercurii* (fifth century), which together with later works established the canon of the seven liberal arts in education, Capella describes Geometry as 'a distinguished-looking lady, holding a geometer's rod in her right hand and a solid globe in her left' (6.580), as well as a 'tireless traveller' wearing walking shoes reduced to shreds by her restless journeys around the globe. These attributes reflect the dual nature of geography highlighted by Ptolemy and Strabo: both the measurement of the Earth and the description of its surface. The globe implies mathematical detachment; the worn-out shoes and dusty feet bring to mind the horizontal ground-level movement of ancient chorographers and late antique pilgrims, such as the Bordeaux pilgrim and Egeria. Capella's evocative allegorical portrait also reminds us of the intrinsically mnemonic, as well as cumulative, nature of chorography. 'There is no portion of the Earth's surface', Geometry proudly proclaims, 'that I could not describe from memory' (6.588).

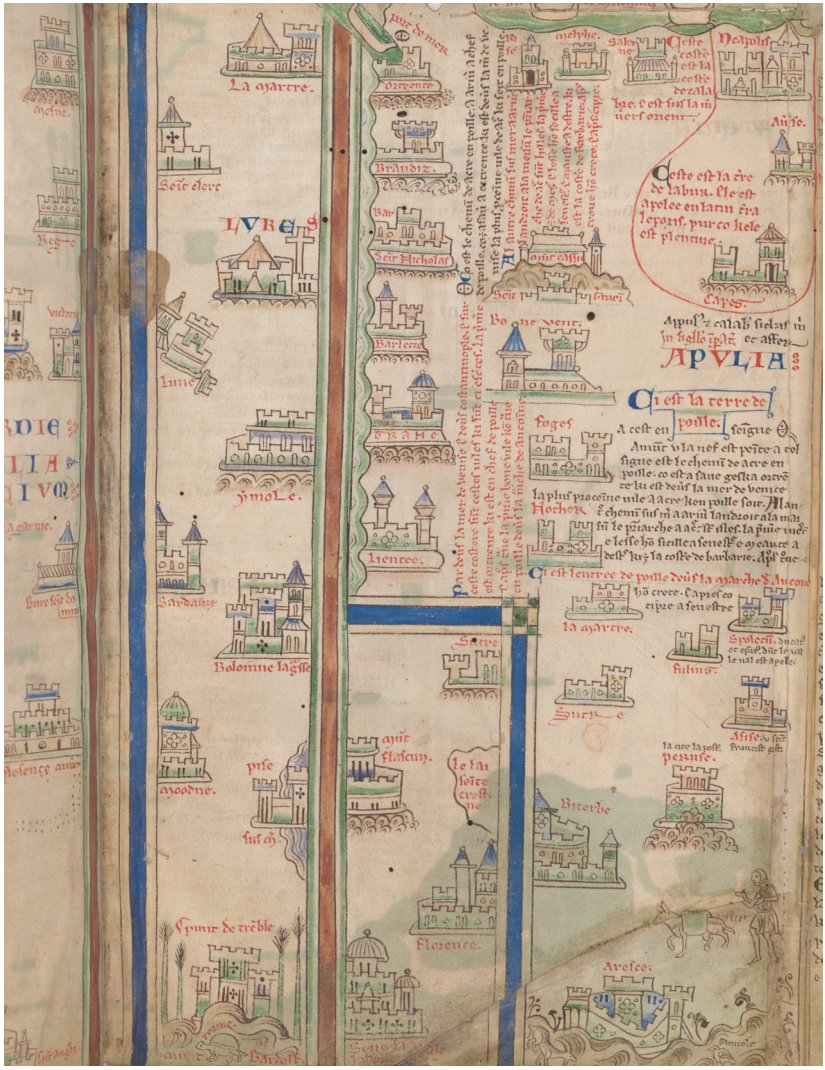
2.4 Topographies of memory

In the Middle Ages, the word 'chorography' largely fell out of use for many centuries to surface again only in the Renaissance with the rediscovery of Ptolemy (Simon 2013). The aesthetics of accumulation of the late antique itinerary nonetheless expanded into even more extensive lists, such as the eighth-century *Ravenna Cosmography*, a collection of over 5,000 place names covering the world from India to Ireland (Lozovsky 2018), and into a wealth of encyclopaedic works.[4] The latter ranged from Isidore's seventh-century *Etymologies* (Merrills 2013) to the works of proto-humanists such as Giovanni Boccaccio. His *De montibus, silvis, fontibus etc.* (1373), for example, was a sort of dictionary of ancient toponyms which, according to Giorgio Mangani (2006), were to act as *loci mnemonici* and assist scholars of Greek and Latin literature in their journeys through the texts. Petrarch likewise conceived his *Itinerarium in terram sanctam* (1358) as a virtual pilgrimage meant to evoke and help memorise historical characters, as well as sacred and profane narratives. The itinerary format facilitated the task, for mnemotechnic is akin to the journey: both are structured through stations. As with travel, *ars memoriae* rested on the creation of intervals along a continuum, so to facilitate the memorisation of data thanks to their classification (Mangani 2006).

More characteristically, the *itinerarium* and the *periplus* both translated into visual representations, including sacred itinerary maps and portolan charts. While these genres originated from the practical experience of travel, they both shared a mnemonic and meditative function. This was facilitated by their serial topographies articulated along the straight line of the road, or the irregular windings of the coastline. Nowhere is this seriality more visible than in the itinerary maps of Matthew Paris, a Benedictine monk who spent most of his adult life in the Abbey of St. Albans, north of London. His seminal work, the *Chronica majora* (1250 c.), was a general history of the

world and it is deemed one of the most popular medieval English historical texts (Akerman 2007). Paris' maps form a visual itinerary from London to Rome and Jerusalem bound together with this text, as a spatial compendium to the monk's annalistic compilation. What immediately strikes the viewer is the centrality of the road (Figure 2.3). Running perpendicularly from the

Figure 2.3: Matthew Paris, *Chronica majora*. Itinerary from Italy, Rome and Apulia, 1250 c



Source: Cambridge, Corpus Christi College Library, ms. 26, fol. 3r. Courtesy of the Parker Library, Corpus Christi College, Cambridge / CC-BY 4.0.

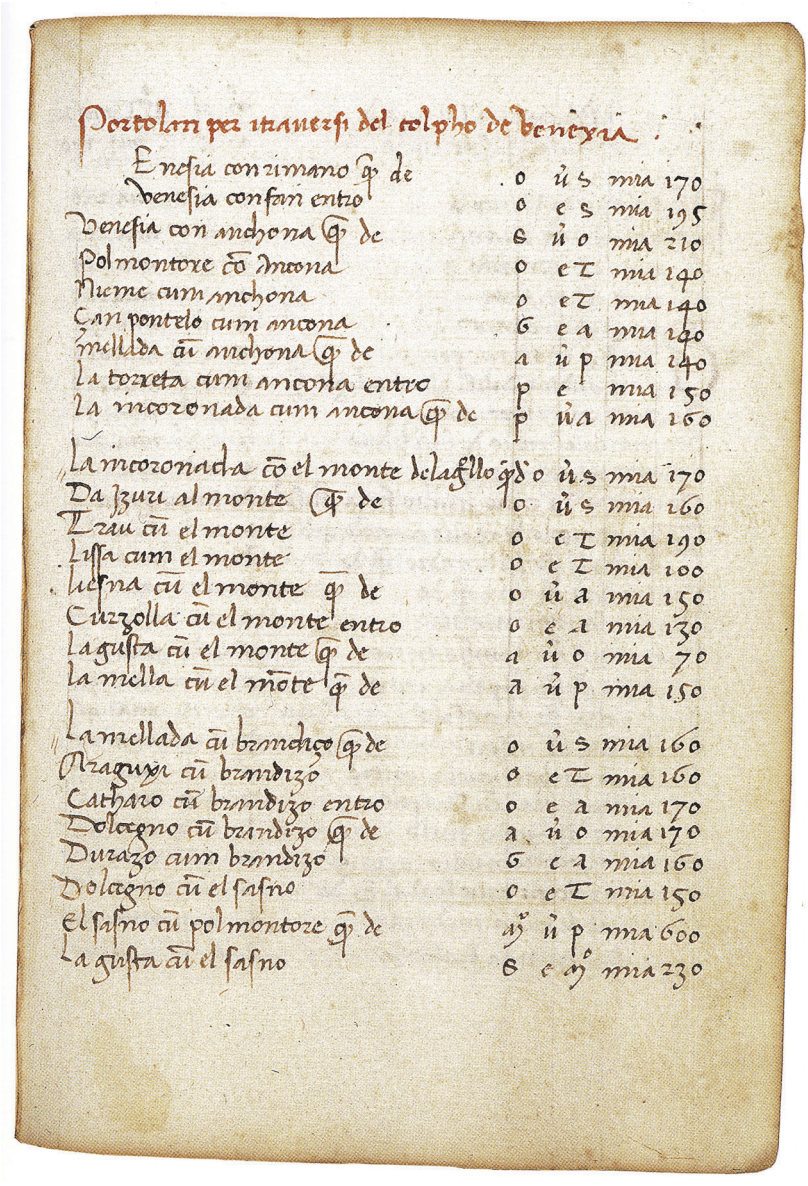
bottom to the top of the page, the stark blue (or golden) line links cities, towns and shrines from London to the main centres of pilgrimage of the time like beads strung on a precious thread. Rather than a compendium for actual pilgrimages, the visual itinerary, it has been suggested, was likely to be used to support contemplation and enable Paris' brethren to embark on an imagined pilgrimage in which the soul could 'fly across all the kingdoms of this world, and penetrate the depths of the eastern sky' (Connolly 1999, p. 598) – and ultimately reach the Heavenly Jerusalem.

Sequential movement also characterises portolan charts, a cartographic genre that emerged and developed in the years following the publication of Paris' *Chronica Majora*. Here the straight line of the road is replaced by the irregular coastline. Rectilinear trajectories are substituted with the circularity of the *periplus*. Not least, the 'tunnel vision' of topographic narrative is combined with chorographic overview. Whereas in Paris' maps progress is enacted through the linear movement of the eye from one station to the next and the embodied act of turning the pages, Mediterranean portolan charts offer a dual perspective. They continue to construct space as a sequence of places as experienced from sea level, but at the same time they also offer a synoptic view. Unlike on Matthew's itinerary map or in chorographic written accounts, here different parts of the map are experienced as belonging to a larger geographical whole.

Portolan charts developed with the introduction of the compass to navigation. Western *portolani* were lists of coastal locations akin to ancient *periploi* but including compass bearings (Figure 2.4). Since the late 13th century, they started to be translated graphically into navigational charts. The translation from text to graphic image imprinted its mark on the characteristic listing of names that follows the meandering coastline (Cosgrove 2001, p. 85). As with ancient *periploi* and contemporary *portolani*, portolan charts mapped the edges of known space as a sequence of stops. Unlike in their textual counterparts, however, on portolan charts names of ports were no longer simply listed, but spatialised and disposed perpendicularly to the coast towards the interior (Figure 2.5).

Portolan charts were the craft of Mediterranean sailors. They were constructed from the sea, from a mobile shipboard perspective. As such, the interior of the continents was initially left blank: what did really matter to the seafarer were coastal features, harbours (the most important marked in red, the others in black), islands, reefs and sea routes. Unlike Ptolemaic maps, portolan charts were not constructed astronomically. They did not rely on a set of fixed pre-existing coordinates, but, like the *periplus*, on places and landmarks encountered en route. Edawrd Casey (2002, p. 178) likened the resulting string of names to 'graceful arabesques' whose reading recreated the physical experience of coastwise navigation: 'even to read these names, I have to keep turning the map around and upside down, since they are orientated entirely to the twisting coast'. It is the coastline that orients the viewer's gaze, that serves as a *costola* (or rib), 'a definitive structure of a body by which it contains the viscera within it' (Casey 2002, p. 180).

Figure 2.4: Section of portolan from Michael of Rhodes' book featuring the Gulf of Venice, 1434



Source: McGee, David, ed., The Book of Michael of Rhodes, Volume 1 – Facsimile, F. 206b [p. 445], © 2009 Massachusetts Institute of Technology, by permission of The MIT Press.

Figure 2.5: Mateus Prunes, *Portolan Chart of the Mediterranean.* Majorca, 1559



Source: Library of Congress Geography and Map Division / CC-BY 4.0.

With their dual focus on places (the 'beads' strung along the coastal 'thread') and on region (usually the Mediterranean), portolan charts are both topographic and chorographic. They depict a limited area known by perception and memory, and select certain places from the whole. The charts are nonetheless given the appearance of mathematical regulation by the superimposition of one or more points from which a net of black and red rhumb lines are constructed (Steinberg 2005). These straight lines cutting across the blank sea surface represent the 32 directions (or headings) of the mariner's compass from a given spot. Practically speaking, if a sailor wished to travel from a point on one shore to a point on the opposite shore, they should follow the rhumb line that paralleled the desired route, set the ship's compass to that route and proceed by dead reckoning, adjusting the course to winds and currents, as necessary.

Even if empowered by the compass and the portolan chart, pre-modern sailors nonetheless continued to avoid dead reckoning when possible. Portolan charts were thus used side by side with their textual counterparts and the sea continued to be experienced as a sequence of coastal places, rather than empty geometrical space. Navigation remained deeply reliant on the coast and on the visual memory of conspicuous landmarks encountered along the route. The open sea continued to be feared, and probably even more so than in antiquity. Death at sea indeed precluded the possibility of burial. It therefore prevented the soul from receiving those forms of commemoration that could have helped a Christian receive the forgiveness of sins for the life to come (Bacci 2004).

Onboard worship was closely intertwined with the experience of coastal navigation and the topographical perception of space, to the point that certain prayers took the form of true 'sacred portolans' (Bacci 2004). For example, the 15th-century *Sante Parole* (Holy Words) consisted of the sequential invocation of saints associated to specific places and shrines along the Mediterranean and Atlantic coasts in the same order in which they were encountered while sailing anticlockwise from Alexandria to the island of Zuid-Beveland in the Netherlands. The prayer was to be recited after the coast had gone out of sight for a few days. The invocation of each saint was accompanied by the refrain 'Die' n'ai' (God help us), in the hope that some familiar landmark would eventually loom on the empty horizon. By recalling the sequence of ports and famous coastal shrines, the sailors would be able to recall all their holy protectors and ask for their miraculous intervention.

Over the centuries, the space of the portolan chart itself turned into a sacred space, as it started to be populated with features copied from Books of Hours and ex-votos, especially Madonnas and Pieties, or iconographic conventions inherited from medieval *mappae mundi*, such as the Red Sea painted in red, for example. While their origins are rooted in the open-air geographies of navigation, most of these elaborate late portolan charts never left the shore. Rather than simple navigational tools for sailors, they were increasingly designed as deluxe commodities and prized visual chorographies for the libraries of princes and merchants, for wealthy collectors and bibliophiles, or for the education of young patricians.

Unlike their textual counterparts, portolan charts enabled creative combinations of iconography, forging 'representations within representations' (Casey 2002, p. 185). Through sequential spatial visualisation, the erudite beholder would better memorise places and events he encountered during his literary or biblical journeys. Maritime stations and other topographic features thus became *loci mnemonici*. Empty continents' interiors started to fill with *mirabilia* and *memorabilia*, such as exotic animals, monstrous creatures or fabulously dressed men (Macrì 2007). Portrayed in vivid colours, these images triggered literary memories of distant places armchair travellers would never see but in their imagination.

2.5 Insular chorographies for an expanding world

In Renaissance Italy, the antiquarian gaze of the pilgrim and the mobile shipboard perspective of the sailor combined in the *isolario* (or island book), a genre destined to become a privileged expression of a rapidly expanding world. *Isolarii* were catalogues of islands composed of maps and text. Typically, they featured a map of each island on one page, alongside notes of historical, geographical and anthropological character, as well as local legends and other curiosities (Figure 2.6). Mimicking the scalloped coastlines of portolan

Figure 2.6: Thasos and Mount Athos in Henricus Martellus, *Insularium illustratum*. Florence, 1480–1490 c



Source: British Library Collection, Add. MS 15760, fols. 41v–42r / CC0.

charts, and yet entirely devoid of any reference to the continental coast, each island emerged as a disconnected entity and a self-contained world. The only thread linking them was the sea journey.

As with the portolan chart, island books emerged out of navigational practice, this time in the 15th-century Aegean. Here, among its myriad islands, Venetians and Genoese had long woven their extensive commercial networks (della Dora 2008; Tolias 2007). Unlike portolan charts and *periploi*, however, *isolarii* were not meant for navigation at sea, but for armchair voyages responding to 'a vision of the island coloured by Classical narratives of the marvellous and the monstrous' (Cosgrove 2001, p. 91). Unlike pilgrims' *itineraria*, island books were not produced for specifically religious or spiritual purposes either, but for the sheer intellectual pleasure of humanists and lovers of antiquity.

The genre was first pioneered in the 15th century by Cristoforo Buondelmonti, a Florentine priest and antiquarian who spent 16 years travelling in the Aegean searching for manuscripts and antiquities. His *Liber Insularum Archipelagi* featured 66 Greek islands in the order one would encounter them at sea, including distances in miles between one island and the next. It blended maritime practical knowledge (traditionally confined to *periploi, portolani* and portolan charts) with antiquarian erudition by way of sequential movement and topographic detail. The *Liber* thus became a model for subsequent island books, and ultimately for imagining and describing a new, expanding world.

As a genre, the *isolario* continued to respond to medieval encyclopaedism and rest on *ars memoriae*. Some have seen in it a cartographic continuation of the western medieval tradition of *bestiari* (catalogues of beasts), *erbari* (catalogues of herbs) and *lapidari* (catalogues of stones) (Lancioni 1992). Mangani (2006) has similarly identified the precursors of Buondelmonti's *Liber* in 14th-century thematic geographical collections, such as Boccaccio's *De montibus*, Domenico Silvestri's *De insulis et earum proprietatibus*, or Domenico Bandini's *De populis, de aedificis, de provincis, de civitatibus, de insulis*, as well as in books of miracles, costumes, battles, famous men, and the like. Buondelmonti, Mangani argues, was simply continuing the philological project of these encyclopaedic works when he complemented his text with visual mnemonic aids, the maps. His perception of geographical knowledge was akin to 'a system of *laudes* of places connected to the cult of *memorabilia* and great men who made them famous through their *exempla*' (Mangani 2006, p. 160).

The origins of the island book and its chorographic nature can also be linked to the rediscovery of Ptolemy's *Geōgraphikē Yphēgēsis*. While the work of the Alexandrian astronomer was familiar to the Byzantines and the Arabs, it remained unknown in medieval western Europe. It only reached Italy at the end of the 14th century by way of the Greek émigré Emanuel Chrysolaras, who, together with his pupils, embarked in the Latin translation of the text. Renaissance humanists used Ptolemy's instructions to build world and regional maps based on his geometrical projections and system of coordinates.

The rediscovery of Ptolemy is thus usually taken as a 'scientific' turning point in the history of cartography and in western spatial history by large; as the transition from a topological to a mathematical understanding of space. In reality, however, the *Yphēgēsis* became initially popular in early Renaissance humanist circles for the lists of ancient place names it supplied to poets, antiquarians and storytellers, rather than as a technical treatise (Gautier Dalché 2007). In other words, it was chorography (rather than geography) that first attracted humanists.

The conceptual roots of the *isolario* can be traced back to Greco-Roman chorography both in the sense of the description of places and their peculiarities, and of regional description. Naturally enclosed by their coastline, islands had served as narrative containers since the times of Homer. In the Renaissance as much as in antiquity, the island was understood as the archetypal unit of chorographic description: unlike regions defined by arbitrary boundaries, the island was naturally separated (*chōrismenē*) from its surrounding space. In a famous graphic rendering of Ptolemy's comparison between chorography and the parts of the human head (1533), the German humanist Peter Apian therefore associates the head to the globe and the ear to an island. Conversely, some of the early island books include chorographic tables of countries and regions, alongside the maps of islands. For example, Henricus Germanus Martellus's magnificent *Insularium illustratum*, compiled in Florence between 1480 and 1490, features tables of France, Germany, Italy, the Balkans and the Holy Land, which the miniaturist copied from his Ptolemaic compilations.

Whereas the movement of the sea journey provided the narrative thread, islands elicited curiosity and wonder. Captured from a mixture of vertical and bird's-eye view, the maps in the *isolario* served as points of entry into microcosms to be explored and described. At the same time, their self-enclosure, distinctive shapes and vivid colours made them easy objects for the eye to grasp and imprint in memory. Islands were thus *loci mnemonici*, or rather, natural containers for stories, memories and myths; for *mirabilia, memoranda* and singularities (Mangani 2006). They were basic narrative units strung together like precious stones through the compiler's island-hopping journey, a journey imaginatively re-enacted by the reader as they leafed through the pages of the island book.

Their imaginative power and performative qualities made *isolarii* privileged media for the description of an expanding world during the Age of Discovery – a sort of chorographic equivalent of the Ptolemaic world maps' grid gradually embracing new continents and seas. While Ptolemaic maps emphasised a territorial mode of representation with their attention to boundaries and measure, *isolarii* freed islands from geographical coordinates and emphasised instead the qualities of place. Islands' self-enclosure enabled control over space; it opened a small window on new worlds. In 16th-century Europe, the island thus became a common trope for mentally taming expanding global space. Unsurprisingly, it was at this time that the island book market started to boom.

Mainly printed in Venice, 16th-century *isolarii* extended their geographical scope from the Aegean to the entire world by way of an outward movement – from the original core of Buondelmonti's Greek islands (familiar to humanists from their classical readings) to the exotic island worlds lingering at edges of the great oceans. Remarkably, these new 'global' island books explicitly connected chorography and topography with geography and cosmography. Benedetto Bordone, the author of the first printed island book of this kind, pledged to provide his readers with descriptions of 'all the islands and peninsulas of the world, with their ancient and modern names, … histories, tales, their varied costumes'. At the same time, he also promised to explain in which sea, under which parallel and climatic belt they were located. In his *Isolario* (1528), the harmonious interlocking of scales (the world in the cosmos, the islands in the world, places on the islands) was given visual form through a series of cartographic representations: a diagram of the Earth featuring the Aristotelian climatic belts, a map of the Mediterranean, a map of the Aegean and a world map, followed by maps of individual islands, including newly discovered ones.

Tomaso Porcacchi's *L'isole più famose del mondo* (1572) followed a similar accretive narrative, with new islands being added in subsequent expanded editions (following recent discoveries). A concluding world map brought all the parts together. After Ptolemy, Porcacchi drew an explicit distinction between the geographical and chorographical modes. The cartographic representation of the Earth, he argued, is called *mappamondo* 'as though to mean a table or tablecloth upon which all the places of the world are set' (pp. 109–110). This included the four continents, as well as its divisions in seas and regions. By contrast, he argued, woods, rivers, cities and castles were the remit of chorographic description. Mediating between these two modes and scales, the *isolario* thus became an instrument for organising expanding global knowledge. It became a sort of spatial container made of island containers, this time arranged by climatic zone (that is, according to astronomical principles), rather than through the traditional horizontal shipboard perspective.

2.6 Perambulating the nation

If island hopping became a privileged way of imagining and describing a rapidly expanding world, the road journey became the instrument for imagining the geographically self-enclosed yet temporally expanding space of the nation. Besides being the age of the opening of oceanic global space, the Renaissance was also the age of the opening of time, and more specifically, of the recovery of the classical past (Schnapp 1997). The rediscovery of Ptolemy and resurgence of chorography were indeed a direct result of this revived interest in the 'Ancients'. Combining different branches of knowledge such as history, politics and geography, chorography chimed with the ambitions of the humanist polymath. Strabo's advocacy of wide learning, together with the publication of

Ptolemy's *Yphēghēsis* and Antoninus' *Itinerarium* in 15th-century Italy, triggered the emergence of chorography as a popular antiquarian genre in the country and in the rest of Europe. The *Yphēghēsis* and the *Itinerarium* offered little more than lists of names, but 'those lists were the only basis on which historians could build' (Mendyk 1986, p. 460). While Buondelmonti's *Liber* emerged from the same humanistic antiquarian tradition, the first full-fledged chorographic treatise of the Renaissance thus took the shape of the land itinerary, rather than of the island book.

Flavio Biondo's *Italia illustrata* (1474) was based on the author's personal travels, and history, of 14 Italian regions. Taking Strabo as his model, Biondo reinstated the idea of Italy to include the whole of the peninsula. This he painstakingly surveyed region by region, describing towns, long forgotten place names, physical features, ancient noble houses, and so on (Mendyk 1986, p. 474). Through his hodological narrative, Biondo aimed to link Antiquity to modern times. He provided descriptions of each location and a synopsis of important events linked to them. For Biondo, journeying from *locus* to *locus* meant journeying to, and at the same time reactivating, the past – a glorious Roman past which barbarian invasions had erased, and the humanist was to revive through his horizontal movement over the land.

In the British Isles, chorography was consistently theorised in the 16th and 17th centuries. As with their ancient predecessors, British authors of chorographies traded the mapmaker's emphasis on physical dimensions for expanded accounts that included 'particular things' of note contained in a specific place or in a region, such as ports, villages, rivers, houses, buildings, monuments, and not least, historical events and local costumes. The result was a blend of topography, history and genealogy that captivated the imagination of a nation just beginning to discover itself (Adrian 2005, p. 29).

Partly inspired by their continental counterparts, British chorographers continued to operate at ground level. Unsurprisingly, they always represented their works as journeys. The seriality of the journey imposed order on the narrative. It provided a cohesive geographical structure upon which to hang particulars while at the same time validating the personal experience of travel (Vine 2017, p. 418). Unlike Italian makers of *isolarii*, British chorographers avoided blending fact with hearsay and myth. Instead, they emphasised the objective truth achieved through first-hand observation, while retaining their erudite antiquarian qualities (Mendyk 1986). In the best Herodotean tradition, the mobile view from ground level anchored knowledge in fact. Contact with the terrain, literally, provided the new chorographers with solid ground for their investigations.

The titles of British chorographies usually reflect their origins in classical peripatetic knowledge-making. For example, *The Laboryouse Journey and Serche for Englande's Antiquities* (1549) by John Leland, the first British antiquary, became known as *The Itinerary*, whereas William Lambarde called his work a *Perambulation of Kent* (1576). The word 'perambulation' could indicate

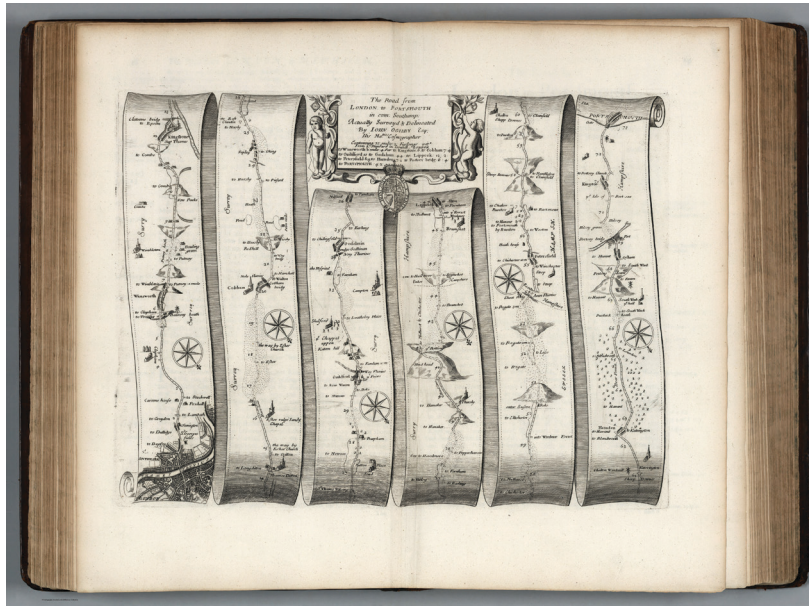
a walk or journey on foot, a survey or inspection, or more literally, 'the action of walking round a territory to beat the bounds' (Vine 2017, p. 418). More specifically, the circular movement suggested by the Greek prefix *peri-* connects Lambarde's work to the Hellenistic tradition of the *periplous* description. The Latin word *ambulatio*, on its part, links it to the act of walking, and therefore to the hodological tradition of ancient historians and late antique pilgrims. Travel lexicon ('to begin', 'to circuit', 'from thence', 'passing by' and so on) permeates and structures Lambarde's *Perambulation*, weaving the places and particulars he describes (capes, bays, havens, creeks, peers, rivers, lakes, moors, woods, cities, hamlets, castles, monasteries, colleges and so forth) into a coherent narrative.

The same model was adopted by William Camden, also known as the 'Pausanias of the British Islands'. As with Lambarde's *Perambulation*, most of Camden's *Britannia* (1586) is a place-by-place historical survey, or, in his words 'a perambulation thorow the Provinces or Shires of Britaine' (cited in Mendyk 1986, p. 477). Other writers of chorography used the metaphor of travel in similar ways. For example, in his *View of Devonshire* (1630), Thomas Westcote portrayed himself as 'a poor travelling pilgrim passing on his way' and reporting what 'he has seen and observed of the antiquities, names, situations, government, and other things', whereas the translator and antiquarian Richard Carew in his *Survey of Cornwall* (1602) spoke of making 'easie iournies from place to place' (cited in Vine 2017, p. 419). In all these cases, chorography became a peregrinatory device for imaginary journeys, a trope that likewise underpinned the first printed atlases. In the *Parergon* (companion volume) to his *Theatrum orbis terrarum* (1570), for example, Abraham Ortelius promised his wearied readers a place of rest 'after this long and tedious peregrination over the whole world' (n.p.). Rather than a journey at ground level, Ortelius' was a bird's-eye view over a world in flux. Yet, the reader was ultimately invited to stop and catch his breath in Tempe, the classical *locus amoenus* (or pleasant *place*) par excellence.

Unlike Ortelius' globalising endeavour, British choreographies married continental humanism with local antiquarianism, as much as with a specific patriotic vision and ambitious intellectual project: 'the making of England as a nation' (Vine 2017, p. 420; Mayhew 2000). Dwelling on the peculiarities of place, these chorographies integrated the local into 'a broader and stronger vision of England' (Adrian 2005). At the same time, the act of 'walking around' defined the nation's imaginary limits, just as perambulations asserted the boundaries of the land properties of local gentry (incidentally, the customary readers of chorographies).

Camden's *Britannia* endured as England's authoritative chorographic text until the late 18th century. The alliance between the road and the crown, however, found its most sophisticated visual expression in another *Britannia*: the 1675 road atlas devised by John Ogilby, geographer to Charles II. Its stunning itinerary maps, the first for which accurate measurements were made,

Figure 2.7: Section of itinerary from London to Portsmouth in John Ogilby's *Britannia*, 1675



Source: David Rumsey Map Collection, David Rumsey Map Center, Stanford Libraries / CC BY-NC-SA 3.0.

featured as trompe l'oeil scrolls containing routes with the tops and bottoms curling over themselves behind (Figure 2.7). The effect was that of conveying the dynamic, continuously unfolding experience of travel. Radiating from London, the seat of the restored monarch and centre of the kingdom, the itineraries included the fine topographic detail one would expect in a chorographic text (hills, woods, castles, churches, windmills, country seats and so forth) together with the number of miles travelled along the route.

Ogilby chose the itinerary format as he deemed it the most mathematically precise method of geographical description. Among the various methods geographers used to describe kingdoms and countries, he wrote, '*Antiquity* and the Practical succession of *Geography* has more especially commended to Us the *Itinerary Way* as the most Regular and Absolute'. As Mayhew (2000, p. 83) aptly observed, Ogilby's *Britannia* was indeed designed to provide the viewer with 'a prospect of the nation which allowed for efficient governance, the route lines radiating as lines of information into London and Charles'. In this, Ogilby followed the Roman tradition of imperial itineraries, the Rome-centric Peutinger table to start with. His maps eventually reproduce the experience of Capella's Geometry, as she painstakingly measures the Earth and wears out her shoes in her infinite journeys.

2.7 Conclusions

Plotting antiquarian particulars on a horizontal geographical axis by way of an imaginary journey, chorography blended past and present. Through their movements upon the land or along its coasts, the pilgrim, the sailor, the wandering historian, the erudite antiquarian, and the royal surveyor all traced their own narratives through space and time – from place to place. Michel De Certeau (1984, p. 120) contrasted this attitude to the modern mapping of space on the Ptolemaic grid, a detached universal 'formal ensemble of abstract locations from which the itinerant was erased'. While deeply rooted in the lived experience of space (road travel, coastwise navigation, pilgrimage, perambulation and such like), the view from ground level was not confined to wayfinding. It structured a whole way of imagining and describing the Earth, from the locale to its entirety. Whereas Ptolemy's mathematical approach involved the projection of coordinates onto an orthonormal surface, chorography celebrated the diversity of that surface and the vivid peculiarities of its places. It catalogued and represented the world based on perception and experience (Simon 2013).

By the time Ogilby presented his *Britannia* to Charles II, chorography belonged to what Renaissance scholars called 'special' (or descriptive) geography in opposition to 'general' (or mathematical) geography. First introduced by the Polish philosopher Bartholomew Keckermann in 1611 (after Ptolemy) and popularised by Varenius four decades thereafter, the distinction remained standard in European universities well into the late 19th century. This and similar distinctions were understood as ordering principles that continued to structure different geographical genres (Mayhew and Withers 2002, p. 21). Since the 17th century, however, the quest for organising geographical knowledge had started to shift away from the road (or the island). For example, gazetteers and the geographical grammars arranged information alphabetically and by nation, respectively (Mayhew 1999). No longer taking the journey or the itinerary as their guiding metaphor, nor the mobile view from ground level as their axis, both genres dwelt instead on a rhetoric of taxonomy inherited from natural history, statistics and ethnography (Tang 2008).

With their predecessors, gazetteers and grammars nonetheless continued to share the sequential quality of listing. Headings took the place of stations, or interruptions along a continuum. Topical classification – the system of information processing that had sustained geography thus far – started to collapse in the 19th century under the pressure of increasing volumes of data (a result of stepped-up travelling and widespread book culture) and its inability to accommodate it (Tang 2008, p. 35). Ironically, in recent years, the gazetteer format has witnessed resurging interest in the digital humanities thanks to its potential to embed multiple place nomenclatures and different temporal layers – one of the characteristic features of ancient chorography (Mostern and Johnson 2008).

Digital revivals notwithstanding, chorography calls us to widen our horizons and push the boundaries of geography's historiography further back in

time, to traditionally less-trodden territories. Shifting perspective and looking at geography from ground level can help us shed light on the nature of the pre-institutionalised and pre-departmentalised past of the discipline and its intersection with other domains of knowledge. This is all the more relevant as we are increasingly called to cross-disciplinary boundaries (Lowenthal 2019). In other words, taking geography to ground level can help us think 'beyond notions of a single and linear disciplinary history and to recognise situated and discursive histories' (Withers and Mayhew 2002, p. 25). It can help us better appreciate pre-modern and early modern geography at face value, in its differences and alterities, rather than as a mere 'unscientific', or 'not-yet-scientific', preamble to modern institutionalised geography.

At a deeper level, taking a ground-level chorographic view redirects our attention to the very foundations of geography. As Ron famously claimed, 'there is not one geography but many geographies' (Johnston 1986, p. 449). While geography meant different things at different times and in different contexts, the fundamental stimulus behind the 'geographical experiment' (Livingstone 1992) was environmental curiosity. Focusing on regions and the peculiarities of places, chorography was the most ancient and resilient expression of this curiosity. Its history of apprehending and describing geographical diversity can help us better appreciate this oft-forgotten aspect of our discipline – and our place in the world too. On this point, Ron would have probably smiled. 'My only problem [nowadays]', he sarcastically noted in one of his early interventions on geography's unity, 'is that I don't find people curious about the world; myopia is widespread' (1986, p. 446).

Notes

[1] The word *γεωγραφία* (geography) comes from the ancient Greek word γῆ (Earth) and the verb *γράφειν* (to scratch or write). The omega connecting the two words resulted from the extension of the initial vowel, a phonetic phenomenon is called *ἔκθεσις ἐν συνθέσῃ* (extension in synthesis).

[2] As Sarah Pothecary suggested, this seeming discrepancy was probably a pre-emptive strategy Strabo used to defend himself against possible criticisms on inevitable omissions, given the extraordinary wealth of material available to him (2005, p. 9).

[3] Even Erathosthenes's grid, arguably the first expression of the 'scientific geography' championed by Ptolemy, Gee observes, was determined by places (usually notable cities) and hodological measurement adding up distances between different points (2020, p. 53).

[4] Cosmography implies 'a work whose limits either match or exceed in detail, comprehensiveness, and scale those of a mere geography' (Romer 1998, p. 6).

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3. ‘Manipulating maps’: elections, partitions and the making of states

Hannah Fitzpatrick

The field of scholarship on the 1947 Partition of India and Pakistan is both diverse and lively. Historians, anthropologists, sociologists, political scientists, literary, film and cultural studies scholars, feminist and gender studies scholars, artists and activists have, over the nearly 75 years since the partition, excavated archives, examined cultural texts, recorded and preserved survivors’ oral testimonies, and debated at length the causes, legacies and implications both theoretical and material of the partition of the subcontinent. The field continues to inspire new scholarship, with excellent monographs on Partition published annually. Despite the obvious geographical themes threaded through any territorial partition, relatively few geographers have contributed to the literature on Partition and the complexities of dismantling British India, although Legg (2019), Blunt (2002) and Jones (2014) are significant exceptions. My own contributions have been primarily historical, drawing on postcolonial analyses of Partition archives and colonial geographical archives to produce a genealogy of Partition’s *geographies*. Inspired by the work of historical geographers of empire and colonialism like Edney (1997), Heffernan (2002), Driver (2000), Ogborn (2008) and Clayton (2000), I set out to apply their geographical modes of analysis to Partition.

Politics and cartography are central to this work, and this is borne out in one of the archives that has become my bread and butter: the papers of the regional geographer Oskar Spate, held at the National Library of Australia (MS 7886). Before he was the eminent Professor Spate, founding chair of geography at the National University of Australia, Spate was an independent advisor to the Muslim League in the Punjab in India. He assisted the League in crafting an evidence-based geographical claim to submit to the Punjab Boundary Commission in the weeks leading up to the partition. Until recently, my approach in analysing the records of that work has been rooted quite firmly in the realm of postcolonial history and subaltern studies. I have spent years with Spate’s partition papers, in which he repeated words like ‘gerrymander’, ‘population distribution’, ‘majority’, ‘minority’ and ‘unit’, and yet I shied away from thinking about Partition in the more quantitative terms

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of some areas of political and electoral geography. But Ron Johnston's work on boundary commissions and electoral mapping has profound theoretical implications for partition studies, and for geographies of partition most especially. This chapter is my first attempt to take Spate's hint, to see what happens when we read the Punjab Boundary Commission's attempts to accurately map and divide the population of Punjab as an exercise in political geography, of drawing administrative boundaries for the purpose of facilitating democracy in two new nation-states.

I begin with a brief overview of the partition process of 1947, including the key parties and individuals involved. This section is necessarily limited to the events of the summer of that year, leaving to one side the complex social and political histories of the decades leading up to Partition, on which there is a large body of historical scholarship (for an excellent review of this scholarship from a historical geographical perspective, see Gould and Legg 2019, and for an excellent historiography of Partition, see Khan 2008). I then turn to a small selection of Johnston's work, especially his empirical work on electoral mapping, gerrymandering and malapportionment. This section provides a lens through which I reconsider some of my own historical work relating to the Punjab Boundary Commission (Fitzpatrick 2024), which forms a part of my broader work on colonial cartography, geographical science and boundary-making in South Asia in the final decades of the British Empire. In that work, I drew on a range of archival sources, many of which have been accessible, and even published, since the 1970s and 1980s. These were a selection of court hearing transcripts from the meetings of the Punjab Boundary Commission between July and August 1947 and the official memoranda submitted by a variety of political parties and community organisations prior to the start of the hearings, all of which were compiled and edited by Muhammad Sadullah and published in four volumes in 1983 by Pakistan's National Documentation Centre. Many of these documents are also reproduced in the historian Nicholas Mansergh's 12-volume compilation of documents, *India: The Transfer of Power, 1942–47*. Alongside these official documents, I drew extensively on Spate's own records in the National Library of Australia. These included Spate's diaries (the only documents in his papers relating to Partition to have been cited by scholars writing specifically about the partition process), as well as a small cache of draft notes, sketches, maps and correspondence. These sources appear somewhat obliquely here, because the heart of this essay is a critical reflection on the work I have undertaken over the last decade and a half, rather than new research on either Partition or boundary commissions.

3.1 Partition in Punjab

On 3 June 1947, the last viceroy of India, Lord Louis Mountbatten, along with Jawaharlal Nehru and Muhammad Ali Jinnah, the future prime ministers of

India and Pakistan, respectively, announced via radio broadcast that the partition of India would take place in August of that year. Independence would be granted to two new nation-states on the basis of population according to two categories: 'Muslim' and 'Non-Muslim'. Much of the territory to be partitioned could be allocated relatively easily on the basis of majority population to one state or the other, and so required little in the way of political negotiation (of course, the actual process on the ground, as well as at more local and bureaucratic levels, was far from easy). However, two regions in particular were highly contested among the nationalist leaders: the British-administered provinces of Bengal and Punjab, in the northeast and northwest of the subcontinent. The challenges in partitioning these two provinces in particular stemmed not only from the complexity of their population distributions, but also from the fact that they were extremely valuable in economic, cultural and political terms. Major urban centres, hubs of industry, arts and culture and colonial administration were located in and around Calcutta and Lahore. Amritsar too, located just to the east of Lahore, was the heart of the Sikh community and an economic hub, and had both economic and cultural connections with Lahore. Until the Radcliffe line cut the region in two, the cities were two interrelated parts of a wider whole that included the entire province.

In a sign of just how complex drawing the new boundaries would be, the partition process would be overseen by two independent boundary commissions, one for each province, and both chaired by a supposedly neutral legal expert. The party leaders agreed upon Sir Cyril Radcliffe, now well-known within and beyond Partition studies for his lack of experience both in drawing boundaries and in the particular challenges of governance in the subcontinent. At the time, before the instability and violence of Partition had begun in earnest, this lack of experience was considered an asset, as any politician, lawyer or judge with substantial experience in the subcontinent would be considered too partisan by at least one of the powerful parties involved.

In addition to Radcliffe, each boundary commission was made up of four justices. In Bengal, two justices were nominated from each of the main parties, the Indian National Congress and the Muslim League, while in Punjab, two were League-nominated, alongside one from the Congress, and one Sikh justice to represent the voice of the Sikh community, who were concentrated in Punjab. The boundary commissions met concurrently over 10 days in Calcutta and Lahore, where they heard oral arguments and considered written memoranda submitted by communities and organisations who were deemed to have a stake in the final outcome. Those hearings were semi-public: members of the public were invited to attend the hearings, but there was a moratorium on newspaper reporting on the proceedings. The barring of journalists was intended to stop the spread of rumours relating to the possible trajectory of the border, but such restrictions only led to an increase in public speculation. Daily reports from the courthouses were sent by airmail to Delhi, where Radcliffe was based. After the hearings concluded, the justices relocated to Simla, where they met Radcliffe and his secretaries, and the final boundary

was drawn behind closed doors. Independence was officially granted at midnight on 15 August 1947, but the Radcliffe Line was not announced until two days later.

After independence, the failure of the boundary commissions to resolve communal conflict and tension in the subcontinent was blamed in part on what was no longer thought of as Radcliffe's 'neutrality' but his 'ignorance'. This tension between neutrality and bias reflects what Johnston identified in 1982 in his discussion on American proposals to move redistricting processes from the hands of politicians to those of independent commissioners. Such a move was predicated on the idea that independent commissions would operate independently of one of the imperatives that drive parties: winning elections. But Johnston and his colleagues used election data to show how 'even with an independent redistricting commission and neutral rules and procedures, electoral bias is impossible to avoid' (Johnston 1982, p. 457),

Partition studies have also tended to conceptualise the failure of the Radcliffe Line to provide a functional and stable border (especially in the years following Partition) as a failure in part of geography. This is true. The boundary commissions and the parties who presented cases to them focused on legal and political questions, generally leaving aside the concerns of geography (both academic and professional). Spate himself knew that the key decision-makers were less concerned with the geographical questions of Partition and were more interested in the political outcomes. He understood his own position in the process as being on the 'margins', going so far as to title his autobiography *On the Margins of History* (Spate 1991). Indeed, even for me, a historical geographer, it can sometimes feel like fiddling while Rome burns, writing about the geographical dilemmas of the partitioning process, while the important questions that animate Partition studies (about politics, representation, violence and trauma) are left to one side. Yet Partition should matter to geographers for reasons beyond the fact that they have historically taken relatively little interest in it, even during the 1940s, when debates about the possibility of a partition were current events. The events leading up to independence and partition in the subcontinent have much to tell us about some of the fundamental assumptions underlying the relationship between geography, territory and the organisation of a modern democratic nation-state during the mid-20th century.

3.2 The Punjab Boundary Commission

The lack of attention paid by the key decision-makers to geographical detail was apparent throughout the summer of 1947. The terms of reference for the boundary commissions misused the geographical terminology for boundary-making, instructing the justices to 'demarcate contiguous majority areas' (Sadullah 1983, p. xii). The correct word, as many have noted before me (including Spate himself), is delineate, which refers to the process of drawing a boundary on a map (see Chester 2009). Demarcation refers to the process

that would come later: marking and maintaining the border along the physical territory. As Spate (1991) noted humorously in his memoir, it was hardly expected that the justices would go out into the field to mark the border on the ground. Beyond the terminology, the terms of reference were especially (and likely intentionally) vague, in part because they were short, but also because they were the result of a series of heated discussions between the main parties. They were 'The Boundary Commission is instructed to demarcate the boundaries of the two parts of the Punjab on the basis of ascertaining the contiguous majority areas of Muslims and non-Muslims. In doing so it will also take into account other factors' (Sadullah 1983). The Bengal Boundary Commission was guided by the same terms of reference. The terms did not specify what was meant by 'other factors', nor did they indicate just how much weight should be given to them, leaving it up to the commissions to determine. Spate interpreted the terms of reference as prioritising contiguous majority populations and considering other factors secondarily.

Lucy Chester (2009) was the first historian to focus primarily on the Punjab Boundary Commission as an important site and institution for the study of Partition. The boundary commissions themselves were secondary in earlier historical analyses of the process, which tended to focus more on the wider politics during the decades leading up to Independence (Jalal's now-classic *The Sole Spokesman*, first published in 1985, is emblematic of this) or the smaller scale of individual, family and community trauma (for a foundational example, see Butalia 2000). The oversight makes sense, given how much the final boundary reflected the wider political (national, anticolonial and British) discourse at the time. It is hard to argue that the 10 days of boundary commission hearings radically altered the course of the borders, but Chester shows how the borders were indeed contingent even in the final weeks before independence, and how Radcliffe was caught up in a process that was much larger than himself and his commissions, while still being able to affect the outcome in important ways. Her work is particularly fascinating in its assessment of Radcliffe himself, a famously enigmatic character in both the archive and the historiography.

While less famous, and certainly less powerful, Spate also occupied an ambivalent position in the process. It is difficult to show definitively using his notes just how much of his work for the Muslim League ended up influencing Radcliffe's final decisions about the Punjab. This is partly due to one of the most well-known features of the Partition archives: Radcliffe destroyed his notes and papers. But Spate did inject a particular kind of academic geographical thinking into the League's documents and testimony. It should be noted that a number of Indian geographers based in Lahore also assisted the League with their draft maps, including the geographer Kazi S. Ahmad, but many of them were hesitant to be associated with the process after Partition. Ahmad, in a letter to Spate in November 1947, asked not to be named in publications or lectures, after Spate asked permission to include a note about the significant contributions made by Ahmad and his colleagues in a talk he delivered to the Royal Geographical Society (RGS).[1]

Spate recounted, both in his diary and his 1991 memoir, that he was primarily based in his hotel room, where he worked on his maps, devised notes to be used in testimony and rebuttals, and occasionally reverse-engineered the competing claims from other parties. He would occasionally report to the League's temporary headquarters, based at the home of the head of their delegation, the lawyer and later Pakistan's foreign minister, Muhammad Zafrulla Khan. He sometimes attended the hearings at the Lahore courthouse, but he was not hired to represent the League's position to the commission, so he was there primarily as an observer. The one instance where he might have been called upon to present his own maps to the justices, he was not in the room.

He wrote in his diary that he found the hearings themselves very busy, and the transcripts and memoranda give a sense of how much information was circulated and presented in the short space of time allotted to the process (see, for example, the collection of documents in Sadullah 1983). While the historiography has tended to focus on the outcomes for the two largest parties (Congress and the League), as well as the Sikhs in the case of the Punjab, many other communities and organisations also submitted cases to the boundary commissions. The Dalits, or Scheduled Castes in the historical records, and Christians, among others made claims. These claims were all political, of course, but in building them, their authors drew on a variety of evidence, much of which was geographical or historical. Populations were calculated using census data, but many of the maps included other relevant geographical data: railways, canals, different administrative boundaries. They drew on a wide variety of sources in making their claims. Imperial and regional gazetteers, census reports, historical and religious texts produced by both Indian and British writers were all produced in the service of competing claims. Some claims drew more on popular anecdotal knowledge or narratives, including ahistorical appeals to timelessness, a sense that things (relations between religious communities, for example) had always been this way, while others hung political narratives on a skeleton of statistics or cartography.

Depending on their own population numbers and its spatial distribution, certain parties' claims made more of the population statistics, while others emphasised the importance of the 'other factors' that would affect them were a certain boundary adopted over another. Some of the claims were relatively accurate in their interpretation of the data at hand (although those involved knew how inaccurate or partial the data itself often was and worked with those uncertainties in ways that bolstered their own arguments), while others tried to obfuscate or misrepresent data in order to muddy the waters. The Congress case, for example, rested on a two-pronged approach that simultaneously undermined the accuracy and therefore usefulness of the census data while emphasising the importance of the other factors' clause. The Sikh case relied very heavily indeed on a narrative of historical rootedness in the Punjab because they did not have the numbers to make a claim based on population alone. The Muslim League had official numbers on their side, but there were a few contested areas where they could not rely on census data to make

their claims, and so used other geographical considerations (some suggested by Spate) to claim more territory, especially on the basis of contiguity. All were working according to what they thought were their own organisation or communities' political interests.

This is another theme that scholars of Partition remark upon informally in conversation, in presentations and in their writing: the partisan nature of the boundary commissions. While Radcliffe's distance from the political context of the process speaks to a lack of experience and requisite knowledge, the people who did have the requisite knowledge and experience were making politically charged claims that would impede the boundary commission's ability to adjudicate in a non-partisan and neutral way. Chester (2009) notes that the justices themselves were partisan, often representing their own parties' interests during their work (although the hearing transcripts show that they did not do this unilaterally). Given how complex the history of Partition is, it is tempting to see this contradiction as rooted in Partition itself as a singular political and geographical process and event. Some claims were certainly more geographically accurate than others. The League, according to Spate, had the more justifiable claim according to the conventions of geography (as well as the terms of reference, vague and limited as they were). But while the process of determining the most accurate or legitimate claim according to the guiding principles might have been the ideal in terms of the technical doing of partition, the outcomes could never be neutral. No matter how non-partisan the process, the final map would inevitably favour certain parties over others in different places and at different scales.

3.3 Mapping minority

I have written before (and focused the conceptual framing of my contributions more broadly) on how Spate's work speaks to the techniques and philosophies that underpinned how Anglo geographers understood and undertook exercises in international boundary-making during the postwar period (Fitzpatrick 2024). My field of vision has been the rearrangement of the international map after the Second World War, both in terms of postwar reorganisations of European territory and decolonisation. My work on Spate has slotted nicely into the growing literature on geographies of 20th-century decolonisation (see Clayton and Kumar 2019). And while I have turned my attention towards the other notable territorial partitions of this period, I have not yet considered a comparative or systematic approach to the boundary commission itself as a geographical tool employed for the purpose of administering both spatially and statistically the procedures of democratic representation and the building of a government. In Partition studies, the boundary commissions were one relatively small part of a longer, very complex and highly charged political process, and they must be understood within that context. However, underneath the competing narratives of history, identity

and the future shape and character of the nation-states of the subcontinent lies a set of assumptions about how democracies function and how governments are made.

Devji (2013), in his book, *Muslim Zion*, argues that, in the decades preceding Partition, the Muslim League attempted to create a pro-independence and anticolonial politics that could transcend the statistical conundrums that lie at the heart of representative democratic states. Any nationalism that incorporated forms of identity as salient political cleavages in Indian society would inevitably be shaped partly by numbers, which render populations in terms of majorities and minorities. In a state system where electoral politics are the building blocks of government, the problem of the majority/minority is part of the architecture. Without delving into too much of the historical detail, I would like to spend some time with Devji's argument, because I think it speaks in interesting ways to the wider point I am making here about how the tensions between boundary-making exercises, population statistics, territory and identity are characteristic of the 20th-century democratic state.

Importantly, Partition was primarily an act of creating two new nation-states, but many of the issues that divided the nationalist leaders before 1947 had to do with questions about how the government of an independent India could be built so that it fairly represented its citizens (in electoral geography terms, the population would become the electorate, the demographics and geographical distribution of which would be key building blocks of any representative democratic government). Devji argues that Muslim intellectuals in the 19th century and, later, Muslim nationalists in the 20th, recognised the potential power of a majority to make legislative decisions on behalf of minorities without proper negotiation and goodwill, relying instead on the force of majority. This was one reason, he says, that the intellectual, Syed Ahmed Khan was wary of the Indian National Congress when it was first founded in 1885. Importantly, the majority Ahmed Khan feared was the 'Hindu' majority, which could enact its will upon other religious minorities, specifically the 'Muslim' minority.

Partition historiography partially rests on the contributions of Subaltern Studies scholars and other historians of empire and colonialism (beginning with Bernard Cohn in the 1960s) who showed how the British colonial government of India relied on extensive data collection exercises in order to know and govern its territory and its population. Devji also foregrounds his analysis of Indian Muslim political thought with a discussion of colonial knowledge systems. I will not dwell long on this extensive foundational literature (for more, see Appadurai 1993; Cohn 1996; Dirks 2011; Kaviraj 1992; Metcalf 1994), but these authors' concerns with enumeration and accounting as a mechanism for a state to know and envision itself anticipate both how Partition was enacted in a soon-to-be former colony (a common theme in Partition studies, and central to my own prior work) and the 20th-century British state's concerns with its own system for devising and redrawing its electoral boundaries. Of course the colonial context matters here: enumeration in the colonies

was not undertaken for the purpose of organising an Indian electorate, and such processes were used to enact exploitative, oppressive and violent colonial policy. But the data (and more importantly, the institutions and methodologies behind its collection and synthesis) was appropriated by Indian intellectuals, community leaders, and anticolonial politicians, as well as the state itself when some government roles became accessible to elected Indian officials in 1910 after the passage of the Indian Councils Act (more commonly known as the Morley–Minto Reforms).

Scholars of Indian intellectual history have shown just how diverse, vibrant and intricate the debates were among Indian thinkers and nationalists throughout the 19thth and early 20th centuries (Kapila 2010). Anticolonial thinking by Indian Muslims was no exception, of course, so my sketches here are necessarily partial. However, in general, Muslim leaders and intellectuals were often thinking through a set of tensions relating to the position and role of Muslims in an independent India. Congress politics emphasised a rhetoric of secularism, arguing that the Congress Party was representative of all Indians regardless of identity (and not just religious identity, but also caste, class, region and language, among others). Critics of Congress disputed these claims, arguing that legal protections for minorities relied on the ability of members of those minorities to represent themselves.

By the time of the Morley–Minto Reforms, Indians calling for political representation in the colonial government knew they would have to work within the parliamentary system that was being built in India, which necessitated the understanding and appropriation of population statistics. Devji argues that this was an important moment for Muslim nationalists, when India's Muslims came to be viewed as a political minority. The Morley–Minto Reforms were notable not only for the fact that they enfranchised a small minority of Indians and led to the introduction of the first elected Indian politicians in the British colonial government of India. They also created a system of separate electorates on the basis of religion. Separate electorates for Muslims has remained a controversial issue. In 1910, many politicians including prominent figures in the Congress Party, most notably Gandhi, opposed separate electorates, arguing that shared religion was not a pre-requisite for fair representation of Indians by fellow Indians. Other critics argued that it was unjust for Muslims to have separate electorates, while Hindus did not have an equivalent.

Muslim nationalists in particular were working with multiple intersecting geographical imaginaries: the geography of an independent India free of British rule, the geography of Muslim India, and the geography of the Muslim world beyond India. In his work on the poet Muhammad Iqbal, Majeed (2007) shows how Iqbal, one of the most prominent voices among Indian Muslim writers and thinkers, constructed these multiple geographical imaginaries. Majeed argues that Iqbal's poetry contains within it multiple geographies that sit in tension with one another, and that this tension is emblematic of a wider tension in Muslim separatist thought in India before 1947. Iqbal uses themes

of travel and mobility, as ways of both living and being, to show how the global community of Muslims and the philosophy of Islam transcend homogenising discourses of ethnicity. This theme of mobility, however, is 'incompatible with the imperative of nationalist geography to fix a sense of belonging within a prescribed territory' (Majeed 2007, p. 151). Modern democracies are not just built on a 'sense of belonging', however, and Iqbal knew that the political geography of independent India would be difficult to reconcile with his understanding of the inner self of the Indian Muslim. The administrative functioning of the state also works on the basis of a population that is 'fixed within a prescribed territory', to use Majeed's words (2007). In the series of lectures contained in the volume titled *Security, Territory, Population*, Foucault (2009) showed how the modern state comes to know itself through its population. The process by which this happens requires that the population be at least somewhat fixed, both in time and in space, because methods of data collection require citizens to be located and locatable over time. The electoral system is no exception.

Nationalist imaginings of a future independent India were built simultaneously on philosophical arguments about political and spiritual selfhood, and the practical relationships between individual, community and state. Much of the scholarship on the history of Indian thought during this period tends to emphasise the former, perhaps because it informs the latter. But the latter still matters as an object of study in its own right, because it constructs the political and social frameworks through which political identities are expressed and mobilised, a process which Devji illustrates. The liberal principle of one citizen, one vote underpinned Muslim Leaguers' concerns about electoral representation, while at the same time, more philosophical and existential questions about what it meant to be an Indian citizen (and a Hindu Indian citizen, a Muslim Indian citizen, a Dalit Indian citizen and so on) animated debates among nationalists. As Majeed's work on Iqbal shows, these two sets of concerns, while materially and politically entangled, sat uncomfortably alongside one another. Electoral success for one party over another, while often an expression of support or alignment with its position on political subjecthood, also had material consequences for people's lives. It was also an important mechanism for the nationalist parties both to measure their own strength and to put pressure on the British government (as Jalal (1994) shows when she argues that electoral success was crucial for Jinnah's ability to negotiate after 1945). Yet voting behaviours did not necessarily map neatly onto religious identity, as the League knew all too well. Once Independence had come to pass, new citizens also were new constituents, located on the new map.

3.4 Electoral geographies

Without drawing a causal relationship between electoral politics in Britain and the partition process in British India, it is still interesting to note that

the 1940s was also the decade in which the UK Parliament made significant changes to the way that its own electoral boundaries were drawn and constituencies were formed. In 1942, the wartime government began the process of examining the system and devising principles for redistribution. Johnston and his long-time collaborators – see Chapter 1, Figure 1.2 – Charles Pattie (Chapter 5, this volume) and David Rossiter, noted that the committee 'identified equal representation as the basic principle for a Parliamentary democracy, with single-member constituencies having equal populations' (2012, p. 5). On the basis of this position, they recommended a set of principles that would facilitate the creation of constituencies of comparable size (by population), while maintaining already-existing administrative and community units. These included quotas and upper and lower limits on constituency sizes, as well as recommendations that pre-existing boundaries remain wherever possible. When the House of Commons (Redistribution of Seats) Act, 1944 was passed, many of these recommendations were included in the legislation. The act also created the independent boundary commissions (one for each of the four nations of the UK) that would create constituencies and delineate their geographical boundaries. These boundary commissions remain in place today, despite significant changes to the act in 2011 by the Conservative-led coalition government after the 2010 election.

Johnston and his collaborators contributed, over five decades, significant work on electoral geographies. Their interest was in showing how elections and electoral systems are fundamentally geographical, and how the study of that geography could show us how politics can be influenced when state actors use it to their advantage. The electoral map is a constructed thing, not simply an objective representation of constituencies that have always already been there. Voting behaviours and party tactics are clearly contingent and contextual, but so too are election maps. Johnston famously argued that the geography of an election can be understood as a relationship between two maps: the map of the distribution of votes, and the map of the division of the state into constituencies (Johnston 2002). The interaction between the two, he said, is what makes up the votes:seats ratio, which parties aim to affect in elections. The votes:seats ratio is the number of overall votes won in relation to the number of seats won. Depending on which constituencies votes are cast in, overall votes won can translate into significantly larger proportions of seats under the first-past-the-post system used for elections to the UK Parliament. This discrepancy is a form of bias, where parties might win relatively equal shares of overall votes, but because of the distribution of those votes, they may not (and usually do not) win equal numbers of seats: a vote cast for the Conservatives in a two-way marginal seat has more potential to influence the outcome than a vote for that party in a Labour stronghold. Additionally, whilst every vote is equal when counted within its geographical unit, the constituency, at wider scales votes are not equally weighted because the constituencies vary in size (although the Electoral Commission aims for them to contain an approximately equal number of electors). This problem of voter clustering

was one of the issues the Muslim League leaders were worried about before 1947, and which they tried to counteract by negotiating for a more decentralised nation-state, with greater powers granted to regional governments. The question of scale became central to the ways that Muslim nationalists were imagining both a future independent India and the Muslim community. I will return to this issue of scale below.

I would like to draw out two of the themes that animate Johnston's work on electoral geography that I think are especially useful as a starting point for thinking about the geographies of Partition. One is the question of bias, which Johnston examined from multiple angles. He showed how geography was both an explanation for and a mode of examining bias in election results. The second is the role and work of boundary commissions in shaping electoral geographies in representative democracies. In particular, I am interested here in the tensions between what in the UK are called 'arithmetic', or statistical, criteria and 'organic', or social or cultural, criteria in the making of constituencies.

Johnston was interested in identifying how the electoral map of the UK produced bias in election outcomes. While the map itself is now drawn by independent boundary commissions that are not working on behalf of the party in government, that means only that there is not overt political bias in the boundary-making *process.* It does not mean that there is not bias in outcomes, which Johnston illustrated was possible for reasons having to do with geography and variations in voting patterns (Johnston 2002), as well as the success or otherwise of political parties in making representations to the commissions that reflect their interests. Similarly, while Radcliffe may have attempted to draw the boundary without being *politically* biased in favour of one side over another, the map itself could not have provided a boundary that was itself politically neutral. This is true for practical reasons, because compromises on all sides were inevitable, but also for more philosophical reasons, because the changes to the territory that the map was making would have both political and material consequences. Even *if* it were possible for the data that was used during the process to be collected and reported without political influence, the map at the end would still have benefited certain parties over others in different places and in different ways. Johnston and his collaborator, Peter Taylor, called this, 'the myth of non-partisan cartography' (Taylor and Johnston 2015, p. 33).

Electoral bias can be the result of what Johnston (2002) termed 'cartographic abuses', where one or the other of the two electoral maps are adjusted in order to maximise the votes:seats ratio for one party or another. The first of these cartographic abuses is malapportionment, which occurs when '(a) there are substantial variations in constituency size… and (b) one of the parties is strongest in the smaller constituencies (it is the beneficiary) whereas the other is strongest in the larger seats' (p. 6). The other cartographic abuse is gerrymandering, which 'involves the careful drawing of constituency boundaries by a party so that either it wins a particular seat or, more generally, it wins

more seats than its opponent' (p. 7). Gerrymandering can be done in two ways. A stacked gerrymander attempts to gather votes for the opposing party within as few constituencies as possible, which leads to smaller numbers of seats won, where each seat is won with a very large majority. A cracked gerrymander, on the other hand, is where one party draws boundaries that create seats where they would have a majority. When the boundary-making process is undertaken by the elected officials who are the beneficiaries of the electoral system, malapportionment and gerrymandering are partisan processes, where a party in power uses them as strategies for achieving electoral gains for themselves. This is generally regarded as a perversion of democracy and a violation of the rights of voters.

Malapportionment and gerrymandering are both associated with the electoral system in the United States in particular, because, as mentioned above, the UK's constituencies are created by independent boundary commissions (although the independence of the boundary commissions in the UK has not precluded political influence). For example, in 2023 a federal court ruled that Georgia's state legislative district maps discriminate against Black voters and must be redrawn, in a lawsuit brought by the American Civil Liberties Union (ALCU), ACLU of Georgia, and other plaintiffs.[2] However, bias in election outcomes can occur without intentional gerrymandering or malapportionment created by political parties with a vested interest. This bias is a result of accidental or random variations in geographical factors, including variations in voter turnout and the strength of the support for third parties in certain constituencies but not others. This is called reactive malapportionment, because, as Johnston notes, the effect is similar to the effects of malapportionment, even if the causes are not the same.

The tension between arithmetic and organic considerations in the drawing of constituency boundaries is an intrinsic part of the process and has implications for the ways in which representative democracy is both imagined and practised. Arithmetic criteria regulate constituency size (in terms of population or electorate), overall numbers of constituencies and quotas. Organic criteria aim to preserve historical and cultural communities, often through the use of pre-existing administrative boundaries. In 2011, the coalition government made significant changes to the Distribution of Seats Act, passing the Parliamentary Voting System and Constituencies Act, 2011, which gave more weight to arithmetic, over organic, considerations in redistricting exercises.

Much of Johnston's empirical work on the electoral boundary commissions in the UK up until 2011 examined the effect of bias in election outcomes. The bias was evident in 1997 when the Labour Party won 64.3 percent of seats from 43.2 percent of the votes.[3] Johnston showed how this was partly a consequence of the geographical spread of votes, and partly a consequence of Labour campaigning in ways that made the most of the conditions created by the electoral map. Additionally, he showed how Labour effectively mobilised public hearings during redistricting exercises in order to argue for organic considerations that would benefit them. As a result of such sustained bias

in favour of the Labour Party over a number of elections, the Conservatives drew up a plan to change the methods of redistributing constituencies so as to reduce bias in the outcomes by reducing the statistical variation in the population sizes of constituencies (see Chapter 5, this volume). However, requiring the maps of constituencies to be more equally sized per number of their electorate, despite being disruptive and giving less consideration to existing community structures (Johnston, Rossiter and Pattie 2014), does not fully resolve the disproportionate outcome that arises from the map of the distribution of votes, as Johnston had warned and the 2024 General Election results, which implement the Conservatives' plans, confirm: the Labour Party won with a large majority of seats (63.4 percent) from 33.7 percent of the votes,[4] when in 2019 it lost to the Conservatives with 31.2 percent of the seats but still 32.2 percent of the votes cast (and more votes overall as voter turnout was higher in 2019 than in 2024).[5]

3.5 Boundary Commissions across time and space

The Punjab Boundary Commission, along with the parties and leaders involved, grappled with issues that reflect some of the underlying assumptions and values that underpin the redistribution processes Johnston wrote so much about. First, the question of majority population was central to the partitioning process, in ways that were refracted through the wider philosophical and political questions the Muslim League was engaging with, as discussed above with reference to Faisal Devji's work. But while Devji builds a story about the political writing and negotiation undertaken by the League in the decades before Partition, the Boundary Commission's work with population statistics was a more bureaucratic and technical exercise. This is not to say that the Boundary Commissions were not political; they absolutely were, and there was no way that they could not be. I mean only that, before 1947, the League's calculation and mobilisation of population data (along with their fellow nationalists in other parties) was in service of imagining a future India. There could, and did, exist multiple imaginaries simultaneously, influencing and countering one another in the discursive arenas of Indian intellectual and political life. In July 1947, however, the data was compiled and mapped for the purpose of putting a boundary onto a map and beginning the process of building (and rebuilding) new states and government institutions.

The calculation of majority populations across the contested regions of northern India on the basis of religion sat at the heart of the Boundary Commissions' remit. Not only that, the commissions were to focus on the difference between Muslim and non-Muslim majorities, which immediately grouped Hindus and Sikhs (and other smaller minority communities) together in the Punjab, and Hindus and Indians of all other faiths everywhere else. The other side of the same coin is the fact that the binary was drawn between Muslim Indians and Indians of all other religions. In electoral

geography terms, this calculation of population distributions on the basis of contiguous majority populations by the Boundary Commission would have been a proxy for on-the-ground 'organic communities' (but even the word community has multiple distinct definitions in the Indian and Pakistani context, one of which refers to the official government category that defines religion). However, as Jones (2014) noted in his work on the partition process in Bengal, local communities on the ground did not map neatly onto boundaries drawn on the basis of census data.

The Punjab Boundary Commission was not making constituencies, so arithmetic considerations for the purpose of making constituencies of equal size were not an explicit part of their work. However, the emphasis on contiguous majority populations arguably rendered the 'organic' consideration of community in arithmetic terms in order for the boundary commissions to undertake the task. Taken on their own, the terms of reference set up an order of operations for the boundary commissions: first, arithmetic considerations should be dealt with, then organic considerations (the 'other factors' clause) should also be considered. In this case however, the arithmetic considerations were themselves based on arguments that would be classified as 'organic' in electoral geography terms. In the UK electoral boundary-making context, organic considerations tend to take into account cultural units, often with a historical genealogy. They are communicated and considered in part during public hearings, where stakeholders are allowed to submit responses and requests to the Boundary Commissions for adjustments to proposed boundaries (Johnston, Pattie and Rossiter 2012).

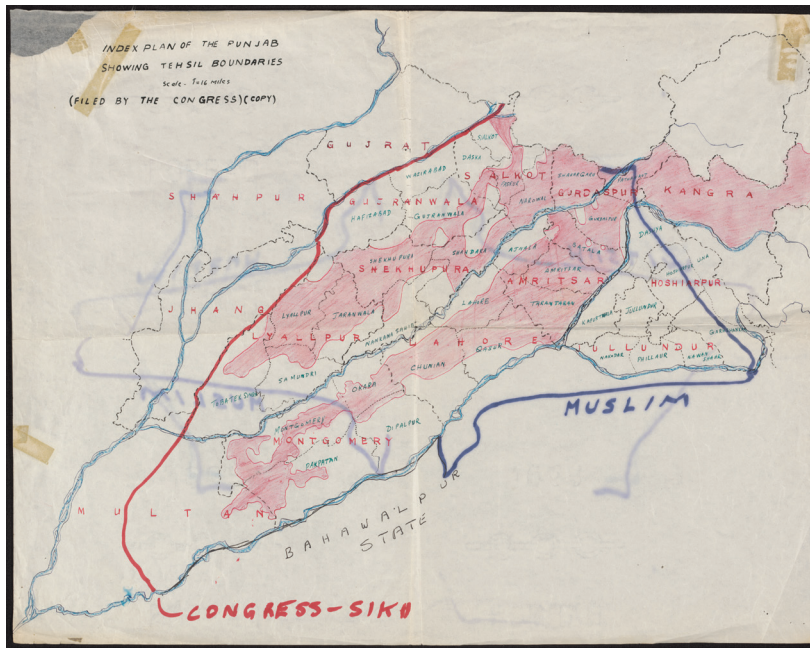
As I discussed briefly above, one of the more general justifications that some nationalists and, eventually, British politicians gave for why Muslim majority areas should be identified in the first place was because Indian Muslims were members of a singular and distinct community with a historical legacy of cultural and social connection that was connected to the wider, global Muslim community (this narrative, and my relaying of it here, glosses over the complexity of the debates that Muslim intellectuals and League politicians were engaged in). The Punjab Boundary Commission documents reflect this conflating of arithmetic and organic considerations, often in ways that indicate the delegations knew that that was what they were doing.

Devji (2013) argues that the League had to work within the structure of the limited parliamentary-style system the government created in India in 1909, and that this required them to think of Indian Muslims in terms of population majorities and minorities. That parliamentary system itself already contained within it a tension between statistical measurement and more qualitative (organic) ways of conceptualising and classifying the geographical units that make up the state as a whole. That tension has remained central to how the electoral boundary commissions in the UK have operated from 1944. This raises important questions about how the geographical ordering of the 20th-century democratic state is unstable, characterised by competing priorities and epistemological positions that are often irreconcilable. We know that

Pakistan as an idea was irreconcilable with the structure of the state, because the population did not map onto the territory in such a way that Pakistan could provide a homeland for all of India's Muslims. Historians like Devji have written as much, and Oskar Spate understood the same issue in geographical terms (Spate 1943). But this geopolitical conundrum did not originate with the Muslim League and the call for Pakistan before 1947, although it is one of the most striking and consequential manifestations of it.

Finally, there was such significant gerrymandering in the map that the Congress Party delegation submitted to the Punjab Boundary Commission that discussions about it appear in both the transcript hearings and Spate's diaries. I have argued elsewhere that the 'red map', so called because it shaded non-Muslim majority areas in red, provided a cartographic representation of a territorial claim based on the 'other factors' clause (Fitzpatrick 2019a; 2019b). Congress needed to map their claim (see Figure 3.1) as part of their submission, but much of their claim was based on arguments that non-Muslims had historical, cultural and economic claims to the majority of the contested area, even though they were not necessarily in a numerical majority. In order to render those claims cartographically, their map depicted religious boundaries without using a standard unit. The claim rested on the

Figure 3.1: Congress Party claim, often called the 'red map'

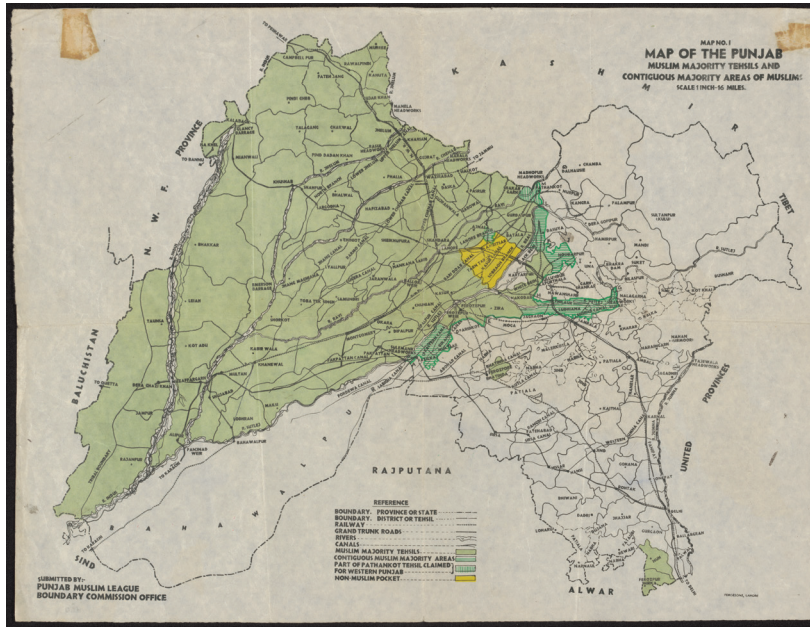


Source: Papers of Oskar Spate, National Library of Australia, MS 7886, 6-1-1 / CC0.

fact that *despite* the population map, the non-Muslim minority population still had a valid territorial claim to most of the contested region. The Muslim League claim (see Figure 3.2), on the other hand, was based mostly on population, so they used a map that took the *tehsil* (a pre-existing administrative unit based on policing districts) as the base unit or building block. In geographical terms, the League's map was less technically biased because it more accurately and transparently represented the population distribution, but the map still *favoured* the League.

To flip the discussion on its head, Partition might also help us think about administrative boundary-making exercises. Gerrymandering often acts as a form of partition, drawing a boundary in the middle of a pre-existing community in order to separate a part of it from itself and thereby weaken its electoral power. One of the most important points Devji makes is the fact that Pakistan was intended to protect India's Muslim minority. But in reality, Partition actually broke apart the subcontinent's Muslim population, creating a Muslim majority in Pakistan while leaving an even smaller Muslim minority in India. The process not only partitioned the territory of the subcontinent, it also, in a cruel irony, partitioned the very population that Pakistan was in theory supposed to unify and protect.

Figure 3.2: Muslim League map submitted as part of their claim



Source: The Muslim League Map, Papers of Oskar Spate, National Library of Australia, MS 7886, 6-1-1 / CC0.

3.6 Conclusion

The map of South Asia that Partition was meant to create was in fact multiple maps in one: inherited historical colonial geographies including pre-existing administrative boundaries and infrastructure; the new political geography of the independent subcontinent; the cartographic depiction of the territorial negotiation (and loss, on both sides) during the partition process; and maps of the new nation-states themselves, populated by new citizens who could now cast votes in government elections.

Indian nationalists across all parties and ideological positions were grappling with the question of how an independent Indian state should be organised. They did so from multiple angles, and some of those debates were necessarily about the future state's geographical and territorial organisation. They struggled to transcend the tension between the value of 'one person, one vote, one value' and so-called 'organic communities'. The Muslim League was highly creative in its attempts to transcend the limitations of territorial organisation, and tried to disassociate identity and geography from each other in order to imagine a set of unfixed and multiple geographies for Indian Muslims. But the state is built on a particular political geography of building blocks, or territorial units, that form the basis for allocating representation in government at the centre. Issues of identity, belonging and community are not necessarily resolved by the geographical and statistical modes of organising and building the democratic state. In fact, as the history of Partition and the geographical imagination of Muslim nationalists before 1947 shows, these two facets of state-making often sit in tension with one another.

The boundary commissions that partitioned the subcontinent were certainly problematic. Rushed and working with data that was hurriedly compiled, they were comprised of members who did not have significant boundary-making experience, and who were in the main required to represent the interests of the parties that nominated them. Radcliffe was the exception, an outsider without experience in the subcontinent. But more carefully constructed boundary commissions, even those tasked with drawing less contentious boundaries, still struggle with the tensions and contradictions that made work so difficult for the Punjab Boundary Commission. Using work from electoral geography, I have used this chapter to consider how we might consider the boundary commissions that partitioned British India through the work of Ron Johnston and his collaborators on electoral boundary commissions, in order to understand how the multiple geographies of representative democratic systems are often unstable and in tension with one another.

While the Punjab Boundary Commission was not creating internal electoral constituencies, it was constructing new territorial units out of old ones and redistributing populations along demographic lines. The impossible ideal boundary-making process would create the conditions so that the map of the distribution of a population would align neatly with the map of historical, cultural or identity-based communities. In reality, these two maps sit in tension with one another, each informing the multiple possible routes for a prospective

boundary. In election mapping, the final outcome might be biased in favour of one party or another, even if the process was undertaken by non-partisan actors, because the distribution of different sets of the voting population is not even across space. This tension between the two maps, one of India's population, and one of ideal territories for India and Pakistan, was exaggerated during the Partition process. This was partly because there was no ideal bounded territory for the political imaginary of Pakistan, as Devji (2013) has argued. But at a more mundane level, it was also partly because the partitioning process itself was characterised by a muddling of 'arithmetic considerations' and 'organic considerations'. Ultimately, representative democratic states more broadly struggle to achieve what Indian politicians, judges and scholars tried to build into their future independent India and Pakistan: equal representation, but by whom, for whom, in which place?

Notes

[1] Letter from Kazi S. Ahmad to Oskar Spate, 27 November 1947, Papers of Oskar Spate, National Library of Australia, MS 7886, Box 12, Series 6.

[2] www.aclu.org/press-releases/federal-court-orders-georgia-to-redraw-state-legislative-district-maps [Accessed 30 July 2025].

[3] www.parliament.uk/globalassets/documents/commons-information-office/m15.pdf [Accessed 8 October 2024].

[4] www.bbc.co.uk/news/election/2024/uk/results [Accessed 8 October 2024].

[5] www.bbc.co.uk/news/election/2019/results [Accessed 8 October 2024].

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4. Imaginaries of the state

Joe Painter

> Fantasy—far from being the antagonist of public, social, being—plays a central, constitutive role in the modern world of states and nations (Rose 1996, p. 4).

In this essay I want to take Ron Johnston's *Geography and the State* (Johnston 1982) as the starting point for some ideas about how we think about the state in and beyond political geography, and in particular how the state has been, and might be, *imagined*. For several decades after the Second World War, political geography had little to say about the state as an institution (or set of institutions). In Brian Berry's infamous characterisation, political geography had become a 'moribund backwater' within the discipline (Berry 1969). That changed dramatically during the 1980s, though not quite as Berry had in mind – as Ron himself pointed out:

> Political geography occupied a moribund backwater in the 1960s in part because it had to live with the legacy of 1930s *geopolitik*. Its emergence as a vital sub-discipline was not, however, as Brian Berry intended when he characterised its backward state, because its practitioners neither embraced the quantitative revolution wholeheartedly, nor the theoretical base—geography as a discipline in distance—which most of the revolutionaries adhered to (Johnston 2001, p. 690).

He went on to suggest that, *pace* 'the revolutionaries', the aspect of space of central relevance to political geography is not space as distance, but 'its manipulation into bounded spaces to produce mosaics of containers' (Johnston 2001). Viewed from the 2020s, and with the advantage of hindsight, this formulation appears rather narrow. To be sure, political geographers today are often very interested in bounded spaces, but many of them also want to explore the politics of other spatialities, and often to problematise straightforward notions of boundedness. In part that reflects the increasingly sophisticated understandings of space that have developed (and continue to develop) in geography over the last 40 years. For Ron, that mosaic of bounded spaces that forms the principal focus of political geography largely arose from and expresses the presence and power of the modern state as the dominant political formation of the 20th century. Like their theories of space, geographers' understandings of

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the state have become more sophisticated and nuanced over time. Moreover, state-society relations, the nature and role of state institutions, and the modalities of state power have also changed markedly in the last 40 years.

Geography and the State was published in 1982. It was written in the early days of Thatcherism and Reaganism, just before war between Britain and Argentina over the Falklands/Malvinas, and at the start of the US government's efforts to provide military support to the Mujahideen guerrillas fighting the Soviet invasion of Afghanistan. An ageing Leonid Brezhnev was still the leader of the Soviet Union, and in apartheid South Africa Nelson Mandela was imprisoned on Robben Island. In 1980, the new Conservative government in Britain had given public housing tenants the right to buy their homes, accelerating the transfer of housing from public to private sectors, but the large-scale privatisation of nationalised industries and public utilities was still in the future. While the Pinochet dictatorship in Chile had already imposed brutal economic restructuring in line with the nostrums of the Chicago school of Economics, 'neo-liberalism' was not the widely used term in academic or public discourse that it would later become. New Zealand, which often featured in Ron's geographical writing, did not star as the poster-child for neoliberalism until after its 1984 election. In 1982, the US Centers for Disease Control adopted the term Acquired Immune Deficiency Syndrome – AIDS – or a deadly and seemingly new condition that was spreading rapidly, particularly among gay men. The virus that causes AIDS was first identified in 1983 but did not become known as HIV until 1986. In short, many epochal shifts that have shaped the institutions and practices that we associate with the state have taken place in the 40 years since *Geography and the State* was written. They include the following: the collapse of the Soviet Union and its satellites; the hegemony and subsequent crises of neo-liberalism; changes in the motivation for, and impact of, organised non-state violence; the acceleration of human-induced global heating and the climate emergency; and the comprehensive spread of digital technologies and the new forms of capitalist exploitation and (mis)information circulation which they enable and on which they depend. Although some of these changes were evident in embryonic form in 1982, their extent and complex interrelationships with state institutions and practices were very far from being easily foreseeable.

Geography and the State was published in Macmillan's *Critical Human Geography* series, edited at the University of Cambridge by Mark Billinge, Derek Gregory, and Ron Martin. It was the third title to appear in the series after Sack's (1980) influential *Conceptions of Space in Social Thought* and Gregory's own (1982) monograph on the historical geography of the Yorkshire woollen industry, *Regional Transformation and Industrial Revolution.* The *Critical Human Geography* series went on to publish a succession of highly significant works that created new connections between geography, social theory, and political economy. *Geography and the State* was in good company: monographs that appeared in the series included *Spatial Divisions of Labour* (Massey 1984), *Capitalist World Development* (Corbridge 1986), *The*

Arena of Capital (Dunford and Perrons 1983) and *The Betweenness of Place* (Entrikin 1991), while important edited collections included *Social Relations and Spatial Structures* (Gregory and Urry 1985) and *The Geography of De-Industrialisation* (Martin and Rowthorn 1986).

Having said that, *Geography and the State* is not, in all honesty, Ron's best book. Reviews were, as they say, 'mixed'. Despite being styled as 'an essay in political geography' and 'a polemic' by its author, reviewers noted that the substance of the book is largely a review of other theoretical work on the state and that there is little attempt to evaluate competing perspectives or to develop a coherent analysis of its own, leaving it open to the charge of theoretical eclecticism. Nevertheless, and despite its flaws, it can justifiably be considered a work of critical human geography in that it not only set out why the study of the state should be central to political geography, but also sought to problematise taken-for-granted and conventional understandings of the state and its relationship to capitalist production. Ron was not quite the first geographer to raise those issues – Gordon Clark and Michael Dear (Clark and Dear 1981; Dear 1981; Dear and Clark 1978) had already outlined an impressive agenda for geographical research on the state which came to fruition in *State Apparatus: Structures and Languages of Legitimacy* (Clark and Dear 1984) – but his book helped to make the case for the state as an object of geographical enquiry and was a notable contribution to the ongoing reorientation of political geography during the 1980s.

My intention here is not to provide a further review or critique of the book. Geographical work on the state since 1982 has advanced hugely. Many of the ideas and perspectives on which Ron drew have been debated at length, and new approaches have been developed and debated in their turn. Instead, I want to use *Geography and the State* as the prompt to think a little further about one of the themes that has emerged from the wealth of recent work on the nature of the state, namely how the state has been, and might be, *imagined*. This might seem an odd choice. Ron's vast output is diverse, but I don't think it is unfair to suggest that his work in the main is characterised by a definite commitment to realism. Even *A Question of Place* (Johnston 1991) is principally driven by a methodological approach in which places are understood as the outcome of the combination of political institutions and social relations in workplaces and communities. For Ron, the conceptualisations of place by cultural geographers, who focus on the meanings, imaginaries, values and identities attached to places, are at best peripheral. However, when it comes to thinking about an abstraction such as the state, the imaginary is unavoidable and has significant political effects and implications.

One reason for this, is that the state is *always already imagined*. Indeed, since the state does not exist as a thing, an object, or a unitary organisation, it is as an imaginary – and maybe only as an imaginary – that we can apprehend it in its fullest expression. If, as in Anderson's (1983) famous formulation, the nation exists only as an imagined community, the state might perhaps be understood as an imagined institutional form, something that we do not

experience directly, but only in terms of its effects. Mitchell (1999) writes of 'the state effect' (singular) that is, the appearance that there is a distinct and coherent institutional form that we think of as the state, demarcated from the rest of the social whole. However, we can also think in terms of 'state effects' (plural): events, processes, presences, absences, changes and continuities that we ascribe to the workings of the state and adduce as evidence for the state's existence. But inevitably, if we only have those effects to go on, their cause, generator or source – that which we refer to as 'the state' – will be something we have to imagine, at least insofar as the source is assumed to be singular and separate.

4.1 Iconographies of the state

The most explicit and striking imaginary of the state in Ron's book appears not in its text, but on its cover (Figure 4.1). The image on the front shows a large brown bull secured to the ground. Its muzzle reads 'Gagging Bill'. On its back sit rows of men: clerics, soldiers, liveried footmen and others. Those in the bottom row, carrying papers marked 'TAX' are goading the poor animal with their spurs. Resting on top of the pile is an enormous crown and facing the beast is a figure in military uniform brandishing an executioner's axe. The visual genre is that of an English satirical cartoon, in the style of Gilray or Hogarth. The note on the rear flap of the book's dust cover reads 'Jacket illustration: Poor Bull and his Burden, 1819'. Given the book's title, we might infer that 'the burden' is perhaps 'the state', comprising the military, the clergy, tax administrators and others, all under the authority of the monarchy. The illustrator is unnamed and the format of the reproduction has cropped out most of the artist's signature at the bottom of the image. However, the date is significant: 1819 was the year of the Peterloo Massacre and a time of agitation and unrest in the then 'United Kingdom of Great Britain and Ireland'. The end of the Napoleonic Wars at the Battle of Waterloo in 1815 may have seen the arrival of peace in international affairs but it did not lead to harmony in domestic politics – quite to the contrary. When tens of thousands of protesters gathered at St Peter's Field in Manchester on 16 August 1819 to demand universal male suffrage, they were charged by cavalry with sabres drawn killing several people and injuring hundreds more.

The 'Poor Bull' image is indeed an etching by an English satirist, namely George Cruikshank (1792–1878). Cruikshank was a caricaturist in the tradition of Hogarth and a friend (and illustrator) of Charles Dickens. Well-known for lampooning the wealthy and powerful, he also produced some shockingly racist and sexist images. The British Museum's catalogue entry for its copy of the 'Poor Bull' print includes a complete description detailing the figures in the picture. The bull calls to mind John Bull – the personification of British, and especially English, identity. The blue-coated figure holding the bull's

Figure 4.1: Cover image of *Geography and the State*



Source: National Portrait Gallery Picture Library / CC-BY 4.0.

horns is Lord Castlereagh, the Foreign Secretary. Sitting on his shoulders is Nicholas Vansittart, Chancellor of the Exchequer (finance minister), with a money bag instead of his head. Behind Castlereagh is the Home Secretary and former Prime Minister Henry Addington, Lord Sidmouth, and behind him are six tax collectors, with seven royal grooms on the bull's rump. Above

the tax collectors are seven soldiers from various regiments, and above *them* are six military officers, supporting five courtiers or placemen, one furnished with a sinecure, another with a pension. Atop the pyramid are the men of the cloth. Five portly parsons and three bishops, just underneath the crown. The man in front of the bull is Wellington, the victor of Waterloo and by now a member of the government, in a butcher's apron. The 'Gagging Bill' muzzling the bull refers to the *Blasphemous and Seditious Libels Act* of 1819, one of the infamous 'Six Acts' passed in the wake of Peterloo to suppress dissent.

The caption, with capitalisation and punctuation that would not be out of place on x.com (formerly Twitter), reads:

> Poor **BULL** & his **Burden** — or the **Political MURRAION**—!!!
> "And the land stank—so num'rous was the fry."
> What will become of these Vermin, if the Bull should Rise-? !!!!!!!!!!!

'Murrain' is an archaic term for plague or pestilence, notably used in Exodus 9:3 in relation to the fifth plague, the pestilence of livestock, visited on the Egyptians. The phrase 'and the land stank' is also from Exodus, describing the effect of the plague of frogs. Such biblical references would, no doubt, have been instantly familiar to Cruikshank's audience, at a time when over half the population were regular attenders of church or chapel. The poor bull, we can surmise, is evidently the people of England, or perhaps of the United Kingdom as a whole, and the political class, comprising those perched on his back, is identified as a plague of vermin.

The same theme recurs in another of Cruickshank's works from the same year. *The Political House That Jack Built* is a pamphlet by writer and satirist William Hone (1780–1842). It is a pastiche of the familiar children's nursery rhyme *The House that Jack Built* and includes illustrations by Cruikshank. In Hone's version, the political house that Jack built is the temple of liberty held up by the three pillars of the post-1689 constitution: Commons, Lords and King. We can understand 'Jack' as a nickname for John (Bull) – the epitome of the common man (sic).

The third verse of the poem reads: 'These are the vermin that plunder the wealth that lay in the house that Jack built'. Cruikshank's illustration shows the vermin. They comprise a strikingly similar group to those on the back of the bull: a courtier, a military officer, a clergyman, a tax collector and a lawyer. The page has an epigraph from *The Task* by William Cowper (1785), a long mock-heroic poem in six books. The epigraph includes Cowper's rendering of the story of the plague of frogs from the book of Exodus (Ex. 8:14) and is the source for the line quoted in at the foot of the Poor Bull image. Tellingly, the clergyman in the image is probably the Reverend Charles Ethelston, who served also as a magistrate in Manchester and who read the Riot Act during the Peterloo demonstration.

The 2020s do feel a lot like 1819 in many ways.

I do not know whether Ron selected the image for the cover of the book or had any say in the design. It is not discussed in the text, and I do not want to suggest that we should read unwarranted significance into the image as providing any special insight into Ron's understanding of the state. But the Poor Bull can perhaps serve as an interesting jumping off point for thinking about how the state is imagined in political geography and more widely.

The image and the accompanying text do not use the term 'state' as such, and it appears only once in Hone and Cruikshank's pamphlet, when Hone tells that the 'Dandy of sixty' (the Prince Regent, who would later become George IV) 'to tricksters, and fools, leaves the State and its treasure'. We can speculate, therefore, as to how the state relates to these representations. Is the state the burden on the bull's back, or is the bull the state (comprising the sovereign people of the country) burdened by the corrupt and expensive vermin who prey upon it? Or do we have here some approximation of Gramsci's 'integral state' (Gramsci 1971) in which the state is the whole, vermin and people together?

We might, at a bit of a stretch, connect these ambiguities to some of the formulations relating to the state in Ron's text. Chapter 2 on 'The State: its Nature and Functions' outlines a number of theories on which the book subsequently draws. Ron first addresses the role that the state plays in capitalist societies. He summarises three Marxian theoretical approaches, which, while now very well-known, would have been less familiar to many geographers in the early 1980s. Instrumentalism, 'presents the state as an instrument of capitalist domination of the proletariat' (p. 19). By contrast, 'structuralism' sees the state as 'a necessary part of the relationships between classes that characterise capitalism' (p. 20), whereas the 'state derivation' perspective understands that 'the nature and functions of the state are not autonomously defined but are continually changing as a result of a dialectic between it and the process of accumulation' (p. 21). Turning to how decision-making occurs within the state, Ron contrasts 'managerialism' with 'pluralism'. Following Saunders (1979), he summarises pluralism as a view of the state as neutral and independent of particular class interests. 'Managerialism' stresses the role of state bureaucrats as agents with a degree of autonomy. According to Ron's argument, there is no contradiction between a managerialist perspective on how decisions are made within state institutions and a Marxist perspective, whether instrumentalist, structuralist or derivationist. Many state theorists, Marxist or otherwise, might baulk at the theoretical eclecticism here, and the book does not really succeed in resolving the contradictions, but be that as it may, these various perspectives do reflect differing imaginaries of the state.

Instrumentalism, as the name suggests, implies that the state is imagined as an instrument or tool of class domination – as an object that is separate from those classes, but capable of being 'wielded' by at least one of them. In the image of the Poor Bull, at first sight there seems little evidence of something that corresponds to such an instrument. If we assume that the long-suffering bull represents the people, the domination of the ruling class appears

to be direct (and spectacularly cruel), not mediated through a separate tool or instrument. On the other hand, at least some of the rows of men atop the bull can equally be understood as themselves comprising the state-as-instrument – the tax collectors, soldiers, courtiers and so on. Capitalists – the members of the class that supposedly wields the instrument of the state – are noticeable by their absence from the image. The figures represented are self-serving, not servants of capital. Indeed, the image can in fact most plausibly be read as presenting a *classical liberal* view of the state in which the oppressed bull stands for the whole of society (capitalists included), apart from the political and religious elites.

The Poor Bull also makes sense viewed through a managerialist lens, with the bull's unwanted passengers comprising, among others, the cadres of state managers and bureaucrats who are responsible for decision-making. It thus prefigures more recent work in political geography concerning the 'peopling' of the state. For example, the approach developed by Jones (2007) seeks to take seriously the implications of the fact that the state apparatus is made up of human beings who are not only the rational bureaucratic actors of managerialist theory, but who have their own lives, values, emotions and relationships. Such a perspective is one way of blurring the overly neat boundary between 'state' and 'society'.

Despite the tensions between them, all of these theories relate to the state understood as a differentiated institutional sphere responsible for governing a population that is but a subset of the total human population of the Earth. However, none refers directly to the geography of states in the plural – the mosaic of bounded containers that divides that global population spatially. That wider geography is examined from various perspectives in the remainder of *Geography and the State,* taking in the history of state formation, the development of the capitalist world economy, colonialism, neo-colonialism and the emergence of political-economic blocs, most notably the European Economic Community (later to become the European Union).

There are thus two overarching sets of imaginaries at work in the book – as in political geography more generally. One is concerned with the state as a more or less separate governing apparatus *within* a bounded space or territory. The other relates to states understood *as those bounded territories themselves*. In the first it is the nature of the boundary between state and society that exercises theorists, while in the second it is the boundaries between states.

The image of the Poor Bull falls squarely into the first set. It is an image devoid of explicit geography, although it is clear that it relates to a specific state, the United Kingdom. The presence of the victor of Waterloo and of military personnel perhaps hints at a wider world but the Poor Bull otherwise appears to be exclusively concerned with – and weighed down by – domestic politics. While there are some similarities between the Poor Bull and the more famous graphical depiction of the state that forms the frontispiece to Thomas Hobbes *Leviathan* (Hobbes 1968), the latter image includes a lot of geography and territorial signifiers. It also shows a human body (that of the monarch)

whose torso and arms are formed of the bodies of numerous individual people, his subjects. While *Geography and the State* does not discuss how the state is imagined, it does contain certain imaginaries of the state – necessarily so, it might be argued, given that the state is an abstraction that we can apprehend only through acts of imagination.

For example, echoing the frontispiece to *Leviathan*, the-state-as-body is a recurring motif in Ron's text: thus we read that 'states are sovereign bodies' (p. 1), 'the state apparatus is very much a self-perpetuating body' (p. 3), the capitalist class 'wants an external body [i.e. the state] to control such operations to capitalist ends' (p. 18) and so on. To be sure, 'body' here carries the long-established distinct meaning of a collective group or organised unit, largely shorn of metaphorical associations with a biological human body. However, all writing about the state has to grapple with the problem of how to represent the abstract concept – whether as body, machine, instrument, organism, apparatus, organisation, island, burden, bureaucracy and so on. *Geography and the State* itself concludes by invoking the idea of the state as performance (p. 262). In the rest of this chapter, I want to offer some thoughts on how the state might be imagined drawing not on mechanistic or organic (or dramaturgical) metaphors, but on topological thinking.

4.2 Topologies of the state

I noted above that we can only experience what we imagine to be the state in terms of its effects. But surely if it has effects, it must exist, right? So, what gives rise to the effects of what we call, or imagine to be, the state? One answer is that state effects are the outcomes of myriad socio-technical practices which resonates with Ron's emphasis on managerialism. Many of those practices, though certainly not all, take place in institutional settings, and many, though certainly not all of those institutional settings are what we typically label governmental, ministerial, parliamentary, judicial, public-bureaucratic, military, municipal and so on. In other words, some proportion of the institutional settings within which state effects are generated comprises organisations that are conventionally understood to be state institutions (government ministries, municipal councils, courts, armies and so on). However, the corollary is that a complementary proportion of state-effect-generating institutional settings comprises settings that would not conventionally be seen as state institutions, including private corporations, non-governmental organisations, social movements, religious organisations and the media, as well as settings that are sometimes seen as quasi-, partial or shadow-state institutions. Indeed, it is increasingly difficult to neatly assign a whole range of contemporary institutions to the tidy categories of 'state' and 'non-state', which contributes to the difficulty of drawing a boundary between what is inside and outside the state (it is precisely that boundary-drawing that Mitchell (1999) identifies as 'the' state effect). Rather than seeking to assign any specific institutional setting to

the category of *either* state *or* non-state, such settings can often be recognised as *both/and*: both state and non-state. State effects also arise in part from practices that take place outside of institutional settings – in private households, through interpersonal relations such as friendship, and through everyday individual behaviour.

This is not to underwrite or licence a totalising or a totalitarian view of the state, still less one in which the state is understood to be co-extensive with and exhaustive of the whole of society, though, as Giddens (1985) notes, all modern states have a tendency towards totalitarianism. Rather, it is to recognise that the effects of what we imagine to be the state are generated through a diverse range of practices in a wide variety of institutional and non-institutional settings, many of which are not conventionally understood as part of the state (at least if it is imagined as an organisation or set of organisations). Here I should add that my remarks refer principally to what we think of as the modern nation-state, although I hope the general idea could be applied more widely.

When I refer to the socio-technical practices that generate state effects, I am not thinking only, or even primarily in terms of what we imagine broadly to be the *functions* of the state (such as passing legislation, raising taxes, declaring and waging war, enforcing the criminal law, and providing health care, education and other public services). I am thinking in more granular – if not quite micro-social – terms. The practices I have in mind include practices of innovation and of maintenance, of production and reproduction (and co-production), of construction and dismantling, of deliberate rupture and of repair, of communication and silencing, of publicity and concealment, of monitoring and neglect. They are power-laden in the multiplicity of ways described by Allen (2003), involving not only modalities of power traditionally linked to the state, such as coercion, domination and authority, but also others such as persuasion, manipulation, seduction, negotiation and inducement. What this requires, I think, is not just an 'unpacking' of the inner workings of the state or state institutions, but a recognition that what we imagine to be the state's 'inner workings' are not neatly 'inside' a container that we label the state, but are entangled in myriad ways with activities and events that we commonly imagine to be 'outside'.

In Allen's (2016) book on *Topologies of Power*, he invokes the figure of the Klein bottle. The Klein bottle extends the topological thinking behind the simultaneously two-sided and one-sided Möbius strip to voluminous space – the inside of the bottle is also its outside and vice versa. Allen uses the Klein bottle to think about the ways in which space is folded in on itself to enable, for example, the simultaneous presence in real time of actors physically located elsewhere (his example is the international financial sector). We can extend this idea to the state – what is imagined to be 'inside' the state is simultaneously 'outside' and vice versa. This is a more radical idea than either the notion that the state is 'porous' (in which the inside seeps through to the outside and vice versa) or the principle of the 'constitutive outside', in which the inside is partly produced by the outside. It also has the potential to bring into

focus the enfolded spatialities of the state (indeed it is spatial 'distortion' that is Allen's main concern in *Topologies of Power*).

Thinking in granular terms about state-effect-generating practices also requires, at least initially, a refusal to reduce state effects to a singular logic or explanatory principle, such as bureaucratic rationality, territorial control or class domination. That is not to say that such explanations are necessarily false or of no use. But it is to say that imagining the state otherwise than as a unitary centralised sovereign authority requires that attention be paid to its heterogeneity, its inside-outness, its paradoxes and dis-unities, its frailties and failures. To do otherwise is to accept the self-image of the state as unified, centralised, sovereign and authoritative; and how can we accept the self-image of some 'thing' that, I want to insist, is not a thing and has no self-hood?

Like the institutional settings discussed above, state-effect-generating practices include both practices imagined as typically undertaken by state officials, and those that might more likely be imagined as involving non-state actors. Depending on circumstances both can contribute to generating state effects. At first sight it might appear that a police officer making an arrest is a prime example of a state actor contributing to the generation of a state effect, and so they are. But the suspect who has been arrested is likewise making a contribution. Indeed, without the suspect there is no arrest. The state effect here is co-produced by the state official (the police officer) and the non-state actor (the suspect). If remanded in custody or convicted and sentenced, the suspect becomes a prisoner – on the face of it as 'inside' the state as you can get, yet they remain simultaneously 'outside' (Klein bottle-style) in important respects. For example, in many jurisdictions the suspect has a legal right (itself a state effect of course) to communication with the outside, which in the case of communication with a lawyer may be privileged, thereby forming a topological tunnel through the inside/outside 'boundary' of the state (like a VPN connection, which is also referred to as a tunnel). The prison may be built, managed and run by a private company (such as G4S and Serco), and be served by chaplains and volunteer prison visitors – further examples of actors who are both inside and outside. Even seemingly clear examples of state officials serving the prison (prison officers, doctors, social workers, teachers) pass through the Klein-bottle-space of the prison on a daily or weekly basis, returning to the 'outside' – literally and figuratively – at the end of their shifts, yet somehow never wholly shaking off the inside, finding inevitably that the experience of their working environment shapes their thoughts, actions and interactions beyond its walls and vice versa.

If the inside-out state is evident in so seemingly closed and bounded an institution as a prison (which was after all, Foucault's (1976) archetype of a disciplinary total institution), how much more evident it will be in more formally open and evidently porous parts of what we think of as the state apparatus. Moreover, and here's the rub, the inside-out state is *also* evident in institutional settings imagined as lying beyond the state-effect boundary – the outside-in state as it were. A secretive 'offshore' financial institution might

seem to be the epitome of 'beyond' the state, yet such institutions only have meaning and purpose because of 'onshore' state effects (taxation regimes, exchange controls, banking regulations) and are themselves supported and enabled by the state effects generated by the government policies and legal system of the particular tax haven where the institution is, for legal purposes, located.

One difficulty with Klein bottles, topological folds, both/and, and inside-outness, is that they are counterintuitive and often *difficult* to imagine, particularly when used to think about institutions and practices. It can sometimes feel like an *Alice Through the Looking-Glass* world, in which, like the White Queen, we are seeking to believe six impossible things before breakfast (Carroll 1871). Looking at a two-dimensional picture of a Klein bottle, for example, only goes part of the way to helping us understand its strangeness. It is sometimes said that the task of the anthropologist is to make the strange familiar and the familiar strange. (I am a geographer, not an anthropologist, but there are numerous resonances between the two disciplines.) The sheer ontological oddness of the state seems to grow the more one reflects on it.

The strangeness of the state effect may go some way to explaining the plethora and variety of state imaginaries in popular and public discourse. Most conventionally the state is imagined as an object – an organisation, a machine or a system (or perhaps that should be as *the* system). It is also imagined as Other – as an unnamed shadowy network: one does not have to be an out-and-out conspiracy theorist to use terms such as 'them' and 'they', 'the powers that be', 'the establishment', 'the political class', 'the man' or 'the elite' in referring to state actors and to the agency that gives rise to state effects. Like most enduring and deep-rooted discourses these terms contain a large grain of truth, of course – there is often collusion, common purpose, joint action and agreed strategies among groups of state actors, and there are certainly shared interests. But the very idea of 'interests' itself supports the notion of the inside-out state, inasmuch as the notion of interests indicates an attachment, a relationship or a flow of affect, *from the outside in.* Of course, some interests may be purely 'internal', but the kinds of interests evoked when we imagine the state to be in thrall to an elite are very much outside interests. Indeed state institutions often have a Register of Outside Interests in which members and employees have to declare financial and other commitments to *outside* groups, organisations and individuals.

Another kind of state imaginary is that the state is a fiction, or even a fantasy (Rose 1996). This has a number of variants. For some more positivist-inclined political scientists, frustrated with the difficulty of clearly demarcating the state, the idea of the state should be replaced with that of the 'political system'. In other words, the state is understood to be a fiction in the sense that it is not real, not graspable as an entity, and thus not amenable to being defined and studied. In a rather different vein, state theorists writing in the neo-Marxian tradition sometimes refer to the state as a 'juridico-political fiction' – which is by no means to dismiss it as irrelevant or lacking in social effects. This notion

resonates with the idea of a fiction as 'something made' (Latin *fictio* = something made, formed or fashioned). The inside-out view of the state outlined above could also be said to treat the state as a fiction in that sense – the state effect(s) *being made* through a range of socio-technical practices in diverse institutional settings.

Quite commonly the state is imagined as a person, and the variety of types of person involved is striking. One might begin in the footsteps of Neocleous (2003), exploring how the state has been imagined as the human body – as seen in the Leviathan example above. Classically the state may be imagined as a guardian or a protector: as father, monarch, head of the household (note Foucault's parallel between household government and the government of the state), or, in a darker vein, as George Orwell's Big Brother (Orwell 1949). In equally masculine style, the state can be imagined as warrior or aggressor. But there are also feminine state imaginaries – the nanny state, the cradle-to-grave carer, alongside numerous female personifications of national identity (Britannia, Marianne, Mother Russia and so on). Completing the familial imaginaries is the figure of the state as child – newly independent former colonies, for example, described as 'infants' or 'learning to stand on their own two feet' or 'developing'. Within the wider household stands the state as servant – either grandly as 'servant of the people' or more mundanely providing everyday services, doing the heavy (infrastructural) lifting, the catering and cleaning – think of the frequency with which the primary tasks of municipal government is said to be 'emptying the bins and sweeping the streets'.

Moving beyond the family and household the state can be imagined in a variety of occupations. The state may be thought of as a bureaucrat, monitoring, regulating, authorising, filing and recording. The circulation of files, paper, records, and (nowadays) their digital equivalents is imagined to be the essence of state activity. For some, the state is a thief – those who see the right to private property as axiomatic and pre-political are wont to see taxation, for example, as illegitimate expropriation (for example, Austrian school economists and the US Tea Party Republicans). It seems that a full time career of larceny is liable to inflict a certain amount of psychological damage on the perpetrator, however, or at least that is the conclusion we can draw from Monbiot's (2013) imagining of the state under neo-liberalism as the 'self-hating state'; a formulation that perhaps invites a psychoanalytics of the state. Conversely, those who treat the state and its effects as necessary and enabling pre-conditions for private production are more likely to posit the state as entrepreneur, as in Harold Wilson's enthusiasm for the white heat of the technological revolution, and Mazzucato's recent and hugely important delineation of the Entrepreneurial State (Mazzucato 2013).

And we could go on – the state can be imagined as magical (Taussig 1997), as romantic (Nandy 2003), as Protean (Resnick 1990), as a voyeur (Scott 1998), as viewed (Corbridge et al. 2005), as improvised (Jeffrey 2013), as captive (Monbiot 2000), as courageous (Murphy 2011), as silent (Brooke 2010) and so on and on.

4.3 Conclusion

Each of these myriad imaginings brings into relief a different combination of institutional settings and socio-technical practices, and each speaks to a different aspect of the cultural politics of stateness and the state effect. The great majority do not underwrite a normatively neo-liberal view that the state should be as small as possible, and that state action is, at root, illegitimate and malign. Indeed many of them are explicitly designed to challenge it. There are, in short, numerous counterhegemonic state imaginaries. What can turning the state inside-out (and outside-in) add to the task? Leaving aside for the moment the question of what kind of politics we are thinking of (different state imaginaries will be appropriate for different forms of politics – green, feminist, socialist and so on), there are perhaps four implications we can consider.

First, the (imagined) inside-out state is not a separate body or person, distinct from the rest of the social whole. It is entangled, albeit unevenly, with virtually the whole range of practices and institutions, and the people who produce them.

Secondly, an emphasis on practices, draws attention to the sheer work, labour and effort required to produce and reproduce state effects, which in turn highlights that state effects can be transformed.

Thirdly, both the above have implications for understandings of citizenship. Seen inside-out, citizenship is not a contract, nor a relationship between pre-existing, pre-political individuals and a real institution or an imagined state-as-person or state-as-sovereign. Neither is citizenship a constant. Rather citizenship is also formed of practices – and acts (Isin and Nielsen 2008) – that flow and connect us unevenly, contributing to and shaped by state effects.

Finally, the inside-out state cannot easily be imagined as an immutable system, a closed conspiracy, or as something that can be captured by a singular interest or elite group. That is not to say that state effects do not exhibit systematic biases and result in the uneven and frequently unjust distribution of social costs and benefits. But it does suggest that such outcomes do not result from the quasi-military takeover of a unified state apparatus by a class, but from a more diffuse and diverse set of practices. Changing such practices on a sufficiently widespread scale to produce less biased and more just outcomes is certainly daunting but not intrinsically more daunting than the revolutionary overthrow implied by the 'military capture' model. Insurgent, nomad and guerrilla tactics will be the order of the day in a progressive struggle for the inside-out state.

The Klein bottle and the inside-out state have taken us some way from the Poor Bull weighed down by corrupt elites and the costs of war. Yet both images prompt us to consider how we understand – and imagine – the relationship between what we call the state, the effects we perceive it to have, and the wider formations, histories and geographies to which they are connected. Although different in substance, such a project is very much in keeping with the spirit of Ron's book, and of his wider work.

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5. Placing the vote: Ron Johnston and electoral geography

Charles Pattie

Regular democratic elections provide a key means by which citizens express their political preferences and hold their governments to account. Quite what messages voters are sending, and how those messages are translated from the ballot box into the political complexion of the elected parliament, can be complex, however. Parties, the media and often the public tend to interpret the act of voting for a party as indicating support for its programme in its entirety (and hence conferring a mandate on the winning parties to turn that programme into a blueprint for government). But it is rarely so simple. Some voters might not know much about their party's detailed policy positions or politics. Others might agree with the party they vote for on some issues but disagree with it on others. What is more, what motivates support for one party rather than another can vary from person to person. And in all democracies, levels of party support vary from place to place (sometimes substantially so). Electoral geographers work to understand the causes of that geography.

The rules under which elections are fought – how proportional the electoral system is, whether (and how) the national territory is divided into electoral districts, and so on – also materially affect the clarity of the electoral message. For instance, the UK's use of single-member constituency first-past-the-post (FPTP) plurality rules for elections to Westminster famously tends to produce single party governments with a clear (and often large) parliamentary majority (it failed to do so in only 3 of the 21 General Elections since 1945 – in February 1974, 2010 and 2017). Yet no winning party over that period obtained a majority (that is, over 50 percent) of the vote. FPTP usually gives the most popular party a 'winner's advantage' in the form of a higher proportion of seats than its nearest rivals. But not always. In some elections (for example, 1951 and February 1974), the most popular party in the national vote returned fewer MPs to Parliament than its nearest rival. And the size of that 'winner's advantage' is not stable. In other elections, some parties see their share of the vote increase over the previous contest, yet their number of MPs fall (a fate that befell the Conservatives in 2017, when their vote rose from 37 percent to 43 percent, but their representation fell from 331 to 318 MPs, wiping out their parliamentary majority). Once again, geography – and, in

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particular, the interaction between the geography of party support and that of electoral districts – is key to understanding how the electoral system produces such varied outcomes (see also, Chapter 3, this volume).

From the 1960s onwards, a major strand of Ron Johnston's research tried to disentangle and understand the electoral process, and to show the crucial role played by geography in influencing voters' actions, parties' campaign strategies, and the operation of the electoral system itself. In this chapter, I explore Ron's contributions to debates in all of these areas.

5.1 Geography and voter choice

Much electoral research focuses on the factors which animate voters' choices on polling day. Within this literature, there are numerous theories purporting to explain how voters decide. One common view (which goes back to classic rational choice accounts of voting; for example, Downs 1957) sees voters as political consumers, supporting the parties they think will provide the policies they want. During an election, rival parties offer alternative visions for a country's future, and different packages of policy proposals and ideas to achieve their vision. And some individual voters, acting as political consumers, have the opportunity to support the parties or candidates whose policy positions are closest to the voters' own preferences. From another perspective, voters are swayed by their social and political identities, voting for parties because they identify with them (as described by the classic Michigan model of voting: Campbell et al. 1960; Lewis-Beck et al. 2008), or because the party is seen to represent a social group (based on affiliations like class, ethnicity and religion: Evans and Tilley 2017; Lipset and Rokkan 1967). According to yet another account, most voters want the same things from their government – prosperity, security and so on – and vote for the party perceived to have the best (or least disappointing) record for actually delivering it (the valence model: Fiorina 1981; Clarke et al. 2016).

As the (extensive) mainstream literature on electoral behaviour shows, most voters, in most elections, are influenced to some degree by several of these factors simultaneously. However, much of the classic literature on the subject also shares a common basis in methodological individualism. Voters are conceptualised as isolated individuals, responding to their own private motivations and stimuli. However, real voters are not divorced from the wider social and geographical contexts in which they live. They are influenced not only by their own personal positions, but also by the views and experiences of their friends, families, workmates and acquaintances. They live in, and are not insulated from, wider communities. And those communities, friendship circles and so on are diverse and varied, socially, economically and politically. That is liable to have an effect on individuals' political beliefs and actions. Much of Ron's work on electoral geography was, at root, directed at understanding those contextual and geographical effects (see also Chapter 6).

Social geography and the vote

Social cleavages in party support are a long-established feature of voting behaviour. In many European democracies, for instance, social class has traditionally been an important political dividing line: while working class voters tended to lean towards parties of the left, middle class voters leaned to the right (Butler and Stokes 1969). Similarly, home owners tended to support conservative parties, while those who rented their home from public sector landlords tended to align on the opposite side of the political aisle (for example, Dunleavy 1979). The association between class and vote has weakened over time but still has some effect (Evans and Tilley 2017). Similarly, there are ethnic divides in party support. Partly because of the legacies of colonialism and racism, partly because of associated socio-economic sorting along ethnic lines, Black and Minority Ethnic voters in Europe and North America are often more likely to support parties of the left than are voters from other ethnic groups (Sanders et al. 2014), although there is variation within groups, and signs of fragmentation in that support over time (see, for example, Stowers 2024).

Labour and housing markets tend to sort populations geographically by these socio-economic and ethnic dimensions. People from similar backgrounds tend to live in similar areas. And to the extent that these dimensions are related to party support, that will also create a geography of party support. Traditionally working class districts have often been relative strongholds for left-of-centre parties, while right-of-centre parties are often strongest in more middle class areas (Crewe and Payne 1976; Johnston 1985; Tingsten 1937). By itself, this constitutes a classic 'compositional' effect (Johnston 1986; Thrift 1983): how an area votes is a simple function of the sorts of people who live there and their political affiliations. This perspective is compatible with the methodological individualism inherent in much of the psephological literature: even if people's political motivations are entirely personal to themselves, the simple act of living surrounded by other individuals with similar motivations will produce a geography of the vote.

However, things are more complicated. In part, this reflects shifts over time in the relationship between class and voting. By the 2010s, for instance, Labour support was declining and Conservative support was rising in many traditionally working class constituencies (with partially compensating shifts in some middle class areas: Furlong 2019; Heath and Goodwin 2017; Johnston, Pattie and Manley 2017; Johnston, Pattie and Rossiter 2017). But complications also arise from more contextual understandings of how voters decide (Agnew 1987; 1996; 2002; Johnston 1986; Thrift 1983). Voters not only live in communities but are influenced by what they see and experience around them.

Early analyses of aggregate constituency election results provided some evidence to support this view (Crewe and Payne 1976; Johnston 1985; Miller 1977). The national class cleavage (describing the average difference in party

support between the classes) could not entirely explain the geography of party support. In British elections, for instance, the more working class/less middle class a constituency's population, the better the Labour party tended to do there and the worse the Conservatives tended to poll. But this pattern was not uniform. In very working class areas, Labour's vote share tended to be noticeably higher than would be expected on the basis of the national class cleavage and the local class structure alone. The same (*mutatis mutandis*) was true of Conservative support in very middle class areas. Local outcomes were not simply the result of uniform national patterns playing out in different communities.

The neighbourhood effect and voting

One possible mechanism which might produce such an outcome is the neighbourhood effect, which suggests that people, especially those whose own political convictions are relatively lightly held, will tend to take on the political views of those among whom they live. This might come about through a process of daily interactions with others, some of which might be substantial, others fleeting. Those interactions, says the theory, help individuals form a view of what other people similar to themselves might think and do, hence providing a possible cue for their own actions. In communities where one party is noticeably more popular than others, it is likely that a majority of encounters in the community will be with supporters of that dominant party, hence increasing the chances of individuals changing their own positions to that shared by the local majority. As Miller (1977, p. 65) put it, 'people who talk together, vote together'.

In a seminal 1969 paper, Kevin Cox outlined a theoretical model for the neighbourhood effect in voting. Reading the paper shortly after it was published, Ron was intrigued – and sceptical; surely voters followed their personal preferences and principles? To test Cox's theory, he began amassing data on voting in Christchurch, New Zealand (where he was then based, at the University of Canterbury). Much to his surprise and fascination, the results of his analyses were consistent with Cox's theories: in their home districts, candidates did better than their parties (Johnston 1972; 1974).

Ron's subsequent work on elections grew from this small beginning to become a very substantial part of his academic life: he eventually published several hundred papers and book chapters on the subject, as well as ten sole- and co-authored books. Further engagement with research in both human geography and political science rapidly widened both the theoretical and empirical range of Ron's electoral work. An early product of that encounter, *The Geography of Elections*, co-authored with Peter Taylor (Taylor and Johnston 1979), provided not only a very comprehensive overview of the field at that time (indeed, the book served as a benchmark on the subject for many years), but also served as a manifesto for his future work on the subject,

adding electoral campaigning, the effects of geography on electoral systems and the implications for political power to his research agenda (all areas discussed further below).

The neighbourhood effect and the social geography of party support remained a core interest in that endeavour. Much of Ron's early work on the subject employed ecological modelling of constituency election results. Not only did the geography of party support tend to follow the social geographies of the various groups supporting each party, but – as predicted by the neighbourhood effect – parties tended to do even better than expected in areas where their social base was particularly strong. Some analysts argued that this pattern was more a consequence of incomplete models than of any actual neighbourhood social process. Dunleavy (1979), for instance, argued that analyses which purported to show neighbourhood effects tended not to show concrete evidence for the social interactions needed to make the effect 'work': as he put it, '(w)e cannot simply assume that political alignment brushes off on people by rubbing shoulders in the street' (p. 413). Rather, for Dunleavy, consumption cleavages (especially around housing tenure) would help account for the anomalies in party support which Miller (1977) and others pointed to as circumstantial evidence for local contagion effects. Under some circumstances, consumption effects might 'reinforce occupational class effects' (p. 443), for instance, where working class people lived predominantly in public sector rented accommodation, in this case boosting local support for parties of the left. Under other circumstances (for instance, where many working class residents of an area also owned their own home), class and consumption effects would 'cross-cut' each other, diminishing support for 'working class' parties locally. Crucially, none of this required individuals to interact politically with their neighbours.

In addition, analyses regressing constituency vote shares on Census data raised two further problems. One involved the ecological fallacy. While they could show, for instance, that support for the British Conservative party was higher the more middle class the area (or, *mutatis mutandis*, showing the same for Labour and working class residents), they could not demonstrate that middle class people in each seat were voting Conservative (or that working class people were supporting Labour). Nor could they show the extent to which processes such as the neighbourhood effect might be distorting the class cleavage in different areas (making, for instance, middle class residents in predominantly working class areas more likely than average to support Labour). To do this would require an immense national survey, with substantial subsamples in every constituency – a very expensive and impractical option!

The other problem, meanwhile, was an issue of scale. Parliamentary constituencies tend to be quite large. In the United Kingdom, for instance, the average constituency contains around 70,000 electors (and rather more people in total, once those not eligible to vote are counted in). That rather stretches the definition of a 'neighbourhood community'. Even turning to local government elections in the UK – where data area available down to the local

government ward level – involves areas which are on the large side for true neighbourhoods (though they vary much more in size than parliamentary constituencies, the average British local government ward contains something like 6,000 electors, and the largest can be over twice this size). For most people, their neighbourhoods are more intimate and local than that (Shmool et al. 2018).

Such critiques pointed to the need for better data (to improve on simple ecological patterns), and for analyses that could test for the existence of 'contagion' processes in neighbourhoods – such as politically efficacious conversations between individuals. In subsequent work, Ron took up these challenges.

The obvious 'fix' for the criticism that parliamentary constituencies are too large to be said to be true neighbourhoods is to obtain data for smaller areas. That presents problems in the UK, however, as general election results are never released at any scale below the constituency (other countries do it differently, of course). An alternative solution was to use geocoded data from the British Election Study's 1997 survey of UK voters to match individual respondents to Census data for their immediate local areas (Johnston et al. 2001; MacAllister et al. 2001). For each respondent, a nested set of five bespoke neighbourhoods were defined around their home address, using enumeration districts (EDs: the smallest units for which the UK Census was, at that time, reported and very local indeed) to obtain Census data for the areas containing the nearest 500, 1,000, 2,500, 5,000 and 10,000 people to that respondent. At all of these scales, the same patterns continued to emerge. The higher the social status of the local area, the more likely survey respondents living there were to vote Conservative rather than Labour, no matter which class the individual respondent belonged to personally. Once again, this shows clear circumstantial evidence for a neighbourhood effect, and at much more 'neighbourhood' scales than the parliamentary constituency.

Addressing the ecological inference problem required fresh techniques, enabling the estimation of the class cleavage in each constituency. Alan Wilson's work on entropy maximising provided a way forward (Wilson 1970). Wilson's technique used known information to estimate unknown information. Applied to electoral analysis, the 'knowns' included (for instance) the national class cleavage at an election (obtainable from national survey data), the class composition of each constituency's population (from Census data) and the election results in each constituency. Entropy maximising used these data to estimate the unknowns – the class cleavage in each individual seat. The constituency estimates were small 'c' conservative, providing the minimum likely deviations from the national cleavage consistent with the constraints of the 'known' data (Johnston 1985; Johnston and Hay 1982; Johnston, Pattie and Allsopp 1988).

Armed with these estimates, Ron demonstrated that the class cleavage in British voting did vary from place to place – and in ways consistent with the neighbourhood effect (for example, Johnston 1985; Johnston, Pattie and Allsopp 1988). The more working class a constituency's population was, the

more voters from all classes living there tended to vote Labour; the more middle class the seat, the more members of all classes living there turned to Conservatives. What is more, when the technique was used to test the contention that class and consumption cleavages combined could 'explain' the neighbourhood effect, it turned out that they could not entirely do so. Even when local cross-cutting cleavages were taken into account, the neighbourhood effect would not go away (Johnston 1983). Something distinctive was clearly happening in local communities.

The technique also helped illustrate other contextual effects in voting. In FPTP single member constituency systems, for instance, many voters live in places where their preferred party has no chance of winning the seat, usually because it is in third place or worse locally. People in this situation are faced with a dilemma: to vote sincerely and have no effect on the election outcome; to abstain (and also have no effect); or to vote tactically for another party which has a better chance of winning the seat. The probability of casting a tactical vote should vary depending on the local political context. For voters living in seats which are held (or could be won) by parties they oppose, the incentive to vote tactically increases the further from contention their preferred party was in the constituency at the previous election and the more competitive their second preference was then. Analysis of the constituency-level flow of the vote between elections, and of survey evidence, shows that this is indeed the case (Johnston and Pattie 1991; 2011). Most voters are 'sincere' voters, but where local conditions make that a poor strategy, a significant number of voters (and enough to change the results in close competitions) choose to vote tactically, in order to maximise the chances of defeating candidates from the parties they dislike.

An interesting question remains, however: how do voters know the local tactical conditions in their seat? Some may well use recent national opinion polling to guide them. This may well be a mistake: the tactical situation in many constituencies will be rather different from that in the country as a whole, and this may lead some 'tactical voters' into mistaken decisions, supporting their second preference party when their first preference party has a better chance of winning (survey evidence shows that some tactical voters do indeed get it wrong!). Some, no doubt, use the results of the previous election in the constituency as a guide. This is a better strategy, and during elections, a number of online sites now use this sort of information to let interested votes know what their options are locally. But over the course of a four or five year parliament, things can change: while the previous election is often a good guide to the situation on the ground in the current contest, it is not always so. Occasionally, local opinion polls are conducted near the time of the election in particularly marginal seats. These can give a better idea of the current situation on the ground, and can influence the course of the election locally (Hartman, Pattie and Johnston 2017).

But all these routes depend on voters themselves making the connections, seeking out the relevant information. While some (mostly the already highly

politically motivated, who arguably need the information least, as they already know) will, many (perhaps most) probably will not. So how do they 'take the waters' about the local situation? Some comes from parties; local campaign efforts – which are themselves responsive to changing local information about the parties' chances – a topic I return to below (but see Hartman, Pattie and Johnston 2017). And some information may come from conversations with family, friends and acquaintances.

This brings us to the remaining criticism of early 'neighbourhood effect' studies: the reliance on indirect evidence, and the failure to show processes of 'conversion in place' in operation. One way into this is to test whether conversations and contacts between voters are electorally consequential. Pioneering research in the USA surveyed both individual voters and the people they said they talked to most frequently about politics (Huckfeldt and Sprague 1995). Most conversations were between people living in the same locality. And those conversations did affect political choices. Political independents and people who previously supported one of the main parties and who talked to people who supported a different party were more likely to switch their allegiance to the party supported by their conversation partners than were people who either did not discuss politics with others, or who mainly talked to fellow supporters of their original party. The effect was stronger for those whose partisan attachment to a party was relatively weak to begin with than for those who were strong partisans.

Data protection laws make applying a similar research design in the United Kingdom difficult. However, there are alternatives. The British Election Study, for instance, has on several occasions asked respondents to talk about the people they discuss politics with most often. While the discussion partners themselves are not interviewed, survey respondents are asked about their relationships with each person (is the person their partner, a family member, a friend and so on), which party (if any) they think each person supports and so on. This goes some way to revealing the conversation networks within which individual voters live. Using these data, Ron and colleagues were able to show that most British voters did discuss politics with other people on at least some occasions. Conversations about politics occurred most frequently with partners and other family members. But friends, neighbours and work colleagues were also part of individuals' networks. What is more, conversation networks were typically politically relatively diverse. In 1992, for instance, the BES asked respondents about the three individuals they discussed politics with most. A total of 63 percent of them thought they knew which parties their conversation partners supported (the remainder either said they did not discuss politics with others, or were uncertain of their discussion partners' affiliations: Pattie and Johnston 2000). Of those who thought they knew, about 40 percent reported that at least one of their top three discussants supported a different party to the one they themselves supported. When similar questions have been asked in later BES studies, similar results emerge.

Not only did many voters discuss politics with others, encountering a range of different views in the process, but those conversations are political consequential. The more British voters who had not previously voted for a party talked to others who did support it, the more likely they were themselves to switch to that party (Pattie and Johnston 2000; 2001). Consistent with the neighbourhood effect literature, there is a tendency for people to align their vote with the most popular party within their conversation networks.

The influence of conversations is not limited to party choice, however. Individuals' political views, their tolerance of different views, their confidence in their own opinions and so on are affected by how politically diverse or homogenous their conversation networks are. The more people are surrounded by others who share the same views as themselves, the more likely they become to see those who hold different views as being politically extreme and the less tolerant they become of people whose views differ (Pattie and Johnston 2008a; 2016). Conversely, the more politically diverse individuals' networks were, the more tolerant they were of rival views, and the less extreme they thought such views were. If more generally true, then this finding is relevant to how 'echo-chambers' (and political campaigning) operate on social media platforms to amplify political and social divisions.

The extent to which citizens discuss politics with other citizens also has implications for their wider political engagement. The more people talked to others about politics, the more their own interest in politics grew over time, for instance, as did their chances of actually participating in a range of political activities (Pattie and Johnston 2008b). What is more, people's perceptions of what others in their local area might do matter. The more individuals think others in their area will vote, the more likely they are to do so themselves. Conversely, the more they think their neighbours consider participation to be a waste of time, the less likely they are to take part (Pattie and Johnston 2013). This effect is particularly noticeable at the very small scale of the household: the more those one lives with participate, the more one does so oneself (Johnston et al. 2005).

Economic geography and the vote: geographies of valence

Contextual and geographical influences on elections are not limited to the neighbourhood effect. The local economic context is also important; analysing its effects formed another strand of Ron's work on electoral geography. As discussed above, geographical variations in the locations of the social groups who form the core support of particular parties results in associated variations in the geography of party support. In Great Britain, for instance, the Labour party traditionally did best, and the Conservatives worst, in the old industrial towns and inner cities of the North of England, South Wales and central Scotland, where large concentrations of working class voters (who prior to the 1980s were also often highly unionised) almost guaranteed support for

the former. The Conservatives, meanwhile, often did best (and Labour worst) in the more middle class suburbs, in rural areas, and in much of the South of England.

During the 1980s, this 'classic' regional divide began to widen quite rapidly: Labour support grew in much of the urban North, Scotland and Wales, while Conservative support grew in the South and the suburbs (Johnston, Pattie and Allsopp 1988). Intriguingly, although it seemed to accentuate class geographies of voting, this regional divide widened at the same time as the national class cleavage in British voting was weakening. As discussed above, this partly reflected increasing local variation in the class cleavage, with middle class northerners increasingly moving to Labour and working class Southerners to the Conservatives. In the 1990s, meanwhile, the regional gap narrowed again (though did not entirely disappear), as Labour support grew in the English Midlands and South (Johnston and Pattie 1998). Shifts in the country's regional electoral geography continued into the new century. By the start of the 2020s, for instance, Labour had been eclipsed in Scotland (previously one of its strongholds) by the Scottish National Party (SNP), and had also lost a large number of long-held seats to the Conservatives in the industrial towns of the Midlands and North of England (the so-called Red Wall: Johnston, Manley et al. 2018; Johnston, Pattie and Manley 2017; Johnston, Pattie et al. 2018). However, in the 2024 General Election, Labour went from one to 36 seats in Scotland (with 35.5 percent of the vote) and the SNP declined from 48 to nine (with 30.0 percent). Labour also reclaimed seats in its 'Red Wall' heartlands.

To some extent, these fluctuations in the country's electoral geography reflect the simple cut-and-thrust of party competition, as marginal seats change hands from one election to another. To some extent, too, they are a consequence of social change in place (as, for instance, when gentrification remakes the social mix in previously deprived central areas of the major cities). But by and large, social change is too slow to account for substantial shifts – and reverses – in the regional geography of the vote over relatively short periods of time between elections.

Major political convulsions can change the picture substantially. The 2014 Scottish independence referendum proved one such upheaval, placing Labour at odds with much of its traditional electorate, who shifted to the SNP instead. Similarly, fallout from the 2016 Brexit referendum contributed to Labour's travails, and by 2019 the Conservatives' triumphs in the former Red Wall. In 2024, disillusionment with the Conservative Government (who were under their third leader since the preceding 2019 General Election) and the emergence of the Reform Party helped contribute to Labour's landslide victory. But such political earthquakes are rare. Other processes must also underly short-term changes in the geography of the vote.

Ron found a likely contender in the valence and economic voting literature. Unlike ideological issues, on which different voters may want different things from government, valence issues are generally important policy issues on

which most people want the same outcomes. While people may differ on (for instance) the appropriate levels of taxation and public spending, most voters want governments to deliver greater prosperity, security and so on. Quite how governments achieve those ends is less important to many voters than whether they do achieve them. The state of the economy can therefore become an important heuristic for many voters (particularly those who do not follow politics closely and who are not highly partisan). If the economy is performing well, voters might feel the government is doing something right (even if they do not understand the details of its economic policy), and so decide to support it again in subsequent elections. But if the economic news is bad, voters may come to the conclusion that the government is failing in a key duty, and so decide to vote against it and for its main rivals instead. There is ample evidence that voters are influenced by economic conditions in the manner predicted (for example, Green and Jennings 2017). And, crucially, economic fortunes can change quite quickly, affecting party support over the short term rather than over the longer term required by social change.

This has a key implication for electoral geography. Economic fortunes vary across most countries' national space: some areas are more affluent, others less so. What is more, the trajectories of local economies need not be in sync with each other. While some parts of a country may be experiencing economic growth, others might be experiencing a downturn. Such trends are not at all uncommon in most economies. Britain's space economy is no exception. During much of the 1980s, for instance, London and the South East of England experienced a substantial economic boom fuelled by an expanding finance sector, while the industrial North, Midlands, Scotland and Wales experienced job losses as traditional manufacturing industries declined, widening an already-existing economic gap between the regions. In the late 1980s and early 1990s, by contrast, local economies in The North and Midlands began to recover in relative terms, while the service sector economy of the South East entered a recession linked to the collapse of a housing market bubble. The regional divide narrowed again. Similar fluctuations in local and regional fortunes have continued since then.

To the extent that voters used what was happening in their local and regional economies as an indicator of how well (or not) the incumbent government was doing, this implies that geographical fluctuations in support for the party of government and the main opposition party should partly mirror these fluctuations in the national economic geography as voters respond to changes in their local economic context. Other things being equal, we would expect support for the incumbent government to rise, and that for the opposition to fall, in places experiencing above-average economic growth. Where the local economy is heading in the opposite direction, the opposition should see its support go up, and the government its support go down (Johnston, Pattie and Allsopp 1988).

Constituency-level analyses of voting in most recent British elections revealed aggregate patterns which were consistent with this insight. Even

when controlling for parties' past strength in each seat, and for a range of other socio-demographic factors, support for the incumbent party of government tended to fall, and support for the main party of opposition tended to rise, the greater the growth in the local unemployment rate and the smaller the increase (or, during housing recessions, the greater the fall) in average house prices (Johnston and Pattie 1992; Pattie and Johnston 2008c; Pattie, Dorling and Johnston 1997; Pattie, Fieldhouse and Johnston 1995).

Survey research confirms that voters' perceptions of local economic conditions are both related to the state of the actual local economy and have the predicted influence on their vote choices (Johnston and Pattie 1998; Johnston and Jones et al. 2007). The stronger the local economy, the more likely people living there are to think both it and the national economy are performing well. Importantly, this is not a simple consequence of their own personal situations. Individuals who were themselves becoming more affluent are more likely to rate their local and the national economies positively than individuals who are personally less affluent. But, irrespective of their personal circumstances, people living in declining localities tend to be more pessimistic about the state of the regional and national economies than those who live in more prosperous places.

What is more, these perceptions of local economic conditions also had an independent impact on individuals' vote choices. Other things (including their own personal circumstances and their perceptions of the national economy) being equal, the better individuals thought of their local economy, the more likely they were to vote for (and to switch their support to) the incumbent party of government. The less well they thought the local economy was faring, the more likely they were to vote for the main party of opposition (Pattie, Fieldhouse and Johnston 1995; Pattie and Johnston 2008c; Johnston and Sarker et al. 2005). Once again, context matters.

5.2 The geography of electoral campaigning

Voters are clearly key actors in elections: their decisions, and what motivates them, materially influence the results, and also reveal a great deal about the nature of mass politics in democracies. But the other central actors on the election stage, the political parties, warrant close investigation too. Not only do parties present political programmes for the electorate's approval, but they also campaign actively to persuade voters to give them their support. Traditionally, election campaigning was a relatively face-to-face endeavour. Candidates campaigned in their local areas, and party leaders travelled the country holding numerous rallies and local meetings. But with the advent of radio and especially television coverage of elections, much of the national campaign effort moved from public meetings to national appeals, broadcast direct into voters' homes. More recently, new social media have provided another avenue through which parties can campaign (Kefford et al. 2022;

Norris 2000). With the exception of senior politicians' photo opportunity events aimed at getting onto primetime television news, local election campaign events have fallen into desuetude.

By the early 1970s, the received wisdom in political science was that local election campaigning no longer had any material influence on election results (for example, Kavanagh 1970). Most voters experienced the election campaign via national media, and the size of the vote swings from one party to another, it was argued, was much the same across an entire country. Local campaigns still took place, as activists knocked on doors, delivered leaflets, and placed posters and yard signs. But this effort, it was claimed, did not affect local election outcomes.

Even in the 1970s, when this 'orthodox' view was at its most widely accepted, small-scale experimental studies conducted in individual electoral districts found evidence that local campaign effort 'worked'. The harder local activists campaigned, the more votes their party received, almost certainly more as a consequence of mobilization – persuading those already well-disposed to the party to turn out and vote – than of persuasion – changing the minds of those previously not supportive of the party (Bochel and Denver 1971). But one-off experiments in a few individual districts, while they suggested that the orthodoxy was wrong, could not be entirely conclusive. More systematic evidence was required.

That evidence came in the form of candidate election expenses. In many countries, including the United Kingdom, all election candidates are legally required to publish information on how much they have spent on their campaigns (and in the UK, the amount they are permitted to spend is strictly limited). This publicly available information is a proxy measure for campaign effort: the more a candidate spends on their campaign in a constituency, the harder they are working there to secure their election. Ron saw the potential. From the mid-1970s on, he used these data to analyse the effects of constituency campaigning in (mainly, but not exclusively) British general elections (for example, Forrest, Johnston and Pattie 1999; Johnston 1976; 1979; 1987; Johnston and Pattie 2014; Pattie, Johnston and Fieldhouse 1995).

His research played an important part in overturning the orthodoxy on constituency election campaigns, and in establishing a 'new orthodoxy' in its place. It is now generally accepted that, far from being inconsequential sideshows, parties' local efforts do affect their local support. Other things being equal, the more candidates spend on their constituency campaigns, the larger the share of the local vote they receive, and the lower the share going to their rivals. This effect is particularly clear for major party candidates who are challengers in their constituency. It is considerably weaker (and sometimes non-existent) for incumbent candidates seeking re-election (Johnston and Pattie 2009; Pattie, Hartman and Johnston 2017; Pattie, Johnston and Fieldhouse 1995).

The reason for the difference in effect between challengers and incumbents is not hard to see. For challengers, the constituency campaign is an

opportunity to raise their profile. There is evidence, for instance, that the more active a candidate's campaign, the more likely they are to have name recognition among voters in the seat, which is particularly helpful for challengers who do not enjoy the relative publicity that surrounds MPs in post (Pattie and Johnston 2004). And campaigning brings other potential advantages to challengers. It helps them advertise their viability as a potential winner in the seat. Voters contacted by a party's constituency campaign tend to think that party has a better chance of winning locally than do voters who are not contacted by the party (Johnston and Pattie 2013; Johnston, Hartman and Pattie 2019). This in turn helps to mobilise their vote, and to persuade potential tactical voters seeking to unseat the incumbent MP that they are the most likely alternative candidate to achieve that end (see, for example, Fieldhouse, Pattie and Johnston 1996). The harder they campaign, the more likely they are to achieve these goals, and the more pressure they place on the incumbent candidate.

For incumbent candidates, however, the calculus is rather different. Through their work as the constituency MP, they are much more likely than their challengers to already be well-known locally, so boosts from increased name recognition are liable to be smaller. What is more, by definition, incumbents are fighting, in their campaign, to retain the office they already hold. If they are relatively secure in their seat, and even their nearest challenger has only a remote chance of defeating them, there is no real need to campaign especially hard. But the more viable their nearest rival's chances of unseating them, the harder they have to campaign to try and avoid that fate. While a very active local campaign is a source of electoral strength for challengers, therefore, it is if anything a sign of weakness for incumbents; hence the rather different effects of campaign effort for challengers and incumbents.

By and large, the relative size of the 'constituency campaign' effect is quite modest. Typically, a challenger who spends up to the legal limit on their campaign can expect a vote share somewhere around 5 to 10 percentage points higher than a challenger from the same party who spent nothing on their election (Pattie, Hartman and Johnston 2017). Most constituencies, in most elections, are held with sufficiently large majorities to mean they are not likely to change hands on vote movements of this sort of size. What is more, rational parties are liable to already be campaigning almost as hard as they can in the most marginal constituencies, so there is little 'extra' support to be squeezed there. Even so, enough is at stake in the local campaign to potentially alter the results of the national election in close contests. For instance, in the UK's 2010 General Election, the Conservatives emerged as the largest party, with 306 seats to Labour's 258, enough when combined with the Liberal Democrats' 57 seats to form a Conservative–Lib Dem coalition. But (based on the relative effectiveness of each party's constituency campaign spending in that election) changing the assumptions about how much each party spent in each seat would have changed the outcome. To take one possible scenario, had Labour spent 90 percent of what it was permitted to in every seat, and the Conservatives and Liberal Democrats had spent 75 percent and 50 percent,

respectively, the 2010 result would (other things being equal) probably have been different – 290 seats for the Conservatives, 299 for Labour, 41 for the Liberal Democrats with the potential for a Labour–Lib Dem coalition instead (Johnston and Pattie 2014).

Ron's work also showed that the constituency campaign, although largely funded through local efforts in the UK, was increasingly integrated into the major parties' overall campaigns. Up until the 1980s in Britain, for instance, local constituency parties largely went their own way on how much effort they put into their constituency campaigns, with limited guidance from their party's national campaign. That meant the local strength of the party was an important determinant of how hard it campaigned. Where parties were small locally, they could not raise sufficient funds or find enough volunteers to mount more than a token campaign. Where a party was locally strong, in contrast, it was relatively well-resourced and could draw on a larger pool of members to undertake campaign work. That often meant the most active constituency campaigns occurred in each party's safest seats, where the value of the campaign effort was limited: if the party was about to win the seat anyway, what purpose was winning by an even larger margin?

But from the late 1980s on, Ron was able to demonstrate, the major British parties began to change the focus of their local campaign efforts. Little effort went into campaigns in seats where the party was bound to lose. But campaign resources were also scaled back (though not so much) in seats where the party was bound to win. Increasingly, parties put their greatest local campaign efforts into their most marginal seats – those they either held by slim majorities or where they were a close second to the party holding the seat, where a few votes either way could potentially alter which party might win the seat – with the national party guiding and coordinating this focus on the most consequential local contests. Labour and the Liberal Democrats (and their predecessors) were quicker to make this transition than were the Conservatives (partly because of the greater autonomy enjoyed by local Conservative associations from their national organisation compared to the other two parties). But by the 2010s, the Conservatives, too, were becoming much more targeted in where their constituency campaigns were focused (for example, Johnston and Pattie 2014). The relative intensity of the constituency campaign became, in effect, another piece of contextual information though which voters could judge the political complexion of their local areas, and hence come to decisions on how to vote.

What is more, Ron and his co-authors demonstrated that the intensity of the campaign in a constituency also spills over into surrounding seats (Cutts et al. 2014). Other things being equal, parties' constituency election results are influenced not only by how hard they campaign in each seat, but also by how hard they work in neighbouring seats. Where a party campaigns hard in a seat, it tends to achieve better than average electoral outcomes not only in that seat, but also in surrounding seats. Where it puts less effort into its campaign in a seat, its vote tends to be depressed not only in that seat but also

in its neighbours. The party posters placed in windows and gardens during constituency campaigns will be seen by those living in neighbouring areas too, and voters mobilised by the local campaign may well talk to their friends in surrounding seats: positive spatial autocorrelation in the party's vote is the outcome.

5.3 Electoral geography and electoral systems

Geography also influences how electoral systems convert public votes into elected representatives as the geography of party support interacts with that of electoral districts and with the rules under which the election is conducted. In single member constituency electoral systems employing plurality voting, such as the FPTP system used for elections to national assemblies in much of the Anglosphere, this interaction can have particularly pronounced, and sometimes perverse, effects. An important strand of Ron's work in electoral geography explored this in depth (see, *inter alia*, Johnston, Pattie and Rossiter 2021; Johnston et al. 2001).

Electoral redistricting and the MAUP

In FPTP systems, national space is divided into numerous constituencies or electoral districts, each of which elects its member of parliament. This affects how FPTP translates votes into seats. It is well-known, for instance, that FPTP systems are far from proportional. The more popular parties nationally tend to be over-represented in parliament relative to their vote shares, while smaller parties whose votes are not highly spatially concentrated and parties which are moderately popular but whose votes are spread evenly across the country tend to be under-represented, often very substantially so (Gudgin and Taylor 1979; Johnston, Pattie and Rossiter 2021). The UK's 1983 General Election illustrates the point. The Conservatives were the most popular party, with 42 percent of the national vote: this netted them 397 MPs, 61 percent of the House of Commons. Like most modern British governments, their parliamentary majority was based on less than a majority (that is, less than 50 percent) of the vote. Among the opposition parties, meanwhile, the new Liberal–SDP Alliance took 25 percent of the vote to Labour's 28 percent. But the Liberal–SDP Alliance's support was not spatially concentrated. They obtained a similar vote share in most constituencies, usually short of what they would need to win there. In the end, they returned just 23 MPs (under 4 percent of the total). Labour's vote, while similar in overall size to the Lib–SDP Alliance's, was much more spatially concentrated, in Scotland, Wales and the industrial North of England. That allowed it to win far more seats – 209, or 32 percent of the Commons. Similar disproportionality typifies most FPTP contests (see Chapter 4, this volume, for other examples).

But disproportionality is not the only way in which FPTP affects election outcomes. How its single member electoral districts are drawn up, and where precisely their boundaries go, also have politically sensitive consequences. Ron was widely recognised as one of Britain's preeminent academic experts on this process. The modifiable areal unit problem (MAUP) is at the root of the issue. There are very many different ways of dividing an area up into a set number of smaller districts. But quite where the boundaries fall can have serious consequences for the apparent geography revealed by the new districts, even if the underlying geography being depicted does not change. To illustrate the point, imagine a city in which half of the population (all of whom live in the central city) like cheese, while the other half (who all live in the suburbs) do not. If the city is to be divided into two smaller districts, each with the same population, there are a number of different ways in which this can be achieved. One solution, for instance, might split the city into an eastern and a western district, with the boundary running north–south through the centre of the city. This would produce two districts, in each of which half of the residents are cheese-lovers and half cheese-haters. An alternative solution might be to make the central city zone one district, and the suburbs another. In this outcome, the city is now split between a central district in which everyone adores cheese, and an outer district in which everyone hates it. The underlying geography of cheese preferences has not changed. But the apparent geography revealed at the district level looks profoundly different, depending on which solution is adopted. Crucially, however, if the only criterion is to produce two districts with the same population, either of these solutions (and many other potential outcomes) is quite acceptable: neither is *a priori* preferable to the other.

Substitute the geography of party support for that of cheese preferences and the political implications become clear. Changing the boundaries of parliamentary constituencies can alter how many seats each party wins (and how safe those seats might be for the party), even if each party's underlying popularity and geography of support remains unchanged. But in most electoral systems employing some form of geographically defined electoral districts, the boundaries of those districts need to be changed periodically to take population changes into account. Some areas experience faster population growth than others. Over time, if constituency boundaries remain unchanged, it means the electorates of some constituencies can become much larger than the electorates in other seats. If every constituency elects the same number of MPs (as in single member FPTP), that undermines the basic democratic assumption that every vote is of equal value. Other things being equal, it takes fewer votes to elect an MP in a district with a small population than in one with a large population, which gives voters in the former more 'bang' for their electoral buck than voters in the latter. If the geography of party support correlates with that of population changes, such that some parties tend to be more popular in areas with rapidly growing populations, while other parties are more popular in areas where the population grows less quickly or is in decline, this will tend to advantage the parties most popular in districts

facing relative population decline. For much of the modern era, Britain's shifting population geography has tended to create just such a 'malapportionment' bias as Labour-supporting areas in the urban industrial areas of the midlands and north of the country tended to lose population relative to the south and suburbs. As Labour tended to do better in the former and the Conservatives in the latter, this meant that, the longer a set of Westminster constituencies was in use, the greater the 'advantage' that malapportionment delivered to Labour relative to the Conservatives.

For this reason, choosing not to review electoral district boundaries regularly is liable to create unfair biases in the operation of the electoral system, advantaging some parties over others. To counteract this sort of problem, many countries (including the UK and USA) require electoral districts to be redrawn on a regular basis, usually with the aim of moving back to greater equality of electorates or population between seats. But the MAUP makes this a challenging process, as there are many alternative ways of redrawing the electoral map consistent with the aim of equalising electorates, only one of which can be adopted in any single redistricting. But (due to the MAUP), different 'solutions' to the redistricting problem will have different partisan consequences. Because of this, who controls decisions over the boundaries of electoral districts matters (as discussed in Taylor and Johnston 1979, Chapter 7, for example). Where (as, for instance, in many states in the USA) that power rests with the incumbent government, the governing party can use that power to gerrymander new constituency boundaries that favour its prospects – by increasing the number of seats it might win, while reducing the number of seats its rivals might win.

But even where (as in the UK) redistricting is carried out by non-partisan bodies which do not consider the political implications of their decisions, the redistricting process has political consequences. Since the 1940s, responsibility for redrawing Britain's parliamentary constituencies has rested with the Boundary Commissions, independent public bodies that are strictly non-partisan and are bound by law to consider only factors such as achieving greater equality of electorates across constituencies, and producing boundaries which as far as possible reflect local communities (Rossiter, Johnston and Pattie 1999). The political implications of their decisions are, in part, an inevitable consequence of the MAUP. During the early 1990s review of all the UK's constituencies, for instance, Ron and his colleagues showed that there were 1,515 unique ways of creating six constituencies out of the 29 local government wards in the city of Sheffield, such that each constituency would be both unbroken and would have an electorate within 8 percent of the average for the city (Johnston, Pattie and Rossiter 1992). In 1,054 of the identified solutions, Labour would have won four seats and the Conservatives and Liberal Democrats one each. But in 376 solutions, the Labour:Conservative:Liberal Democrat seat split would have been 3:2:1, in 64 solutions it would have been 3:1:2, in 14 cases it would have been 4:0:2, and in 7 cases the likely outcome would have been 5:0:1. There is no sense in which any one of these thousands

of possible solutions for just one city could be said to be the single 'right' decision.

Where there are provisions for the public to contest proposals for new constituencies, parties have another route to try and influence the outcome of boundary reviews, even where the process is designed to be apolitical. In the UK, for instance, parties use the consultation process linked to boundary reviews to argue for alternative redistricting proposals which might be more in their interests than those suggested by the Commissioners. There, they have made their cases based on the legally permitted grounds of community representation and electoral equality, making no mention of the political motive behind their suggestions. While they could by no means guarantee that the Boundary Commissions would adopt their alternative proposals, they hoped to persuade them to adopt at least some. Ron demonstrated that (when they were well-organised) they had some influence on the final outcome of the review process (Johnston 2002; Johnston, Pattie and Rossiter 1997; 2013; Rossiter, Johnston and Pattie 1997; 1999).

As an expert in the field, Ron influenced not only academic work on the politics of redistricting, but also policy and practice. When Labour brought a legal case against the adoption of new constituencies before the 1983 UK General Election, he and David Rossiter acted as expert witnesses. He served as a Commissioner on the Boundary Committee for England, redrawing local government electoral wards. Based on his critical analysis of the operation of Britain's post-1945 system for parliamentary boundary review, he argued for reform of the review process to remove some of the ambiguities and loopholes locked into the original legislation (see, for example, Johnston, Pattie and Rossiter 1998a; 1998b). When legislation was eventually brought forward to revise Britain's boundary review rules, his proposals were an important influence, and his advice was sought by policy-makers. But he also saw the challenges that would follow from the new rules enshrined in the *Parliamentary Voting Systems and Constituencies Act* (2011), not least the much more substantial and regular level of disruption to the constituency boundaries that the new legislation seems to guarantee compared to the old rules (Johnston, Pattie and Rossiter 2012a; b; 2021), advising parliamentary committees and policy-makers on how it could be further revised to mitigate some of the adverse effects.

Geography and electoral bias

FPTP systems routinely produce disproportional outcomes, with the most popular party generally winning a larger share of seats than of votes. But this is not necessarily a problem in itself, at least for supporters of the larger parties in the polity. Advocates of FPTP see its tendency to convert a plurality of the vote into a majority in the legislature as a strength. Coalitions are rare in FPTP elections, creating the conditions for one party to form a government with a clear majority (and hence with clear accountability: no coalition partner to

pass the buck to). A more troubling feature of any electoral system is electoral bias – a tendency for the system to work systematically in favour of a particular party, and against others. Clearly, there are systematic biases within FPTP against smaller parties whose support is not geographically concentrated. But bias can also operate to the relative advantage of one of the larger parties in the polity. A further avenue of Ron's electoral research assessed the extent of such bias, and looked for its sources (Johnston, Pattie and Rossiter 2021; Johnston et al. 2001).

He found the key to doing so when, early in his career, he came across the work of Ralph Brookes (1959, 1960), a New Zealand political scientist. To measure the extent of bias in a two-party FPTP system, Brookes employed a simple yardstick. If the electoral system was unbiased in how it treated the two parties, then if each obtained the same share of the national vote, each should gain the same number of MPs. But if, when the parties were tied on votes, one returned more MPs than the other, then, Brookes argued, the electoral system would be biased in favour of the party with the larger cohort of MPs. The difference in the number of MPs for each party under such circumstances would provide a measure of the extent and direction of that bias. In real elections, parties rarely tie on vote share. But it is possible, for any given FPTP election, to estimate how two parties would have fared had their votes tied by applying a nationally uniform swing between them in every constituency sufficient to make their national votes equal (and assuming that the votes won by other parties fighting the election remained unchanged). Some seats would change hands because of this swing – allowing an estimate of the extent of bias, in terms of the excess seats for one party compared to the other at equal vote shares between them.

Not only did Brookes' method provide an easily calculated and understood measure of electoral bias between two parties at any FPTP election, it also gave a means of decomposing that bias into a number of different sources. This allowed an appreciation of not only if, but also why, the electoral system might favour one party over the other. Bias could result from a number of sources, including differences in the average constituency electorates in seats won by each party, in the average turnout in each party's seats, and in the relative efficiency with which each party's vote was distributed between seats. FPTP systems are biased towards parties that are more popular in smaller and lower turnout seats, and towards parties which tend to have relatively small majorities in the seats they win, and where they lose, do so by relatively wide margins (large majorities are 'wasted' in FPTP elections, as are strong second place results, as neither results in extra MPs being elected).

Ron applied Brookes' methodology to the study of electoral bias in New Zealand (Johnston 1977) and the USA (where it was used to examine bias in the Presidential electoral college: Johnston, Pattie and Rossiter 2001; Johnston, Rossiter and Pattie 2005; Pattie and Johnston 2014). The method was applied most frequently, however, to the study of bias in British general elections,

where the development of multiparty politics from the 1970s on, and (until 2011) the variation in constituency size between the constituent nations of the UK, necessitated some development of Brookes' original algebra. Initially, these extra dimensions were built into Brookes' original scheme for analysing relative bias between two parties (usually Labour and the Conservatives, Britain's two 'parties of government' in the postwar period). But, with colleagues from Portsmouth, the method was eventually extended further, to encompass estimates of bias for three parties simultaneously (Borisyuk et al. 2010; Johnston et al. 2012).

Analyses of bias at all postwar British elections revealed important shifts over time in the extent to which the electoral system advantaged Labour or the Conservatives – and why (Johnston et al. 2001; Johnston, Pattie and Rossiter 2021: as noted above, many smaller parties were consistently and substantially disadvantaged). In the early postwar period, the electoral system tended to advantage the Conservatives relative to Labour, to the tune of around 50 extra seats had the parties tied in votes. This was largely because the rules then in operation for drawing constituency boundaries allowed for smaller electorates in rural than in urban seats. As the Conservatives were stronger in the former, and Labour in the latter, the Conservatives were the beneficiaries.

Changes to the boundary review rules in the 1950s removed this rural protection, and for much of the period from around 1964 till 1992, there was little systematic bias in how Labour and Conservatives were treated. As seats aged between reviews, a small pro-Labour bias tended to build up (as Labour areas tended to lose population relative to Conservative areas). But each new boundary review, by moving back towards greater equality of electorates across seats, tended to remove that small pro-Labour bias.

Things changed from 1992, when evidence began to grow of substantial pro-Labour biases in how the electoral system operated. Even in elections which Labour lost, like the 1992 contest, this meant the party did not lose as badly as it would otherwise have done (Johnston, Pattie and Fieldhouse 1994). This pro-Labour bias peaked in the 2001 election: had Labour and the Conservatives tied on vote shares then (they didn't – Labour won handsomely), Labour would still have gained 141 seats more than its rival. It declined (but still remained substantial) in 2005 and 2010. But in the 2015, 2017 and 2019 UK General Elections, a pro-Conservative bias (worth on average 27 seats) emerged. That reversed again in the 2024 contest, when Labour not only secured a landslide but would also have enjoyed a systematic bias worth 99 more seats than the Conservatives even had the two parties tied on their national vote shares.

The reasons behind these shifts take us back to Ron's work on boundary changes, and on constituency campaigning. Conservative concern about the major advantage Labour gained from the electoral system from 1992 was an important spur for the party to revise the redistricting law in 2011 (making reviews much more frequent than in the past, and mandating the

Commissions to achieve equal electorates – within tight margins – in all but a handful of seats: the previous rules had been less prescriptive). The intention behind the new legislation was to ensure that seat electorates did not 'age' in ways which helped Labour.

But Ron's analysis of the sources of the pro-Labour bias revealed that, while differences in constituency electorates between Labour and Conservative areas did contribute a bit to the overall Labour advantage (and increasingly so as the seats aged between reviews), this constituted only a relatively small part of the overall net bias. Far more important were 'turnout' effects (Labour tended to do better in areas where turnout was lower), and 'efficiency' effects (Labour began focusing much more on its campaigns in marginal seats, winning fewer seats by massive but unproductive majorities). As Ron pointed out in his 'expert witness' work through the 2010s, the new legislation would not remove either of these sources of bias. And it was not until the Conservatives in their turn began to campaign more efficiently in the marginals (from about 2015) that the bias shifted. For the two largest parties in British politics therefore, the causes (and responses) to electoral bias were largely in their own hands.

5.4 Conclusion

Throughout his career, Ron's electoral work constituted a substantial (and increasing) proportion of his research activity. When he began working on it, the field was very small and somewhat neglected. Quantitative geographers were initially attracted to it thanks to its abundance of data linked to geographical areas. But (Cox's work on the neighbourhood effect aside) it was poorly theorised and had little influence on, or connections with, wider debates either in geography or in political science.

Ron's electoral research helped change that. He considerably extended the range of issues considered by electoral geographers, connecting it to debates on contextual effects and on the politics of power, bringing in theoretical perspectives from other social sciences, and exporting geographical perspectives on elections back to them. His work expanded both the methodological sophistication of the field and its wider visibility, gaining recognition not just among academic geographers, but also throughout the political science community and among policy-makers and politicians. To adapt the title of one of his books on the subject, he showed that, to properly understand voters, voting and electoral systems, we had to see them in their place (Johnston and Pattie 2006). Discussion of 'Red Wall' seats and 'left-behind' communities in the UK, of the political disjuncture between residents of cosmopolitan cities and people in the 'fly-over states' in the USA, and of the political gulf between Paris and la France Profonde all speak to that insight. Ron's contribution to the field is both immense and long-lasting. In this, as in so many other areas, he showed us that geography matters.

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6. Talking in the street or voting with your feet? Explaining political consensus in the residential environment

Daniël van Wijk

As long ago as the 1970s, Peter Taylor and Ron Johnston noted the existence of an empirical regularity in electoral geography, according to which 'different people in the same place vote in the same way while similar people in different places vote in different ways' (Taylor and Johnston 1979, p. 222). In other words, there tends to be more political consensus among neighbours than would be expected based on individual characteristics alone. Since then, the increasing availability of individual-level, nationally representative survey data, the possibility of connecting it with detailed information about residential environments, and the ability to control for confounding factors using multilevel modelling methods have enabled more technically advanced approaches for the study of the voting behaviour of individuals within their contexts. Yet even with these advancements in data availability and statistical methods, the basic pattern of political consensus in the residential environment continues to be found.

In this chapter, I first provide an overview of studies that have examined patterns of political consensus in the residential environment. I then discuss the mechanisms that produce this consensus. Although most authors assume that consensus is a result of 'conversion through conversation' in the residential environment – that is, a 'neighbourhood effect' – Ron Johnston frequently noted that patterns of political consensus in the residential area provide only circumstantial evidence for the existence of neighbourhood effects, and alternative explanations remain plausible (Johnston 1986; Johnston and Pattie 2006; Van Wijk, Bolt and Johnston 2019). I therefore discuss several mechanisms that could potentially produce the same pattern of local political consensus and review the evidence for each. Finally, I outline several avenues for future research. Ron Johnston has been one of the key contributors to academic debates concerning the description and explanation of political consensus in the residential environment for almost half a century and throughout the chapter I pay specific attention to (part of) Ron Johnston's voluminous work on the topic.[1]

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6.1 Patterns of political consensus in the residential environment

Ron Johnston's work on political consensus in the residential environment built upon and helped popularise a series of election studies conducted in the late 1960s and 1970s by Cox (1969), Butler and Stokes (1969) and Miller (1977; 1978). Particularly influential on his work was Cox's seminal article (1969) which set forth a conceptual model that placed voting decisions into a spatial context by explicitly emphasising the role of local information flows in influencing an individual's political behaviour (a proposition that Ron Johnston was initially sceptical about: see Chapter 5, this volume). By doing so, Cox's paper provided a theoretical foundation for the development of the subdiscipline of electoral geography (see Johnston and Pattie 2012, for an appraisal of Cox's work).

The importance of the local context was also stressed in a pioneering analysis of survey data on voting behaviour in Britain by Butler and Stokes (1969). Whereas it was well-known that, at that time, the British middle class more often voted Conservative, and the working class more often voted Labour, Butler and Stokes found that strong variation existed between constituencies and regions in the degree to which members of the different classes supported different political parties. More specifically, they found that members of the middle class were much more likely to support the Conservatives in constituencies with a higher proportion of other middle class residents, such as seaside resorts. Likewise, working class voters more often supported Labour if they lived in constituencies with more working class residents, such as mining areas. These findings showed, for the British context, that electoral support for the locally dominant party is even greater than would be expected based on the class composition of voters alone, providing early evidence for a high degree of political consensus in the residential environment (see also, Chapter 5).

Further early evidence for individual political consensus in the residential area comes from Miller (1978), who compared the relationship between class and voting in England at the individual and constituency level and found that this relationship was much stronger at the constituency level. A particularly large effect was found for the proportion of employers and managers in a constituency, with much greater support for the Conservative party among all social classes in constituencies with higher shares of employers and managers. As employers and managers themselves much more often voted Conservative, this finding supports the existence of political consensus in the residential environment, while also showing a particularly strong link between the presence of what Miller termed 'core classes' – which have a strong preference for one party – and the local political context.

In an extensive body of work, Ron Johnston continued and further developed both the theoretical ideas and empirical approaches set out in these earlier studies. Most findings corroborated the basic empirical pattern of greater political consensus in the residential environment than what would be expected based on individual characteristics alone, informing the general

conclusion that geography, and geographical context, should be given a central place in the explanation of voting behaviour and election outcomes (see Johnston and Pattie 2006).

Many of the early studies on spatial patterns in voting behaviour relied on the analysis of aggregate data. This poses the well-known risk of an ecological fallacy, a fallacy arising from the interpretation of statistical analysis whereby erroneous inferences about individuals are derived from aggregate data (Robinson 1950). The issue of ecological fallacies may be particularly important when studying voting behaviour because patterns of abstention vary by (a combination of) individual and contextual characteristics (Johnston and Pattie 2006), which might further bias results of aggregate data analyses of election results. Yet, because large-scale surveys (of individuals or households) with a broad geographical coverage were not widely available in the 1970s and 1980s, researchers interested in the geography of voting often had no choice but to rely on aggregate data.

To analyse these data, Johnston and Hay (1982) developed a method which applied the 'entropy-maximising' approach often used in transport studies (see, *inter alia*, Wilson 1970) to studies of voting behaviour, allowing them to infer from aggregate data the cross-classification of individual voters by their social group in each geographical area. An example of an empirical application of this method comes from Johnston (1983), who inferred from aggregate data the voting behaviour of different occupational classes and tenure groups in each constituency. In this analysis, the non-manual occupational class and the owner-occupier tenure group were the main source of Conservative votes, and the manual occupational class and the council tenants comprised the main source of Labour votes. The findings consistently showed that a stronger presence in a constituency of classes and tenure groups that favour a party was associated with a larger share of votes from every class and tenure group. For example, both the proportion of a constituency's workforce in white-collar occupations and the proportion of white-collar workers who were owner-occupiers were related to greater support for the Conservatives in each occupational class and tenure group. The inclusion of tenure in this study – in addition to the staple of class, which formed the basis of many previous studies – had the advantage of moving beyond class as the single indicator to show evidence for political consensus more broadly, as well as to account for potential differences in the tenure composition of different geographical areas. Moreover, this study illustrated how Johnston and Hay's (1982) entropy-maximising method could be used to demonstrate patterns consistent with local political consensus despite a lack of individual-level data.

Survey data, bespoke neighbourhoods and multilevel modelling

Because of the limitations of analysing aggregate data, more recent studies on political consensus in the residential environment have frequently turned to survey data and Ron Johnston's work was no exception. His studies of

electoral behaviour frequently used the British Election Study (BES). This repeated, cross-sectional, postelection survey aims to ensure maximum representativeness, geographic variation and long-run comparability, and as such is ideally suited to study voting behaviour in its geographical context. Using the 1983 BES, Johnston and Pattie (1988) made use of its attitudinal questions (for example, on nuclear weapons, tax cuts and social services) to distinguish clusters of respondents with similar attitudes. They then studied the influence of constituency characteristics on attitude cluster membership, which showed – among other findings – that respondents with traditional Labour attitudes (for example, towards greater nationalisation, full employment and high spending on social and health services) were concentrated in relatively depressed constituencies, whereas respondents in the 'monetarist' and 'middle-of-the-road liberal' clusters were concentrated in more prosperous areas. Finally, Johnston and Pattie (1988) examined whether contextual characteristics had an effect on party preferences even after accounting for differences in attitudes. It was found that the SDP-Liberal Alliance party – the forerunner of today's Liberal Democrats – did better in the southwest and rural areas, the Conservative party did better in the south and east of Great Britain, and in the suburbs of Outer London, and Labour performed better in urban areas, in the North and in Wales, and in immigrant, blue-collar and depressed industrial constituencies. As these are also the constituencies where individual characteristics tend to favour support for these parties, this is in line with expectations of political consensus in the residential environment. Taken together, this study is innovative in showing the effects of contextual characteristics both on attitudes and – for people with similar attitudes – on voting behaviour. In general, however, it should be noted that most contextual characteristics in this study were only weakly associated with attitudes and voting behaviour. Johnston and Pattie concluded that this did not provide telling evidence that geography was a very substantial influence on either attitudes or voting. They explained this finding by pointing to the declining importance of the class cleavage in British voting behaviour at the time, but an alternative explanation lies in the separate modelling of influences on attitudes and voting as well as the inclusion of more individual-level control variables compared to earlier studies (for example, parents' political preferences).

The studies discussed so far have studied voting behaviour in relation to the characteristics of relatively large geographical areas, such as constituencies or regions. Yet the degree of political consensus in the residential environment might be dependent on the geographical scale at which it is analysed. Together with several colleagues, Ron Johnston examined the importance of geographical scale in a series of studies that linked survey data to 'bespoke neighbourhoods'. These bespoke neighbourhoods (also referred to in the literature as egohoods: see Chapter 7, this volume) were used to capture the composition of the area around respondents' homes at varying scales; for example, for the nearest 500, 1,000, 2,500, 5,000 and 10,000 neighbours (MacAllister et al. 2001). This approach brings the additional advantage

that the delineation of these areas is not dependent on the boundaries of larger administrative areas. A factor analysis was used to measure the socio-economic status of each area, in which a lower socio-economic status was measured by (among others) a higher proportion of households without a car, more unemployed residents, fewer homeowners, more single parents and fewer adults with higher-level qualifications. At all spatial scales analysed, the Conservatives got more support in higher-status neighbourhoods, and Labour got more support in lower-status neighbourhoods. This pattern was found for all social classes (MacAllister et al. 2001), and when holding constant individual characteristics, such as tenure, income and educational attainment (Johnston et al. 2004a). These analyses show that patterns of political consensus in the residential environment are present both in the local neighbourhood and in the wider geographical area. The effects found in these studies were quite large. For example, MacAllister et al. (2001) found that among all social classes and at all spatial scales, the proportion voting Conservative was two to three times as large in the highest-status neighbourhoods compared to neighbourhoods with the lowest status. Moreover, additional analyses that included the socio-economic status of a small- and a large-scale area in the same model found independent effects at these two scales, indicating for example that the probability of voting Labour was higher when the large-scale area was more deprived, but also when the smaller local neighbourhood within that larger area was more deprived (MacAllister et al. 2001; Johnston et al. 2004a).

These studies can be seen as part of a more general development in which the availability of large-scale individual-level data linked to detailed geographical data allowed a more advanced modelling of local influences on voting behaviour (as well as other outcomes). Particularly important in this respect was the development of multilevel modelling methods, which were introduced to studies of electoral behaviour by Jones, Johnston and Pattie (1992) and have been widely used since that time. Multilevel models have allowed electoral geographers to simultaneously include individual and contextual characteristics in a single model while taking into account the dependence of individuals living in the same area, which has greatly helped in estimating the relationship between characteristics of places and voting. A good example comes from Johnston et al. (2007) that, using the 1997 BES, estimated a multilevel model with respondents nested in constituencies, which were in turn nested in regions. In line with the findings reported above, this study showed that respondents who lived in more disadvantaged neighbourhoods were more likely to vote Labour, even when holding constant individual-level characteristics. In addition, this study found that after including variables at the individual, household, neighbourhood and constituency level in the model, the variation in voting behaviour at the regional level was no longer significant. This indicates that regional variations in party support in England at that time – mainly in terms of a north–south divide – resulted from processes taking place at smaller geographical scales (Johnston et al. 2007; see Johnston and

Pattie 2006, Chapter 3, for a detailed discussion of the historical development of the north–south divide in British voting).

These studies show that there is consistent evidence that the degree of political consensus in the residential area tends to be greater than would be expected based on individual characteristics alone, although the magnitude of the effects differs somewhat between studies (see also Andersen and Heath 2002).

Beyond the British class cleavage

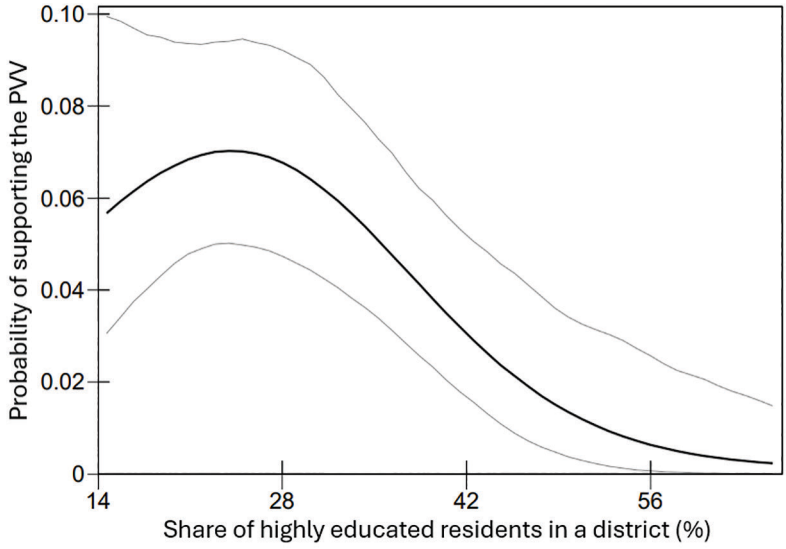
The evidence discussed so far mainly comes from UK-based studies that focus on the electoral geography produced by the British class cleavage and other socio-economic characteristics. Ron Johnston was an unusually productive author in this field. However, Britain's relatively high levels of socio-economic segregation (at least in a European sense), strong links between class and voting, and first-past-the-post (FPTP) electoral system evoke the question to what extent patterns of political consensus found there extend to other contexts and other cleavages? Given the relative consistency and magnitude of patterns of political consensus in the residential environment, surprisingly few studies have been conducted on this topic outside the UK. A potential explanation for this dearth of research comes from the combination of a paradigm shift in human geography away from – frequently quantitative – studies on contextual effects, and the turn by political scientists to focus on individual characteristics and national, rather than local, contexts (an important exception comes from Huckfeldt and Sprague 1995 and the studies building on this piece of context-sensitive political science). In what follows, I discuss evidence that is available, grouped into three related fields of study which – although they have not been necessarily framed that way – tend to support the basic finding of political consensus in the residential environment in a variety of contexts, and for a number of contextual characteristics.

First, some studies have shown that living among more religious residents is associated with a higher propensity to vote for religion-based political parties, irrespective of individual religiosity. For example, a multilevel analysis by Goldberg (2014) found that the probability of voting for the Christian Democrat Party of Switzerland was higher in cantons with a higher proportion of Catholics, after accounting for individual-level denomination and religiosity.

Second, several studies focus on political and electoral differences between cities, suburbs and rural areas. Generally, it has been found that similar people more often vote for more conservative, right-wing parties in suburbs and rural areas, and for progressive, left-wing ones in inner cities (for example, Walks 2006 in Toronto, Canada; Scala and Johnson 2017 in the US). As these are also the areas where the usual supporters for these parties tend to live, this provides another example of political consensus in the residential area, linked to an explicitly geographical characteristic.

Finally, research on the emergence of populist radical right-wing parties – which has produced a considerable body of electoral research over the past decades – provides additional evidence for political consensus in the residential environment. Where most studies on the electoral geography of the radical right have focused on the impact of local concentrations of ethnic minorities and immigrants on anti-immigrant attitudes and voting, Van Wijk, Bolt and Johnston (2019) connected this literature to work on political consensus in the residential environment. In a multilevel study on support for the Dutch Party for Freedom (PVV), they found strong links between educational attainment and PVV support at both the individual and the district level. Specifically, it was found that higher educated respondents were much less likely to support the PVV than their lower educated counterparts, in line with many previous studies on the radical right. After controlling for individual-level education, the share of highly educated residents in a district was associated with lower support for the PVV. Moreover, this effect was found to be non-linear, turning negative only when more than 25 percent of the population in a district was highly educated (Van Wijk, Bolt and Johnston 2019). This relationship is illustrated in Figure 6.1. Recent studies have found similar relationships between living among more highly educated residents and a lower probability of voting for the Front National in

Figure 6.1: Probability of Dutch Party for Freedom (PVV) support and its confidence intervals by the percentage of highly educated residents in a district



Source: Author's own analysis, based on work presented in Van Wijk, Bolt and Johnston 2019.

Notes: Based on a multilevel model that controls for individual-level educational attainment.

France (Evans and Ivaldi 2021) as well as a lower likelihood of voting Leave in the Brexit referendum (Abreu and Öner 2020). These findings suggest the presence of a particular local normative context in places with many higher educated residents, where progressive values (for example, towards globalisation and immigration) are widely held and support for the radical right is frowned upon (Van Wijk, Bolt and Johnston 2019).

To summarise, individuals support the locally dominant political party more often than would be expected based on their individual characteristics alone, producing a relatively high degree of political consensus in the residential environment. This finding is highly consistent across studies and contexts; it has been found in both descriptive analyses of aggregate data, and multilevel analyses of linked individual and contextual data. Less agreement exists, however, about the mechanisms that are producing this pattern, which are discussed in the next section.

6.2 Mechanisms producing political consensus

It is often assumed that political consensus in the residential environment is a consequence of political conversion through contact with others in the residential area. However, patterns of political consensus provide only circumstantial evidence for the importance of such local social interactions. A multilevel model, for example, only models measured outcomes and their spatial patterning after they have been generated, not the processes generating them *per se.* Several different – potentially interrelated – processes may produce the same pattern so the cause is not determined by the model (Nelson 2024; Smith and Easterlow 2005). In this section, I describe these mechanisms and review the empirical evidence for each. Doing so, I follow the categorisation of processes provided by Johnston et al. (2004b, 2005), differentiating between (1) local social interaction, (2) emulation, (3) environmental observation, (4) selective mobility and (5) party mobilisation. Although it should be noted that in reality these mechanisms are strongly related and often interact, this categorisation provides a useful conceptual distinction that serves as an organising principle for the following discussion.

Local social interaction

This is the classic neighbourhood effect, according to which political consensus in the residential environment is a result of local social interactions that convert residents to the locally dominant political viewpoint. It is based on two assumptions. First, social contact is argued to induce political consensus, or in Miller's (1977, p. 65) terms 'people who talk together vote together'. Second, it is assumed that the residential environment structures the opportunities for contact; as a result, social networks in general, and political discussion networks in particular, have a local bias.

The process of political conversion through local social interactions constitutes the mechanism that has received most attention in empirical research. Studies can be grouped into two groups based on the approach they adopt. The first approach focuses on who people talk to about politics and vote choice, studying who these political discussants are, where they live, what their political views are and how conversations about politics influence voting outcomes. A classic study following this approach is that by Huckfeldt and Sprague (1995), who gathered data on respondents as well as the people respondents discussed politics with during the 1984 US presidential election campaign in South Bend, Indiana. The study showed that respondents who named a person who supported a particular party as discussant were more likely to support that party themselves, but only if they accurately perceived the discussants' political preference. Additional findings showing the impact of political conversation for voting behaviour come from Pattie and Johnston's (1999) analysis of the 1992 BES in the UK. Compared to persons who did not report having discussed politics with a supporter of a party, respondents who had were found to be more likely to change their vote between elections to support that party. This 'conversion by conversation' effect was found regardless of whether the discussant supported the Conservatives, Labour or the Liberal Democrats, and, furthermore, increased in size with the number of discussants who supported the party. Johnston and Pattie (2006) complemented this story by showing similar impacts of conversation on loyalty to a party, with respondents with more discussants who supported the same party at they had previously voted for having a higher likelihood of voting for that party again.

Although it should be noted that alternative explanations based on the potential selectivity in the choice of who to discuss politics with are difficult – if not impossible – to rule out completely, these results provide strong evidence that political conversation indeed induces consensus (see also Bello and Rolfe 2014). For local social interactions to produce political consensus in the residential environment, these conversations need to be grounded within the local area, however, and the evidence regarding this local bias of political discussion seems to be more mixed. On the one hand, it has been shown that neighbours comprise only a very small share of political discussants. For example, Pattie and Johnston (1999) noted that only 3 percent of respondents reported at least one discussant who was a neighbour. Likewise, only 5 percent of respondents in Walks' (2006) study declared that local residents were a primary source of political information. Instead, when asked about their primary political conversation partners, most people tend to list discussants who are spouses or other relatives, and discussants who are relatives also seem to have a greater influence on a person's voting behaviour than non-relative discussants (Huckfeldt and Sprague 1995; Pattie and Johnston 1999). Moreover, within the category of nonrelatives, respondents more often reported discussing politics with friends or colleagues than with neighbours. Based on this marginal relevance of neighbours in political networks, it can be argued that

local social interaction has only a limited impact on voting behaviour. On the other hand, it may well be that the neighbourhood – and the contextual environment more broadly – help instigate and sustain contact with persons who are not necessarily viewed (or reported) as neighbours, but rather as relatives, friends or colleagues. For example, Johnston and Pattie (2006) noted that around a third of non-family discussion pairs lived in the same neighbourhood and just over half lived in the same town or city. This shows the potential relevance of the residential location in structuring political conversation beyond those who are usually regarded as neighbours. In addition, daily contacts in the local area that are not reported as being political *per se* may still influence political views in indirect ways, as many topics of daily conversations do touch upon political issues. Therefore, focusing exclusively on political discussion with neighbours may ignore some of the ways through which local social interaction may produce political consensus.

A second approach to study the relevance of local social interaction examines whether persons who are more attached to the local area adapt their electoral preferences more strongly to the local majority view. In this respect, Taylor and Johnston (1979) argued that if local social interaction indeed induces political consensus, residents who are very much tied to their local area – whom they termed 'localites' – should be strongly influenced by the local political climate. In contrast, the residential area should have less impact on the political views of residents who have little social contacts in general – the 'loners' or 'isolates' – and residents who are not tied to a particular locality for their social life – the 'cosmopolites' (Taylor and Johnston 1979, pp. 237–238).

Some empirical studies have examined this by measuring contact with neighbours directly, arguing that if local social interaction was indeed important, the degree of political consensus in the residential area should be stronger among residents who have more frequent contact with neighbours. However, the results generally do not support this hypothesis. For example, a study of a working class, middle class and mixed community in the UK and in the US by Burbank (1997) examined the probability that a respondent voted for the locally dominant party (Labour or Democrats in working class areas and Conservatives or Republicans in middle class and mixed areas). Burbank found that neither involvement in formal organisations nor discussing politics with supporters of the locally dominant party, with the locally dominant class, or with neighbours was related to the likelihood of voting for the locally dominant party. The only effect of contact that was found was that respondents who participated in more neighbourhood activities (for example, watching over someone's home, caring for a pet) more often voted for the locally dominant party, and this was found only in the US (Burbank 1997). Overall, these results provide only weak evidence that local social interaction increases political consensus. It should be noted, however, that Burbank's study included controls for party identification, which removes part of the potential effect of local social interaction from the model (see Section 6.4 for a discussion on this issue).

Further evidence that contact with neighbours does not seem to be responsible for producing political consensus in the residential area comes from the aforementioned study by Van Wijk, Bolt and Johnston (2019) on support for the Dutch Party for Freedom (PVV). This study found that the share of highly educated residents in a district was associated with reduced support for the PVV irrespective of the frequency of contact with neighbours. The survey question that was used to measure contact with neighbours in this study explicitly stated that 'neighbours' did not refer to direct neighbours only but to anyone in the neighbourhood, which resolves some of the problems in the measurement of contact with neighbours discussed above. At the same time, these studies are still dependent on respondents' definition of neighbours as well as their conception of a neighbourhood, and thus may well ignore the impact of one's residential location on social contacts more broadly.

Other studies have examined the role of local social interactions in producing political consensus by measuring attachment to the local area more generally, without necessarily measuring contact with neighbours. For instance, a study by Johnson, Shively and Stein (2002) in Houston, Texas studied to what extent the effect of respondents' perceptions of the partisan makeup of their neighbourhood on vote choice depended on the relevance or 'accessibility' of the neighbourhood context to the respondent. Interestingly, the authors developed a measure of the relevance of the neighbourhood context based on the response time to a survey question on the partisanship of the neighbourhood. A faster response time was argued to indicate that the neighbourhood context was more important, salient and accessible to the respondent, which was in turn expected to produce a stronger influence of that context on vote choice. The results supported this hypothesis for respondents who identified as Republicans or Independents, who were more likely to vote for Clinton (the then Democratic party candidate) if they perceived their neighbours to be Democrats, but only if they quickly answered the question on their neighbours' partisanship (Johnson, Shively and Stein 2002). This suggests that individuals who were more aware of their local context were more likely to agree with it in their vote choice, although the methods used are not without limitations (for example, regarding the use of response times to measure the salience of context, the use of a self-reported measure of the neighbourhood's partisan makeup, and the inclusion of controls for respondents' partisanship). Finally, Johnston et al. (2005) measured attachment to the neighbourhood using a battery of survey questions on respondents' neighbourhood social capital (for example, on feelings of belonging to the neighbourhood and on exchanging favours with neighbours). In line with earlier work, they showed that a higher level of neighbourhood socio-economic disadvantage was associated with a much higher probability of voting Labour in each social class and tenure group. But this study additionally showed that the effect of neighbourhood socio-economic disadvantage was around twice as large among respondents in the highest quartile of neighbourhood social capital than for those in the lowest quartile, evoking the conclusion that 'voters

who are deeply embedded in their local milieu—that is, have high levels of neighbourhood social capital—are much more likely to vote for the most-preferred party locally than are those who are much more isolated and lack such well-developed local social networks' (Johnston et al. 2005, p. 1457).

Taken together, these studies suggest that local social interaction plays at least some role in producing political consensus in the residential environment, even though this may only partly result from political discussions between neighbours. At the same time, alternative explanations for the findings often remain feasible, showing the great difficulty in producing definitive evidence of the political importance of local social interactions. For example, it may well be that persons whose political views diverge from those of their environment will seek political information outside the local environment while also being less active in, and feeling less attached to, the neighbourhood, which would produce similar patterns to those reported above. Moreover, studies based on measures of attachment to the neighbourhood – rather than contact with neighbours more specifically – cannot distinguish between processes of political conversion through local social interaction and through emulation, to which we turn our attention next.

Emulation

Emulation refers to a process by which people choose to behave like their neighbours based on observed or inferred behavioural patterns, without necessarily interacting with them (Johnston et al. 2005). It is a more subtle type of social influence than political conversation, based on the observation of political cues (for example, election posters and bumper stickers) in the residential environment or on other forms of non-verbal communication (Huckfeldt and Sprague 1995). The more subtle nature of the hypothesised process also makes emulation much harder to study, since such influences are difficult to observe directly, and persons may themselves not even be aware of them. Some support comes from studies that measure individuals' perceptions of the partisan preferences of their neighbours. American research has shown that most residents are able to correctly report the partisan preference of the local majority, especially when that majority is large (Baybeck and McClurg 2005). This indicates that most people are well aware of the local political context, which is a prerequisite for emulation to occur. Connecting these perceptions of the local partisan composition to vote choice, Burbank (1997) found that respondents who recognised that people in their community usually supported the locally dominant party were more likely to vote for that party themselves, but only when the respondents themselves already identified with the party. This was interpreted as evidence that knowledge of the partisan preferences of neighbours, inferred from the environment, reinforced the political preferences of those already loyal to the locally dominant party. Alternatively, however, it may be that those who voted for the locally

dominant party were more likely to correctly perceive that party as the locally dominant one (Baybeck and McClurg 2005), illustrating the difficulties in providing a definitive test of the importance of emulation.

Environmental observation

Individuals may vote for a particular party because it is thought to best promote local interests. Consequently, residents of the same area may vote for the same party, even if they do not talk together. Most attention in this respect has been paid to the role of local economic conditions. For example, Johnston et al. (2000) found that respondents who believed that government policies had contributed to decreased prosperity in their local area, as well as respondents who lived in areas of high unemployment, were less likely to support the incumbent Conservative government, even if they reported that government policy had improved their own standard of living. This was interpreted as evidence for altruistic voting, according to which voting is based not on self-interest but on the interests of neighbours. Additional evidence that local interests play a role in voting decision-making comes from Cutler (2007), who demonstrated relationships between opinions on specific political issues and indicators of local conditions linked to these issues. For example, Cutler found diminished support for free trade agreements among respondents living in areas where the occupational composition made many residents vulnerable to freer trade. Finally, in Walks' (2006) study on political differences between urban and suburban areas in Toronto, respondents were asked directly how living in their residential area influenced their political views. This showed that residents of inner-city areas more often reported that local experiences moved them to the left of the political spectrum, whereas residents of suburbs more often reported that local experiences had moved them to the right. When asked about specific experiences that influenced their political views, most of those who moved to the right referred to the perceived negative effects of increased numbers of immigrants and the construction of unwanted low-income housing in the suburbs. In contrast, those who moved to the left noted that living in the inner city instilled in them a more collectivist mentality, inspired by the observation of local needs (for example, of homeless or otherwise disadvantaged populations; Walks 2006). This provides further evidence that environmental observation of local interests can influence voting and political views, although reverse causality – for example, when political attitudes shape the observation and interpretation of local conditions – cannot be ruled out.

Selective mobility

Residential self-selection occurs when political preferences play a role in residential mobility decisions. This may happen directly, when moving decisions

are affected by the political makeup of origin and destination areas. It may also occur indirectly, when residential preferences that are related to political views – such as the accessibility of different modes of transportation or the presence of religious services – shape decisions about whether to move and where to move to. In both cases, persons will most likely move to (or stay in) places where the majority view is consistent with their own views, and as such selective mobility constitutes another force that may cause political consensus in the residential environment (Johnston et al. 2004b).

Walks (2006) provides evidence for both direct and indirect selection effects by asking respondents living in the Toronto region what factors influenced their residential location choice. In his study, 11 percent of respondents stated that their political views were a factor in choosing their current place of residence. These respondents reported moving to inner-city neighbourhoods to live among others with similar views, and they often perceived inner-city areas as more environmentally and socially just places to live than suburban areas. In addition, Walks (2006) found that respondents who lived in the suburbs and respondents who supported the Conservative party more often reported that they moved to their current place of residence because they liked the house, whereas inner-city respondents and respondents supporting the social democratic New Democratic Party frequently noted a sense of community and proximity to amenities as reasons for their residential choice. This indicates that residential preferences that are only indirectly related to politics may be powerful factors in shaping residential mobility decisions. Additional evidence for the importance of selective residential mobility comes from a study on migration flows of registered voters in the US by Tam Cho, Gimpel and Hui (2013). They found that even after holding constant a range of characteristics of the origin and destination area (for example, population density, income), voters who were registered as Republicans were more likely to move to areas with a higher proportion of Republicans compared to their origin area. Likewise, Democratic migrants were more likely to move to destinations that were more Democratic than the area that they left (Tam Cho, Gimpel and Hui 2013). These findings have recently been corroborated by Martin and Webster (2020), although in this study indirect selection effects resulting from partisan differences in housing and neighbourhood preferences appeared to be more important than the direct influence of the political makeup of destination neighbourhoods.

To summarise, these studies show that although certainly not the only or even the most important factor shaping relocation decisions, political views often play a role in deciding where to live both directly and indirectly, and they tend to do so in ways that increase political consensus in the neighbourhood. Authors have reached divergent conclusions, however, regarding the relative importance of selective mobility compared to the other mechanisms in explaining patterns of local political consensus. On the one hand, a longitudinal study by Gallego et al. (2016) concluded that selective mobility was the main factor in shaping political consensus in English constituencies, whereas contextual influence – although evident – played only a minor role. Specifically, in line

with the previously discussed work on political consensus in the residential area, Gallego et al. (2016) found that respondents living in safe Conservative constituencies – defined as constituencies that were won by the Conservatives in all four elections that were studied – for a longer period were more supportive of the Conservative party and also expressed more right-wing views. Conversely, those living in a safe Labour constituency for longer periods were more left-wing, although longer periods of residence in safe Labour constituencies were not associated with more support for Labour (which was high among all respondents living in safe Labour constituencies irrespective of the time they lived there). But fixed effects models showed that a large part of these effects could be explained by (both observed time-variant and unobserved time-invariant) individual-level characteristics, indicating that political consensus in the constituency was, to a large extent, the result of selective mobility of movers into areas with more congruent political views when compared to their origin area. For example, respondents who expressed more right-wing views were more likely to move to (and remain in) safe Conservative constituencies. Gallego et al. (2016) did find some evidence for contextual effects, as those who moved into safe Conservative constituencies became more right-wing in the years following the move. However, these effects were generally small in size and no effects were found after moving to a safe Labour constituency.

On the other hand, Martin and Webster (2020) concluded that the magnitude of selective mobility was much too small to explain the large degree of local political consensus in the US. This conclusion was based on a simulation exercise that aggregated the individual-level patterns of selective mobility discussed above, which showed that the partisan bias in moving decisions would need to be around five times larger than observed to be able to sustain the high levels of local political consensus (termed 'geographic polarisation' in this study) in the US. The authors concluded that contextual influences must be playing an important role in shaping aggregate patterns and this was supported by the finding that people who moved to areas with more Republican voters more often changed their party registration in a more conservative direction after the move (Martin and Webster 2020).

Party mobilisation

Political parties should not be regarded as passive organisations in the electoral decision-making process. Rather, they actively seek votes, through 'a continuing reciprocal interaction between voters and political parties at local (including regional) as well as national scale' (Johnston 1986, p. 53). Most research in this respect has focused on the effectiveness of political campaigns. A consistent finding from this literature has been that parties win more votes in places where they campaign more intensively. For example, Pattie, Johnston and Fieldhouse (1995) linked British data on the amount spent on each party's campaign in each constituency in the 1983, 1987 and 1992 general elections

to the party's election results. They found that more local campaign spending was associated with better election results for that party and worse results for its rivals. However, the benefits of campaigning were limited to parties challenging seats, whereas local campaign spending did not affect election outcomes by incumbent parties. These results were confirmed for more recent elections by Pattie, Hartman and Johnston (2019) and suggest that local campaign efforts help challenger parties to win votes.

For campaigns to engender local political consensus, however, either the intensity or the effectiveness of campaigns needs to vary geographically in ways that produce better outcomes for parties where they were already doing well. Most work on spatial variation in campaigning has focused on the competitiveness of the local contest – also termed the marginality of the seat. For example, Johnston and Pattie (2014) showed that parties tend to spend more on campaigns in constituencies where the gap in vote shares between the incumbent party and the runner-up was smaller in the previous election. In other words, parties concentrate their efforts in electoral districts where they have most to gain or to lose. However, such spending patterns likely do not produce the patterns of political consensus described above, as they imply that major parties will spend most of their resources in the same highly competitive districts rather than in areas where they are already doing well. Moreover, local concentrations of campaigning in marginal seats are irrelevant in proportional electoral systems and cannot explain political consensus at smaller spatial scales than the electoral district. Therefore, other sources of spatial variation in campaign intensity are likely needed for campaigns to produce political consensus. For example, it may well be that parties concentrate their campaigning efforts in residential areas with many potential voters whose individual characteristics make them likely to support that party. This is particularly relevant since campaigns tend to be more effective at increasing turnout among supporters and winning over floating voters than at converting supporters of other parties. Therefore, concentrated campaigns in areas where a party is already doing well can potentially contribute to the patterns of consensus described above, but I am not aware of systematic empirical evidence examining such detailed geographical variations in campaign intensity.

Combinations of mechanisms

Most of the studies cited above have focused on a single mechanism and therefore they can say little about the relative importance of each process in shaping political consensus in the residential environment. Of the studies that do take into account multiple mechanisms, both Walks (2006) and Gallego et al. (2016) concluded that selective residential mobility was the most important process producing the observed geographical patterns, reflecting the consistent finding that people tend to move into areas where many residents share their political views. As such, local political consensus may arise not

only because 'people who talk together vote together', but also because people who vote together move together.

Yet selective mobility certainly is not the sole process producing political consensus. Gallego et al. (2016) showed that political views change towards the majority view after moving into a new area, and Martin and Webster (2020) even found that in the US this change in political preferences after moving is a more important factor in explaining local political consensus than selective mobility. This change in political preferences after moving to a new area may be a result of a combination of local social interaction, emulation, environmental observation and party mobilisation. Moreover, the different mechanisms are interrelated and may well interact to produce the observed geographical patterns. For example, it may well be that local social interaction reinforces perceptions of local interests (Cutler 2007). In addition, mobility decisions may themselves be influenced by contextual characteristics, further complicating the distinction of the different mechanisms (Sampson 2012).

6.3 Future directions

The key challenge of future research is to understand how – and under what conditions – different processes work together to produce the observed pattern of political consensus in the residential environment. The studies cited in the previous section provide some ideas on how to distinguish the different processes. But future work should take into account four additional aspects that have received limited attention in the literature so far, which will be discussed next.

The role of political attitudes

An important distinction exists between studies on political consensus in the residential environment regarding the ways in which they include political attitudes and preferences into their modelling framework. Many studies, mainly by political scientists, incorporate attitudes in their models as 'control variables', indicating that their main interest seems to be how voting behaviour varies by geographical context among individuals with similar political attitudes and preferences. For example, Johnson, Shively and Stein (2002) examined how voting is related to the perceived partisanship of the neighbourhood after accounting for differences in self-reported party identification. Burbank (1997) even argued that the effect of political information obtained from the environment depends on individual partisan preferences, implying a moderating role of political preferences in the relationship between place-based characteristics and voting outcomes. Such approaches stand in stark contrast with those usually adopted by geographers, who have argued that the inclusion of attitudinal variables controls away part of the effect of interest (Johnston and Pattie 2006; Jones 2005).

These different modelling approaches point to a more fundamental theoretical discussion on the role of geography in the electoral decision-making process that is often left implicit in empirical studies. Studies that 'control' for differences in attitudes tend to assign less theoretical importance to place-based characteristics, and geography is often merely 'an add-on at the end of an analysis' (Johnston and Pattie 2006, p. 84). In contrast, work by geographers such as Agnew (1996) and Johnston and Pattie (2006) has argued that political attitudes and preferences are learned 'in place', resulting in geography playing a key role in all aspects of the voting decision. Future studies would benefit from a more explicit consideration of the assumed role of political attitudes and preferences and their relationship to geography through each of the mechanisms discussed above. This might inspire the use of stepwise modelling approaches such as the approach adopted by Johnston and Pattie (1988), which will help to examine the mediating (or moderating) role of political attitudes in the relationship between place and voting.

Geographical scale

In most empirical research, political consensus is examined at a single geographical scale, which often refers to relatively large geographical areas captured by administrative units. For example, constituencies – often used in British electoral studies – on average house around 100,000 inhabitants (73,000 voters) and, as such, capture quite large and heterogeneous areas. However, the processes that produce political consensus in the residential environment likely take place at a variety of scales simultaneously, including that of the local neighbourhood. For instance, a person's residential location may invite and sustain social interactions both at the city level (for example, at the workplace) and in the local neighbourhood. Moreover, whereas moving decisions at the regional and city level may largely be driven by economic constraints (for example, regarding employment opportunities), mobility may be more strongly related to political preferences at smaller spatial scales (Tam Cho, Gimpel and Hui 2013). These expectations have been confirmed by the previously discussed studies that measured characteristics of the residential environment using bespoke neighbourhoods, which have found evidence for political consensus at multiple geographical scales simultaneously, including the very local level (Johnston et al. 2004a; MacAllister et al. 2001). Yet this approach has not often been picked up by more recent studies on political consensus, which have continued to rely on relatively large administrative areas.

A life course perspective

The majority of studies on local political consensus have been cross-sectional, linking voting behaviour to contextual characteristics at a specific point in time. This assumes that residential contexts have an instantaneous effect on

political preferences, ignoring the temporal or life course dimension of the relationship. In contrast, a life course approach examines how prior life histories influence later life outcomes and requires following the same individuals over longer periods of time as they move between residential environments and perhaps change political views (see Mayer 2009 for a general introduction to life course research). A key necessity in this respect is the gathering of longitudinal data on voting and the decision-making process surrounding the vote, combined with detailed geographical and social network data to understand the role of the social context.

Elements of a life course approach have already been adopted in other fields of research on neighbourhood effects (for example, Hedman et al. 2015), but have not found their way into electoral geography, despite the opportunities they entail. First, a life course approach allows for a better distinction of contextual influence and selective residential mobility, studying how both develop in combination across the life course. In this respect it is important not to treat selective mobility merely as a statistical nuisance that needs to be controlled away, but rather as a process that is of interest in and of itself – as it determines macro-level segregation and opportunities for contact – and is intimately tied to prior experiences and contexts (Sampson 2012).

Second, the processes that produce political consensus in the residential environment likely do not take place instantaneously, but in most cases the effects will take some time to manifest themselves. For example, Taylor and Johnston (1979) noted that conversion through local social interaction may be the result of a slow period of acculturation rather than an instantaneous reaction. Some empirical support for this proposition comes from Gallego et al. (2016), who showed that movers into safe Conservative constituencies became more right-wing only after living in the new location for three to four years. These ideas and findings illustrate the need to move beyond instantaneous effects of the residential environment and consider both the duration of residence in the current location and the cumulative exposure to different environments over the life course.

Third, life course studies often stress the importance of critical periods in life, during which experiences may have long-lasting impacts on later life outcomes. Such expectations are also relevant for studies on political consensus in the residential environment. For example, socialisation during childhood often has a long-lasting influence on political views in adolescence and beyond (Butler and Stokes 1969); as a result, the childhood residential context may well play an important role in shaping political views.

Finally, the concept of 'linked lives' shows the importance of taking into account life course experiences and political views of relevant others, such as parents or partners. For instance, parents' political views and socio-economic status may influence both their children's political views and their residential preferences through processes of intergenerational transmission. Consequently, parental characteristics could be an additional explanation for political consensus in the residential environment that is not included in most studies.

National and temporal contexts

The discussion of previous findings reveals important differences in studies' conclusions regarding both the extent of local political consensus and the relative importance of the different mechanisms in shaping geographical patterns. This may, first of all, be a result of differences in study designs, related for example to the geographical scale that is studied or the control variables that are included. However, variation in national and temporal contexts may also be driving differences in results. For example, the local social interaction mechanism may be more important in contexts where political views are more dynamic and the political landscape is less polarised, as it is in such contexts that individuals may be more open to social influence. Further, selective mobility may play a larger role when structural housing market constraints are weaker, which leaves more room for political preferences to influence moving decisions.

Little is known, however, about the extent to which results depend on national and temporal contexts. In general, the previous discussion of empirical studies shows a strong focus on the British and North American contexts, which are particular given their relatively high levels of socio-economic segregation (see Chapters 7 and 8) and their FPTP electoral systems. This raises the question of to what extent the processes that produce political consensus in the residential environment translate to other countries? In countries with proportional electoral systems, for example, the larger number of political parties will often imply that no one party is dominant in a neighbourhood, and both voters and political parties may be less aware of the partisan makeup of different localities. This may require a more nuanced conceptualisation and investigation of processes of contextual influence and residential mobility, in which the unique sources of support for multiple parties are examined simultaneously. Particularly in recent times, this shows a need for an extension of the traditional framework based on the links between class and left-right voting by incorporating new or emerging cleavages such as those based around globalisation, populism or environmentalism.

6.4 Conclusion

As one of the limited number of geographers focusing on the quantitative analysis of voting behaviour, Ron Johnston has been a central proponent of bringing place into the understanding of electoral behaviour for several decades. In his work, place is conceived not just as an 'add-on' secondary to individual characteristics but as a key factor in shaping all aspects of the voting decision-making process. The relevance of such an approach is illustrated by the strong and consistent evidence of political consensus in the residential environment.

At the same time, Ron Johnston remained critical of the frequently untested assumption that political consensus is produced by local social interaction and often stressed the importance of uncovering the mechanisms that produce consensus. This view is supported by the empirical evidence reviewed here,

which shows that different processes may result in the same geographical pattern. Although the evidence was most consistent for the view that individuals sort into residential contexts that are more in line with their political views than the areas they left, the overall conclusion should be that each of the five mechanisms – local social interaction, emulation, environmental observation, selective mobility and party mobilisation – contribute to geographical patterns of political consensus in the residential environment at least to some extent. Future work should extend on this finding by investigating how and under what circumstances, combinations of different processes are producing different geographical patterns. Here, it is crucial to acknowledge that different processes may be acting in different ways in different times and places. Taking this into account should allow a further investigation into how, when and where social environments matter for voting, while always keeping a central eye to the role of geography.

Note

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7. Segregation and social distance: continuity and change in urban communities

William A. V. Clark

The desire to understand the organisation of cities, and in particular the mosaic of places within them, has been central in the social sciences for the last hundred years. The fact that there have always been poor neighbourhoods and rich neighbourhoods, and that cities have been divided by areas of advantage and disadvantage, was initially the focus of journalists and novelists, who described these differential patterns. In the case of journalists there was a concern with the societal implications of the concentrations of poverty. The early studies in the US of New York tenement housing (Riis 1890) and, in the UK, the social survey of London life (Booth 1897) were initial attempts at both description and the exploration of the social implications of the concentration of poor families. The beliefs about life in these concentrations of poverty were often simplified to beliefs about laziness, vice, and drug and alcohol abuse. Slowly, however, social investigators and preachers, and journalists showed that the slums were more a reflection of poverty, unemployment and homelessness, than the behaviours of the disadvantaged populations themselves.

For most of the late 19th and early 20th century, the discussions and presentations were almost entirely descriptions of the conditions of these inner-city neighbourhoods. It was not until the rise of sociological investigations that the broad-brush descriptive analysis changed to empirical investigations of concentrations of poverty, and the links to ethnicity. The early work by the Chicago school, and by Robert Park, were almost certainly influenced by Park's initial role as a journalist in the 1890s. By the 1920s, Park, and his colleagues, now at the University of Chicago, began a more focused investigation of neighbourhoods in Chicago, and how they could be understood within the life of the city.

What is now known as the Chicago school (of sociology), set out to document empirically, the nature of city growth and the implications of that growth for the immigrant populations within the city. To do this, Park and his colleagues drew upon the ideas of natural areas and the new field of human ecology that had emerged as a parallel to studies of the natural environment, drawing on studies in anthropology, animal biology, ecology and geology. Studies of human ecology were also important in human geography in the same time period. It was then, and still is, the attempt to provide an understanding of the

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intersection of humans with the natural and built environment. For the early 20th-century sociologists it was a framework for studying human activities and social institutions.

As Park described it in his 1925 presidential address to the American Sociological Society:

> Human ecology, as sociologists conceive it, seeks to emphasize not so much geography as space. In society we not only live together, but at the same time we live apart, and human relations can always be reckoned, with more or less accuracy, in terms of distance. In so far as social structure can be defined in terms of position, social changes may be described in terms of movement; and society exhibits, in one of its aspects, characters that can be measured and described in mathematical formulas (Park 1925, p. 2).[1]

Although Park and his colleagues developed a rich literature on neighbourhoods in Chicago, those studies were less central to broad sociological investigations which were more focused on societal processes, especially the role of social mobility in the rapidly changing industrial societies of the US and Europe. And, from the perspective of studies of locality and neighbourhoods, it was the study of social disorganisation theory which claimed the most attention. Indeed, study of neighbourhood social disorganisation is still a central concern in geographic studies within sociology.[2] Already in the 1930s, the focus was on how a person's residential location could be a major factor in their life course evolution.

Investigations of small areas in cities were certainly stimulated by the development of more formalised census tracts in the 1920 and 1930 US Census (Theerman 2020). One of the products of this research by the Park group, was a series of thematic maps of Chicago, based on census-tract-level data compiled for the 1920 and 1930 censuses. These maps are quite rudimentary, and certainly not elegant by cartographic standards, but they are of great historic importance. They focused on population density, ethnicity, housing and living standards, and have been described as the first thematic atlas of any US city.[3] Despite the early work in the 1920s and 1930s, it was only in the 1940 Census reports that the Census Bureau began publishing census tract data as part of standard tabulations. At that census the Bureau published both census tract and block data for all cities with 50,000 or more people, which found its way into a range of publications about neighbourhoods within American cities, and to the rise of what was called social area analysis.[4]

7.1 Evolution of social area analysis

The human ecology studies of residential areas within cities, combined with the availability of detailed social data for small areas, evolved into a specific concern with social areas and their identification within cities. The studies

by Shevky, Williams and Bell (1949) took advantage of the details from the census tract data to develop descriptive accounts of residential differentiation, and their study of Los Angeles distinguished social areas based on social rank, degree of urbanisation and segregation (Shevky and Bell 1955). The studies of social areas were largely descriptive but there were attempts to relate the social area analyses to the broader theories of the evolution of urbanism as a way of life, relating it back to Louis Wirth's studies of the city. Social area analysis, mainly in the United States during the 1950s and 1960s, had a clear spatial focus where maps were an important part of illustrating the differentiation within the city. Perhaps one of the most iconic studies using social area analysis was the study of residential areas in Australia and New Zealand by Timms (1971) – *The Urban Mosaic*.

Initial studies using the paradigm of social area analysis were not so much theoretical analyses as mechanisms for characterising and classifying urban neighbourhoods based on socio-economic differences. These socio-economic and socio-demographic differences focused on how places varied by family structure, by ethnicity and by religion. Ostendorf and Musterd (2012) provide a useful illustration of how social area analysis using maps of Amsterdam is still an informative description of the structure of the city. Although social area analysis laid out a method for a quantitative measure of differentiation within cities, very early on Hawley and Duncan (1957) raised questions about just what was being measured in social area analysis. What was a social area, what is its nature, and what is the theoretical basis of the technique as a method for studying differentiation? At heart they raised the issue of whether social area analysis was the tool for classifying geographic units, or whether it could be used as a tool for studying population aggregates independent of territoriality. Much of the discussion in the Hawley and Duncan article was about the role of territoriality and geographic units. It reflected, in part, the growing engagement with the detailed census tract data from the 1950 Census data which was central in the Shevky and Bell studies.

It is in the context of social area analysis that one of the first major works by Ron Johnston was published – his study of urban residential patterns (Johnston 1971).[5] That work was in fact an evocation and use of social area analysis as a basis for evaluating urban residential spatial structure. The book followed, fairly closely, the three dimensions of social status, family composition and ethnicity as measures of residential spaces. Johnston set this work within the context of the evolving literature on city structure by Harris and Ullman (1945), and the earlier work from the Chicago school. A review at the time suggested that the approach in the book was no different from the Chicago school of urban sociologists which assumed that residential spatial patterns were the result of a multitude of individual location choices by which households elect to live in particular areas because they confer status and prestige, or because dwelling sizes suit household needs. The reviewer speculated, critically, that probably the majority of households can only do this to very limited extent (Edwards 1972). For the reviewer it was not

individual choices which determine spatial patterns but the institutional framework of the housing system. In a prescient fashion the reviewer, and Ron Johnston, were engaging with what is a continuing debate – what is the relative role of constraint and choice in the formation of residential patterns? This issue has re-emerged in, *inter alia*, discussions of school choice (Harris and Johnston 2020).

Lieberson's (1963) comparative study of ethnic segregation set off a cascade of studies of segregation across metropolitan areas, first in the US and the UK, and then relatively rapidly of cities across the world. That literature, using some form of segregation index has generated several hundred research articles and books. Reviews in several handbooks and bibliographies have documented the wide-ranging studies of segregation and the links to other urban outcomes (see, for example, Timberlake and Ignatov 2014). Many of these studies simply used administrative units and computed straightforward measures of the level of segregation without much critical evaluation. These studies were slowly enhanced as the focus shifted to understanding the forces behind segregation in addition to simple mapping.

What we know now is that the complex processes of residential choice and selection indeed involve choice and constraint, and the ensuing literature has grappled with how choices are made within the urban structure, and how much individual behaviour plays a role in the choices. The outcomes of choices in the housing market and the role of preferences, economic constraints and discrimination, have created a very extensive literature (see Clark 2021 for an overview, and for the specific approach in economics, see Cheshire, Nathan and Overman 2014). At the heart of the research is what was important to the Chicago School, and in Johnston and Timms' work on social areas – how can we measure the differences across the urban mosaic, and what are the underlying forces which create the patterns of separation? Initially much of the work which followed the initial social area analysis was how to measure social differences and their spatial patterns.

7.2 Segregation, segregation indices and the index debate

The search for better classification and for more accurate measurement of differences across areas led in a number of directions. On the one hand, to factorial ecological studies, and on the other, to the creation of indices of segregation. It is beyond the focus of this chapter to fully engage with the emergence of factorial ecological studies, but it was a central theme in the 1960s, epitomised by the work of Berry and Rees (1969) and Rees (1971) amongst many studies. It was also a theme in Ron Johnston's aforementioned 1971 study of residential patterns, and his book *Multivariate Statistical Analysis in Geography* (1978). However, our concern here is with the emergence of measures of segregation and separation. How separate are groups, and how can we

measure it – questions that are a central concern in Ron Johnston's work and his long-standing interest in residential segregation which generated multiple publications later in his career but with which he engaged much earlier on (for example, Johnston 1984).

In the mid-1950s, Otis and Beverly Duncan published a *Methodological Analysis of Segregation Indices* (Duncan and Duncan 1955), and to some extent the rest is history, at least in the sense that the dissimilarity index became the 'go to' measure of segregation. It was, and is, simple, easy to compute and provides a broadly useful index of the overall level of segregation of any two groups. The first indices of segregation began with measures of what Jahn, Schmid and Schrag (1947) called ecological segregation. By the time the Duncans published their analysis there had been several alternative indices and they were in common use. White (1983) reviewed the development of the index of dissimilarity and contrasted it with a series of alternate measures of residential separation.

Even though the dissimilarity index was the most frequently used measure, it was clear that it did not adequately capture the spatial complexity of residential segregation. It is perhaps hyperbole to talk of the index wars, but there were strongly held positions about the adequacy of the dissimilarity index. The dissimilarity index only measures two groups, it is aspatial in its standard and commonly used form, and can give quite different results for the same data depending on the spatial arrangement of the data (or, the same results, but for very different spatial patterns). It is also susceptible to the size of units and the density of population within those units. For geographers it was all about spatial relationships and where people of different ethnicities, religions and classes were located in geographic space. What became increasingly clear, and was nicely summarised in a commentary by Poulsen and Johnston (2006), was that single number indices like the dissimilarity index oversimplify, they are difficult to interpret, and are subject to the size of the spatial units that they enumerate. As they note in their review, the dissimilarity index can be scaled to vary between zero and a hundred with zero measuring 'no segregation' and 100 measuring 'complete segregation'. While we think of 60 as moderate segregation and 30 as low, how can we relate the two, and moreover what does it even tell us about the everyday residential experience of someone in a particular geographic location? I will return to this fundamental issue later in the chapter but for now we can say that it all relates to spatial scale.

The growing dissatisfaction with indices not only reflected the lack of a spatial component in the index, it also reflected their narrowness by focusing on only two groups. In the increasingly complex world of multiple races and ethnicities across global cities there was a clear need for a more nuanced measure of separation (see also, Chapter 8, this volume). A first step towards a more general and spatial index was to modify and adjust the current dissimilarity and exposure indices (Wong 1993, 2005). A second step was to develop new measures of spatial association and alternative ways to capture the 'true' nature of spatial distributions (Morrill 1991). However, neither the modifications of

standard models nor new statistics based on local area clustering techniques dealt with the most important problem of the units of analysis (Lee et al. 2008; O'Sullivan and Wong 2007; Reardon et al. 2008; 2009; Wong 2005). Although the Lee et al. approach used blocks and a new weighting process, it was still based on census units, as were most of the new techniques which attempted to overcome areal limits.

In a series of papers during the early 2000s, Johnston and his colleagues not only critiqued current models (Johnston, Poulsen and Forrest 2005; 2009), they took up issues across a range of implications of measuring segregation. They took issue with the postmodern approaches to segregation – in particular that ethnic patterns were somehow different in 'postmodern' cities – and explored the use of spatial statistics to properly capture the nature of segregation (Johnston, Poulsen and Forrest 2002; 2011). Johnston's concern with what it means to measure separation is a recurring theme within these and other papers that struggled with what we get when we construct an average index of segregation. They not only created a body of empirical studies using detailed datasets with the Australian and New Zealand censuses (Johnston, Poulsen and Forrest 2011), they critiqued the methodologies being used to measure segregation. They also developed different ways of thinking about segregation, and especially the growing complexity of racial and ethnic patterns.

The recognition that administrative units had an effect on the level of separation focused attention on the issue of scale, and how it played a role in interpreting segregation (Lee et al. 2008). The fact that segregation is different at different scales became an issue of how best to measure levels of segregation, and to the creation of methods that were independent of scale (Fowler 2016; Parisi, Lichter and Taquino 2011). That recognition led to a focus on creating what are called 'bespoke' neighbourhoods (see also Chapter 6, this volume) – that is neighbourhoods that are created specifically for a particular analysis – with the motivation that neighbourhoods so designed would overcome the problems created by fixed boundaries. The idea of bespoke neighbourhoods has been introduced in studies of contextual effects in a quite different context (looking at the neighbourhood effect within British voting patterns: McAllister et al. 2001) and then elaborated in several different ways in the attempt to better understand the scale effects of segregation.

The approach to bespoke neighbourhoods has taken one of two directions. The first uses distance metrics around a point of interest, to create a circular band which defines a group of neighbours (Reardon et al. 2008; 2009). This approach proposes that segregation should be measured by constructing scalable egocentric neighbourhoods where the radius is allowed to vary in order to reflect different geographical scales. An alternative approach used the classic concept of near neighbour analysis to create assemblages of small areas, or even of individual persons, where national censuses provided data down to the location of individuals as in Sweden. Instead of a radius, collections of individuals or near neighbours are used for measuring neighbourhood scale

(Östh, Clark and Malmberg 2015). Technically, this is performed by expanding a buffer around each individual location until the population contained in the buffer reaches the threshold set for a specific scale level. This procedure will yield statistical aggregates for the *k*-nearest neighbours of different locations that can be used subsequently to compute different scale-dependent measures of segregation. Such *k*-nearest neighbour aggregates, again called bespoke neighbourhoods, provide an alternative to distance radii. This usefulness of *k*-nearest neighbour aggregates was demonstrated in a comparison of segregation patterns in three Swedish and one US metropolitan region: Stockholm, Göteborg, Malmö and Los Angeles (Östh, Clark and Malmberg 2015).

Extensions of the ideas of nearest neighbour analysis utilised techniques from statistical physics to provide a more generalised measure of segregation, and more importantly of social distance. The idea is quite simple in design. Technically, the method considers a point in a city – this could be an individual, where such data is available in the detailed censuses of Scandinavian countries, or be in a very small spatial unit that is relatively homogeneous. In this method we think of a typical resident exploring the city from any point in the city. An exploration that encompasses all scales, from the most local one to the full metropolis. At every step, the explorer compares the population encountered so far in comparison with the population in the whole city. A measure of the divergence between the two compositions can be evaluated with the Kullback–Leibler (KL) measure of divergence. Because the KL divergence enables one to work with more than two population groups it has great flexibility (Randon-Furling, Olteanu and Lucquiaud 2020).

Given a set of such points in the city (of length, *n*) we imagine that we are considering a particular variable (*X*) which in our discussion here could be some measure of ethnicity which then takes on values across all scales from the individual to the whole city. In effect the method is suggesting an aggregation of points, people or very small areas, as the area is expanded out from the initial point. Initially, the divergence is that between the whole city and the initial local tract from which one starts. Eventually, once the whole city has been explored, whatever the initial starting point, one has met the full population and thus there is no divergence in population composition. In between the initial local value and the city average, the divergence follows a trajectory that encapsulates every variation of the population composition (with respect to the city's full population) as one zooms out around the starting unit (Olteanu, Randon-Furling and Clark 2019a; de Bezenac et al. 2021).

There is no limit as there is in the radius approaches of Reardon and colleagues (2008). It is in fact a generalisation of the near neighbour model suggested by Östh, Clark and Malmberg (2015). The interesting question which the analysis answers is at which aggregation, at which *n*, is the value of *X* created such that it is close to the average composition for the whole city. Putting it another way we can say that if *n* is small then the measure of segregation in these individual localities is like the city, suggesting lower socio-ethnic segregation; but if *n* has to go a long way out to capture the overall segregation of

the city, then it suggests population heterogeneity. In this sense, the technique implicitly measures social distance by measuring the distance between neighbours but not constrained by any administrative overlay. Notably, because it is a spatial-based analysis, it is possible to map the variations in divergence across the urban mosaic.

7.3 Schelling, Sakoda and social distance

The focus on spatial groups of people of like religion, familial status or socioeconomic status was a reflection of the empirical observations about clustering which were being uncovered, as observed earlier, with the growing availability of small area data by census tracts. It is also a reflection of the growing interest in the processes whereby these clusters emerged. Empirically, it was possible to map the clusters, but what about the underlying processes? The idea that people with similar social characteristics congregate in the same neighbourhoods based on mutual attraction, common interests and shared sensibilities, in other words, social distance, go back to the ideas of Georg Simmel, but adapted and expanded by Robert Park and Emory Bogardus (see Ethington 1997). Over time, the work by Park and Bogardus, mostly on race and ethnicity, popularised the ideas of self-selection.

The ideas of social distance also underlie the work of James Sakoda who published his dissertation, *An Analysis of Changing Patterns of Social Behavior*, at the University of California, Berkeley in 1949. He drew on the works of psychological field theory by the social psychologist Kurt Lewin who focused on how we could understand social dynamics, and in turn their underlying psychological forces. Sakoda, in a 1988 interview, reflected, 'Of all the things I've done, I think the best thing I've done is the social interaction model, which solved the problem in social psychology of going from the individual level to the group level' (quoted in Hegselmann 2017).

Sakoda (1971) published a paper, using the models of social selection developed in his dissertation, in the *Journal of Mathematical Sociology*. This was the same year that Thomas Schelling published his paper *Dynamic Models of Segregation* (Schelling 1971).[6] Later Schelling summarised his findings in a book, *Micromotives and Macrobehavior* (Schelling 1978). Interestingly it is just the focus that Sakoda recalled as central to his work, the problem of going from the individual level to the group level. The book sets out what has become the most influential description of social choice, social distance and selection. As Hegelsman (2017) points out, Sakoda's checkerboard model is much more general and flexible than Schelling's model. In a certain concise sense, it is possible to consider Schelling's model as an instance of Sakoda's model. However, it is Schelling whose work is now institutionalised as the original work on clustering and grouping.

Schelling's formulation includes two models, and they are often conflated. The first, the so-called checkerboard model is perhaps the best known; the

second was the tipping model. The checkerboard model was also central in Sakoda's approach. Both Sakoda and Schelling started their checkerboard modelling as a table-top exercise. By 1971 Sakoda's checkerboard model of social interaction was a computational model, programmed in FORTRAN, which ran on an IBM 1130. As Schelling explained, the checkerboard model did not require any sophisticated modelling and he includes an invitation in *Micromotives and Macrobehavior* for the reader to run their own segregation experiments as table-top exercises with dimes and pennies.

The checkerboard or spatial proximity model is a simulation of the dynamics of segregation. It starts with a residential area populated by a fixed number of black and white agents, each having a preference over the racial composition of their immediate neighbourhood. Agents dissatisfied with their current residential locations are allowed to move into their preferred neighbourhoods in a random order. The simulation stops when no agent is found to be discontent. Schelling's empirical finding has been shown to be mathematically correct (Zhang 2004a; 2004b). That is, that moderate preferences for same-colour/ethnicity neighbours at the individual level can be amplified into complete residential segregation at the macro level. For example, if every agent requires at least half of their neighbours to be of the same ethnicity – a preference far from extreme – the final outcome, after a series of moves, is almost always complete segregation. Thus, Schelling concluded that the 'macro behaviour' in a society may not reflect the 'micro motives' of its individual members.

Schelling formulated theoretical white and black schedules of tolerance and used these to identify equilibria in his segregation models. It turned out that it was possible to empirically generate these tolerance schedules from survey stated preference data, and those data confirmed the relevance of the Schelling schedules (Clark 1991). The empirical outcomes from these tolerance schedules were further extended to multiple groups and it was possible to document the evidence of separation among any combinations of ethnic groups that come about from preferences. The simulations based on actual stated preferences generate patterns that show minorities are segregated from the majority group, but also other minority groups (Clark and Fossett 2008).

Schelling's second model of residential segregation, called a tipping model, focuses not on the spatial selections by agents, but rather on what happens when some threshold of concentration is reached in a bounded area. The tipping model seeks to explain the phenomenon of a neighbourhood quickly changing from one racial/ethnic composition to another, usually white to black in the US context. The process of tipping, once started, is found to accelerate and it was thought to be irreversible.[7] Schelling's explanation assumes that different residents in a neighbourhood have different tolerance levels toward the presence of neighbours of the 'opposite colour' (different ethnic group). For example, in an all-White neighbourhood, some residents may be willing to tolerate a maximum of 5 percent Black neighbours; others may tolerate 10 percent, 20 percent and so on. The ones with the lowest tolerance level will move out if the proportion of Black residents exceeds 5 percent. If only

Black people move in to fill the vacancies after the White people move out, then the proportion of Black people in the neighbourhood may reach a level high enough to trigger the move-out of the next group of White people, who are only slightly more tolerant than the early movers. This process continues and eventually results in an all-Black neighbourhood.

Schelling's segregation dynamics are driven by a migration regime that rests upon neighbourhood preferences. Below a certain threshold of like neighbours, agents leave their neighbourhood, above that threshold they stay. We now see the approach as an early version of agent-based modelling. It is worth re-emphasising a comment earlier in this essay, that agent-based models are examples of emphasising choice rather than structural constraints on behaviour.

There had been earlier investigations of rapid urban change, and Grodzins (1957), may have been the first to use the terminology of neighbourhood tipping. He studied the rapid racial change in Northern cities in the US, when Black people migrated from the rural South. He called this a 'process of tipping', induced by the large-scale northward Black migration of the 1940s and 1950s. His observations were largely descriptive; it was Sakoda and Schelling who undertook to sketch out an explanation for the process. It was because segregation was such an urgent social problem in the US after the Second World War that it also became an area of research in sociology, political science and economics to try and understand how American society was changing, including specific studies of segregation and its basis.

7.4 Scale, complexity, classification and visualisation

Clearly, social distance was a critical theme in understanding why there was separation. To understand both the nature and level of segregation, and the process that generated separation, the research increasingly focused on studies of multiple groups across varying scales. The issue of multiple groups was front and central in the increasingly complex patterns in global cities. Johnston, Forrest and Paulsen (2006) used a multigroup focus to test whether Los Angeles differed from metropolitan areas elsewhere in the United States in the nature of its ethnic residential segregation patterns (it did, because of its ethnic diversity).

An important development in writing about scale and complexity led Johnston and his Bristol colleagues (see, for example, Manley et al. 2015), to adopt a multilevel approach to modelling segregation. For the precursors and foundations to this research (for example, Leckie et al. 2012), see Chapter 8 of this volume.

A series of papers laid out a more nuanced way to capture the variation in segregation across the neighbourhoods of large cities, in the UK, but applicable also to other global cities. A classic paper published in *Demography*, confronted both the scale and the growing multidiverse populations of global

cities (Jones et al. 2015). The focus on new methods of measuring segregation led, in 2018, to an edited special issue of *Environment and Planning B: Urban Analytics and City Science* (Harris and Johnston 2018). That and a series of papers on the role of scale have been central in bringing new thinking about how to measure and portray residential segregation (Clark et al. 2015; Harris and Owen 2018; Jones et al. 2018; Manley et al. 2015).

Clearly segregation is not a simple process, and the patterns were not easily classified. It was the demographic changes resulting from extensive immigration in both the US and the UK that led to a greater concern with interpreting neighbourhood change and classifying neighbourhoods by their ethnic and racial complexity. In the US it was about the impact of the growth of Asian and Hispanic populations, including mixed race households (Ellis et al. 2007); in the UK the increase at first of Indian and Afro Caribbean migrants, and later refugee migrants from the Middle East. The increase in Pakistani, Bangladeshi and other Muslim groups, pushed the agenda to consider greater complexity in neighbourhood composition. In the complex racial and ethnic patterns in Los Angeles, Clark and Östh (2018) used a classificatory approach to show that a neighbourhood classification can be a useful tool for providing a more nuanced picture of residential segregation patterns than analyses based on single number indexes. In that approach, the analysis used bespoke neighbourhoods of varying scales based on the smallest geography available, census blocks, though in the Swedish, Dutch and Norwegian cases it is possible to use individual data to create individualised neighbourhoods.

In the initial creation of indices of segregation and even later as they evolved, there was limited attention to the visuality of the indices. Most spatial presentations simply plotted the percentage of whatever ethnic or racial group was of interest. However, a creative use of the entropy index to map segregation showed considerable variation in the segregation patterns across London (and the scales at which they are occurring), and is an example of the move to get beyond the single digit measure for the city as a whole (Harris 2020). In fact, the single digit measure implies that it applies at all points in the city. Of course, we know that this is not true. The work on the focal distances and KL distributions discussed in a previous section is important because it is possible not only to calculate multiscalar indices of segregation but to map the distortion coefficients (de Bezenac et al. 2021; Olteanu et al. 2019a; 2019b).

The research is ongoing, but it makes it possible to show how different areas of the city are more or less like the averages for the city as a whole. Because the distortion coefficient – think of it as the equivalent of a dissimilarity index – can be calculated for every point (or very small area) in the city, it can be mapped. The earlier discussion reported how an adaptation of the Kullback–Leibler divergence can be used to capture, in-full, detailed spatial dissimilarities and how much these trajectories differ from perfectly random sequences (Randon-Furling, Olteanu and Lucquiaud 2020). What the distortion measure does is capture the extent to which a small area, and the

continuous sequence of bespoke neighbourhoods around it, are similar to, or different from, the citywide average. This provides both a measure of the scale at which the sequence around a given area converges to the average, and a visual portrayal of the levels of segregation/integration.

The extent to which these trajectories differ from perfectly random sequences is a signature of the underlying spatial and demographic structure of the city or the region, while the discrepancies observed between trajectories originating from different areas of the city suggest distinct viewpoints of this same structure. The research shows how the new technique captures the variation of segregation and isolation across scale and across space, providing a 'mapable' visualisation for the city (de Bezenac et al. 2021). Distortion indices are not designed to replace density depictions of ethnicity, but to visualise the results of a multiscalar, spatial analysis (Olteanu et al. 2019a; 2019b). The analysis allows one to capture the complexity of population composition across scale and space.

7.5 Changing social distributions, income and segregation

Most segregation studies, until the last decade or two, were studies of ethnic or racial segregation. Recently, as income inequality has become a social and political issue, there has been growing interest in income segregation as a complement to studies of ethnic/racial segregation. The difficulty for studies of income segregation is that unlike the binary, or racial, ethnic or other categorical classifications, income within any small geographic area is a distribution, and for any individual, or household, income is one value of a very large distribution and not susceptible to simple measures of segregation. The response has been to use the Gini coefficient to evaluate the variation of the income distribution from one, which would be represented by equality (Reardon and Bischoff 2011). Alternatively, information (entropy) measures have been used to approximate some form of income segregation. Again, they have limited spatial complexity.

A commonly used approach to gain some sense of the spatial segregation of income is to examine the share of low-income (or poverty) residents. This involves using a classification of the proportion of individuals, or of a tract proportion, or for some other spatial unit, and compare that with the share of upper-income residents in that area. This is an attempt to create a binary measure; in this case using aggregates for low- and high-income groups. The problem of course is that there is considerable variation in income, even in the groups who live in a majority upper-income census tract. In a study by Taylor and Fry (2012) they used a variant of this approach and measured the share of lower-income households living in a majority lower-income tract, plus the share of upper-income households living in a majority upper-income tract, to determine what they called a residential income segregation index. Of course,

like the dissimilarity index it is aspatial and has all the problems of any single index, and, in addition, the inability to deal with the variance within low- or high-income tracts.

It is certain that economic status will influence residential sorting. As Tiebout (1956) noted, the fundamental finding is that households who can pay for amenities such as school quality, parks and open space, and other valued public services, will choose neighbourhoods where there are other residents who value these amenities and who can afford them. Thus, the households who can pay for and have the preference for such amenities will in turn structure the sorting process. In effect, the Tiebout model predicts income segregation because the combination of preferences for like neighbours and the ability to pay will generate relatively homogeneous communities.

To date, we do not have an adequate model which combines ethnic and income segregation or agency and structure. Although several studies of tipping have attempted models which reflect both ethnicity and house prices as variables in a predictive equation, thus far they are only partial solutions (Fernández-Huertas Moraga, Ferrer-i-Carbonell and Saiz 2019; Malmberg and Clark 2021; Korpi et al. 2023). Certainly, the thesis is straightforward. The same basic argument advanced by Schelling for ethnic segregation can be invoked to explain the creation of income segregation. If, following Schelling, households have preferences regarding the income level (and or the class status) of their neighbours, in particular if higher income neighbours are preferred to lower-income neighbours, or that individuals want to be in neighbourhoods where they have incomes similar to those of their neighbours, then finding households with similar incomes will be more likely than finding households with incomes that are different (Malmberg and Clark 2021). Just how to measure the relative contribution of ethnicity and income is still unresolved. An attempt by Sahasranaman and Jensen (2016) created an agent-based model which focused on income and suggested that in certain conditions the process could create a transformation from segregated to mixed cities with respect to income.[8] A quite different approach to understanding the role of income is suggested in recent research which examines the underlying concept of sorting (Xu, Clark and Pak 2024). The study suggests that if homophily (the tendency for people to seek out and reside with those who are similar to themselves) is based not on individual attributes that are immutable (race or ethnicity), but rather on behaviours, and that individuals can adapt those behaviours, then integration is a potential outcome. However, housing costs tend to impede this process toward integration and re-emphasise income segregation.

Recent research has tackled just this question of the role of income in separation and matching. How extensive is matching by income? Simply, how strong is the tendency for households to sort themselves and be 'matched' by socio-economic status across neighbourhoods? Studies by Musterd et al. (2016), van Gent, Das and Musterd (2019) and Clark, Ong Viforj and Truong (2021) have demonstrated that there is some level of matching. However, while

there is some evidence of matching there is considerable variation, at least in the limited studies to date. There is economic matching across Australian cities in the Clark et al. study, but it is much lower than in Dutch cities in the analysis by Musterd and colleagues. What is interesting is that, in the Australian study, the matching is much greater in lower cost neighbourhoods. Of course, the level of matching will be influenced by the size of the neighbourhood, and studying this process raises many of the questions that have been central in trying to develop indices of segregation.

The discussions of social sorting and the role of social status have emerged in approaches to policy interventions to create mixed tenures as a counter to concentrations of deprivation. The ideas of facilitating neighbourhoods that are mixed in terms of social structure have been most direct in discussions of new housing estates (Mulrenan 2019). However, even in these semi-policy-controlled contexts the outcomes have been problematic and overall there has been only limited success in overcoming segregation. Despite the interest in and desire to create mixed neighbourhoods, the overall conclusion, is that it is not easy to create social mixing, and the claimed benefits do not provide robust support for the approaches thus far (Levin et al. 2021).

7.6 Segregation, schools and policy

Amongst the many policy issues which might be salient in the discussion of why residential segregation could matter, there is no topic more central than that of the relationship between residential segregation and school segregation. In general, school segregation has followed residential segregation as schools reflect the local residential catchment area. To the extent the neighbourhood was segregated, the schools were segregated too. In the US, this led to the large bussing programmes of the 1970s and 1980s, which were designed to integrate local schools. It was a well-intentioned, but probably misguided, attempt to change attendance by fiat.[9] We know now, and some suggested at the time, that this would not bring about the outcomes which drove the school integration debate (Armor 1995).

At least in part, the motivation for integration programmes in the US grew out of the debate about whether school segregation has negative outcomes for children in segregated schools. As Harris and Johnston (2020) outline in their book, *Ethnic Segregation Between Schools in England*, there is a current school of thought that somehow segregation matters for how learning takes place. The idea that intergroup contact is beneficial in some way, especially in schools, is a topic which emerges in most conversations about segregation. It is in schools that young people learn about differences and where contact would (or should) reduce negative impressions of people who are different. While we can agree with the sentiment, there is little evidence that association in schools has measurable outcomes on future behaviours. Of course, that is an extremely difficult problem. It has been nicely explored in Johnston,

Wilson and Burgess (2007) in a study of secondary school performance in Bradford and Leicester in the UK. One approach has been the attempt to measure educational outcomes in integrated settings and to compare them with the outcomes from settings where there is greater contact across ethnicity and class. This is a difficult problem; the research has been contentious and is well beyond the general discussion in this chapter.

What we do know, from the Harris and Johnston study (2020) is that at least in England, whilst the school age population is becoming more diverse, it is not becoming more segregated. This contrasts with what is generally accepted for the US that schools are becoming more segregated. Certainly, case studies suggest this (Clark and Ledwith 2007). Harris and Johnston conclude that the White British are more likely to be exposed to other groups than in the past, demography matters, and it is demographic change that is making this happen. White British school age populations have declined while the school age populations of other groups have increased. While there is evidence of greater mixing on average, we also know that the White British who do not get free school meals (that is, are more affluent), are more segregated from other groups, and less likely to be exposed to other groups. There is also somewhat greater segregation in schools rated outstanding in national inspection reports, and in some of the religious selective schools (Coulter and Clark 2018).

One of the topics which emerges in discussions of school segregation, and which has a direct relationship to the discussions of sorting and selection, is the issue of whether or not White families avoid schools (in the UK) with higher percentages of non-White families, or non-British families. A recent study suggests that at least in terms of neighbourhoods, White people select significantly less diverse neighbourhoods than non-White people (Kaufmann 2023). Again, we are confronted with the problem of causality and measurement. As Harris and Johnston (2020) remind us, families could be seeking out and selecting places they are attracted to and can afford rather than avoiding diverse areas *per se*. They also show that there are plenty of places in the UK that are both diverse and where the White British population is growing. Nevertheless, the issue of self-selection and voluntary association, in contrast to 'white flight' and segregative behaviour, is an ongoing discussion. This issue is one which is debated from Los Angeles to Stockholm (Andersson and Malmberg 2015; Andersson and Subramanian 2006; Ledwith and Clark 2007). Selection into private schools or into well-performing schools, in Los Angeles, or in Sweden (or elsewhere), means that families, including minority families, are able to avoid the increasing quality differences between schools in the large cities.

As a recent article argued, much of the discussion about school and neighbourhood segregation depends on whether the outcomes are viewed from the glass half full or half empty perspective (Clark and Maas 2012). In Los Angeles County, with 88 cities and several hundred schools, there are a very large number of school districts (often coincident with cities but not always so) with relatively

low levels of segregation, on both neighbourhood and school levels. The findings from that study echo the findings of the Harris and Johnston (2020) study that far from sleepwalking to segregation, in fact the multiethnic districts in the suburban schools in Los Angeles County demonstrate that, by and large, the schools are providing integrated learning environments. That said, there are schools in some inner-city neighbourhoods in the City of Los Angeles, as in other large US inner city areas, that have high levels of both school and neighbourhood segregation. That there is a need for more investigations of the way in which segregation plays out in wider policy debates is clear.

7.7 Conclusion

Segregation continues to be of both academic and policy interest. There has now been more than a century of neighbourhood studies, and of the distributions of ethnic, religious and economic groups in cities. Those studies began with explorations of differences and slowly evolved into investigations of the process underlying neighbourhood differences. The simple question of why there are ethnic, racial and economic differences across neighbourhoods in cities, became a search for indices to measure that change, and a search to understand the underlying forces that bring about separation in the residential fabric.

The initial studies of residential patterns at the University of Chicago first introduced the ideas of social distance and those ideas are still central in understanding differences across communities and neighbourhoods within cities. The research by Schelling, Sakoka and Tiebout, laid out a series of models which could be used to understand the evolution of separation. Of course, Johnston, and others who used the social area paradigm, had to confront the role of choice and constraint. Not everyone has choices, and in the past in the US State sanctioned separation played a role too.

Separation has always been an element of cities, but it has evolved in more complex ways as new immigrants have moved into the global cities of Europe and the US. Those population flows have changed the composition of the sorting process, but the underlying process of separation is still ongoing and reflects the outcome of choices and the role of social distance. It is a story of continuity and change. The residential mosaic changes slowly but it does change, and the large migration to US, Canadian, Australasian and European cities are a reflection of those changes, and in turn are stimulating studies of segregation and of diversity.

Initial statistical analyses used relatively limited measures of residential segregation, but with more detailed data and new thinking about neighbourhoods, we now have more powerful tools to examine, test and visualise residential segregation. Amongst the contributions to both the description of segregation in global cities, and to discussions of the nature and usefulness of statistical analyses of residential segregation, Ron Johnston, along with his colleagues, made wide-ranging contributions, from scalar analysis to policy

discussions, to our long run understanding of the nature and impacts of residential segregation on social processes.

Notes

[1] Park studied with Alfred Hettner, Professor of Geography at Heidelberg, who undoubtedly influenced his ideas about cities and space. In his address, he writes that geographers are not greatly interested in social morphology as such, geographers are interested in the actual rather than the typical, where things are in the case of geography. The implication is that geographers were less interested in process.

[2] Perhaps the most notable study was that by Suttles (1970).

[3] The maps can be found at the University of Chicago Library and can be located at www.lib.uchicago.edu/e/collections/maps/ssrc/ [Accessed 28 October 2024].

[4] A review of the census tract methodology is available in Wikipedia under Census Tract.

[5] The 1971 volume was followed by an extensive analysis of social area analysis in the collaborative book by Herbert and Johnston (1976).

[6] Schelling had previously published a paper in the *American Economic Review* in 1969 (Schelling 1969) based on a Rand internal report.

[7] More recent work has questioned whether the transition is inevitable (Malmberg and Clark 2021).

[8] As one of this book's editors appropriately pointed out, an important difference in the discussion of ethnic segregation and income segregation is that the former can, in principle, be driven entirely by choice and preferences, but the latter involves economic constraints.

[9] The editor also drew my attention to a 2022 post which referenced a contemporaneous bussing programme designed to address minority school populations in 1960s London, UK. See www.thejusticegap.com/bussing-and-the-racist-segregation-of-our-schools [Accessed 31 October 2024].

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8. Bringing segregation research together? From depicting complexity to an intersectional research agenda

Gemma Catney and David Manley

The late Professor Ron Johnston made numerous and significant contributions to the ways in which geographers and other social scientists theorise, measure and ultimately *understand* segregation. Ron's concerns with segregation mirrored his contributions to other areas of geography, in particular his interests in spatial scale, and in the causes and consequences of urban, social and population change. As a result, his research sought answers to difficult, important and socially relevant questions. The aim of this chapter is not to comprehensively review a transformative and truly vast volume of research on segregation (to do so would be largely impossible!). Instead, by reflecting on the advances Ron, along with his collaborators, made in segregation research, and in considering the future directions for research in the field, we attempt to answer: where might Ron Johnston's segregation research have gone next?

One possible answer to this question might be reached by reflecting on the publication of small area data from the 2021 Census of England and Wales – datasets that Ron would no doubt have been enthusiastically looking towards. We briefly review what fresh insights the 2021 Census has provided to date in relation to themes close to Ron's academic interests – the changing geographies of ethnic diversity, segregation and mixing. We reflect on these findings in the context of Ron's contributions to this field, and on how this work might have complemented his own. In doing so, we focus on Ron's research using previous UK Census data, and narrow our review to his analyses of the Census specifically. These contributions to our understanding of the increasing complexity of the ethnic landscape of England and Wales, and particularly London, were characteristic of his wider research profile – remarkable in both quantity and quality. Within a relatively short timeframe following the release of 2011 Census data, Johnston had dived into detailed analyses of the growing ethnic diversity of England and Wales (Johnston, Poulsen and Forrest 2013; 2015a; 2016).

The advent of a new series of Census data publications from 2022 onwards brought with it the inevitable excitement of (quantitative) social scientists interested in understanding how our population and society have

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changed – an excitement that Johnston would have keenly felt, as he had with previous Censuses. These phases of Census data release provide fresh opportunities to generate new and important research questions, and to engage in policy-relevant research. In the final section of the chapter, we build on this momentum and focus on what we see as a potentially important future direction for segregation research, which, we argue, has received too little attention to date, but for which Ron's research helped, in part, to pave the way. We suggest that an *intersectional* approach to segregation that accounts for multiple disadvantages and the plurality of individuals' characteristics would add considerably to segregation scholarship, making significant steps towards a better understanding of the 'so what' of ethnic residential segregation, which remains little understood, not just in UK-based studies, but internationally (Harris, Johnston and Manley 2017; Matthews et al. 2021).

8.1 Understanding segregation using the UK Census

On 29 November 2022, ethnic group data from the 2021 Census were published by the Office for National Statistics (ONS 2022). This data release included ethnic group counts at the national level for England and Wales, and also by subnational geographies such as local authority districts and smaller areas including Output Areas (the finest scale of data release for the English and Welsh census geography). The coinciding publication of national and small area ethnic group data meant that analysts could access much more geographically detailed information sooner after the census than the equivalent for the 2011 Census. This was an important moment for analysts concerned with neighbourhood change, which undoubtedly Ron would have relished.

The equivalent data releases for the previous Census in 2011 presented Ron, as also others in the field, with new opportunities to understand the changing ethnic landscape of England and Wales. With long-term collaborators, Michael Poulsen and James Forrest, Ron published a commentary in the journal, *Environment and Planning A*, entitled 'Multiethnic residential areas in a multiethnic country? A decade of major change in England and Wales' (Johnston, Poulsen and Forrest 2013). Following this, and working with various collaborators, he wrote several articles which demonstrated the ways in which England and Wales were (and are) becoming more ethnically diverse and mixed, and less residentially segregated.

Several, often interrelated, themes underpin this research on the changing ethnic geographies of England and Wales – themes that more broadly connect Ron's research in the field, in other national contexts: critical segregation measurement, exploration of geographical scale and local population dynamics, and international and temporal comparisons (see also, Chapter 7, this volume). We focus here on two themes that were dominant in Ron's most

recent census-based research: (1) geographic scale and the local, and (2) the measurement and meaning of segregation and diversity. We next briefly discuss these research themes by focusing specifically on the British case, and, given the period of census data publication happening at the time of writing, we focus exclusively on Ron's census-based analyses. We explore in turn how early findings from the 2021 Census can add to our understandings of these themes.

Challenging the measurement and meaning of segregation

Engagement with the so-called segregation 'index wars' has been a common pathway for segregation researchers – a largely methodological debate centring on the relative utility and distinctiveness of multiple segregation measures, which Gorard and Taylor (2002) argue traces back (at least in terms of the measurement of socio-economic segregation) to the 1920s, if not before.[1] In keeping with this tradition, Johnston, with Poulsen and Forrest (2007a), offered a fresh perspective on segregation measurement, adding to the already hefty amount of literature. Their focus, in this case, was on three groups in US cities from 1980–2000: African-Americans, Asians and Hispanics. In the paper, they revisited Massey and Denton's (1988) influential research on the five dimensions of segregation – evenness, exposure, concentration, centralisation and clustering – and argued that these five dimensions could usefully be collapsed into two in order to sufficiently capture most of the spatial variation of population subgroups: separateness and location. This claim – which is equivalent to Reardon's and O'Sullivan's (2004) view that there are two primary conceptual dimensions to spatial residential segregation: (1) spatial exposure (or spatial isolation) and (2) spatial evenness (or spatial clustering – informed multiple subsequent articles, many of which were empirical, but some of which focused on progressing the measurement debate (for example, Yao et al. 2019).

Seeking to move beyond the index wars, Johnston, Poulsen and Forrest proposed a new methodology, which they developed because

> single-number indices provide poor representations of segregation […] by focussing on the average situation, we get no insight into the proportions of the population who live in very different types of neighbourhood milieux. We need measures that draw attention to differences between neighbourhoods in their ethnic composition (Johnston, Poulsen and Forrest 2015b, p. 19).

The development of their alternative measure in fact pre-dates Ron and colleagues' proposition of two 'super-dimensions' of segregation. They first introduced their new methodology for capturing neighbourhood ethnic composition in Poulsen, Johnston and Forrest (2001). The following definition of

area types is taken verbatim from the description in Johnston, Poulsen and Forrest (2015b, pp. 20–21), with additions in square brackets for clarity:

I. Areas where members of the charter [White] group predominate, forming more than 80 percent of the total population.
II. Areas where members of the charter group dominate, forming 50–80 percent of the total population, but members of other ethnic groups form a substantial minority.
III. Areas where members of [minority] ethnic groups dominate, forming 50–70 percent of the total population, but members of the majority group form a substantial minority.
IV. Areas where members of ethnic groups predominate, forming 70 percent or more of the total, but no one group dominates the others.
V. Areas where members of ethnic groups *y* and *z* predominate, forming 70 percent or more of the total, and one group is at least twice as large as the other.
VI. Areas where members of [minority] ethnic groups predominate, forming 70 percent or more of the total, one group is at least twice as large as any other, and at least 30 percent of that group's total population in the city live in those areas.

The numerical labels do not appear in the 2001 original, wherein the corresponding area types (with minor variations) are instead described as: [I.] isolated host community; [II.] non-isolated host community; [III.] associated assimilation-pluralism enclave; [IV.] mixed-minority enclave; [V.] polarised enclave; and, most contentiously, [VI.] 'ghetto'.

Ron and colleagues' neighbourhood classification enabled comparisons over time, and over place – both locally, with their mappable categorisation, and internationally, through cross-country comparison. Their schema moved (quantitative) scholarship closer (but with caveats, as noted later) towards thinking in more detail about *diversity* and *mix*, and not just segregation or clustering.

Using 2001 and 2011 Census data, Ron and his co-authors applied their schema to explore the growth of ethnic diversity in neighbourhoods in England and Wales (Johnston, Poulsen and Forrest 2013; 2016), and London (Johnston, Poulsen and Forrest 2013; 2015b). Their 2013 paper, published as a commentary in *Environment and Planning A*, was amongst the earliest to describe the changing ethnic landscape of England and Wales between 2001 and 2011 (see also, Catney 2013; 2016b). They demonstrated how the proportion of people living in White-majority neighbourhoods (their type-I neighbourhoods) had declined over the decade, while the proportion of people living in areas dominated by a single group other than White (type-V neighbourhoods) was small (less than 1%) and had experienced marginal change over the period. They describe the overall trend as

> a decline in the percentage of the population in general, as well as each of the separate ethnic groups, living in areas where one group (whether White or Non-White) predominates: a more multiethnic society is associated with greater multiethnic sharing of small residential spaces (Catney 2013, p. 756).

In that paper, Johnston and his colleagues describe how the largest change was in neighbourhoods that were ethnically mixed but White-dominated (type-II areas, with 50–80 percent White and 50–20 percent other than White), and that the largest share of the population living in neighbourhoods categorised as mixed in their schema could be found in these type-II neighbourhoods. They point to ethnic group differences in these changes. The populations of the ethnic groups White, Mixed, Indian, Other and Chinese had increased in type-II areas, but decreased for ethnic groups including Black African, Black Caribbean, Pakistani and Bangladeshi. The areas that experienced the largest increase in the populations of these groups, as well as Indian, were in the type-IV neighbourhoods, where White people formed less than 30 percent of the population, but no single minority ethnic group formed a majority. They summarise these trends as increased ethnic mix in residential spaces.

In the second part of their analysis, Johnston, Poulsen and Forrest extend their early Census-based investigation to a detailed examination of London. They ask if this highly diverse metropolitan centre has experienced different changes in its ethnic mosaic than in the country as a whole. They show how the White population declined in London – absolutely and proportionately – and that much of this decline was in their majority White type-I areas. More White people lived in type-II and type-III areas by 2011, with a doubling of the White population in type-III areas, where they form a minority. They demonstrate how majority White areas (type-I) significantly declined between 2001 and 2011, 'indicating a very significant re-sorting of the capital's population' (Catney 2013, p. 757). Importantly, this shift was not accompanied by a growth in their type-V neighbourhoods where one minority group dominates, but in *mixed* residential spaces, with a more than tripling in size of their type-IV neighbourhoods (from just over 3 percent to 10 percent of all Londoners). The result of this increased mixing was, they claim, that 'many more Whites are now exposed to substantial numbers of Non-Whites in their neighbourhoods, and many more Non-Whites live in close proximity to Whites.' (p. 758).

Johnston, Poulsen and Forrest (2015b) probed further into the changing ethnic composition of London's neighbourhoods. That paper shares some of the conclusions of their 2013 exploration, but adds nuance and detail to their dissection of the changing patterns of London's 'substantial diversification' (p. 39) during the decade. A year later, they explored the changing ethnic residential mosaics across urban areas in England and Wales (Johnston, Poulsen and Forrest 2016). They again applied their neighbourhood typology, but this time to 78 urban areas, each with 'substantial' populations other than

White (more than 5 percent in 2011). Their conclusions similarly point to increased ethnic mixing in residential space: 'There is, however, little development of exclusive residential enclaves where one ethnic minority group predominates: most areas with few Whites contain a mixture of non-Whites.' (Johnston, Poulsen and Forrest 2016, p. 12).

Scrutinising the schema

Ron was encouraged by ongoing advancements in the segregation literature. When remembering his contributions to this body of work, it is also appropriate to engage with the debates these contributions inspired. Johnston, Poulsen and Forrest (2015b) acknowledged that a critique of early iterations of their neighbourhood classification lay in its aspatial nature. To rectify this, they used a spatial autocorrelation measure to identify clusters of ethnic groups. This aligned with Ron's – and his colleagues' (Poulsen and Forrest) – desire to weave more geography into segregation analyses. In a note published in *Urban Geography* they argued that 'indices conceal as much as they reveal, if not more. A fuller, more informative discussion of segregation levels needs *more geography*' (Johnston, Poulsen and Forrest 2009, p. 91). They titled this piece 'Measuring ethnic residential segregation: putting some more Geography in' – a fitting header that complements that of this edited collection and captures a central concern of Ron's that centred on the *spatial* measurement and interpretation of changing populations and societies. Their localised, neighbourhood-level classification was not in the more technical spatial and local mould of segregation measurement (Catney 2018; Feitosa et al. 2007; Harris 2011; Lloyd and Shuttleworth 2012; Reardon and O'Sullivan 2004; Wong 1993; 1997; 2003), and their advance included no direct consideration of the spatial configuration of places (such as neighbourhood contiguity, explored via a spatial weights matrix). But it *was* spatial in giving consideration to the habitus – the context – in which people reside (spatial context being an enduring theme of Ron's research, spanning across his various research themes, and, correspondingly across this book). One of the strengths of the classification was its relative simplicity and, relatedly, reproducibility – as evidenced in the international comparisons that their schema enabled (for example, see their ambitious multicountry study of Australia, Canada, New Zealand, the UK and the US: Johnston et al. 2007b). Their schema enabled not only comparisons over space, but also time, and many of its applications included a temporal component. These attributes contributed to the success of the schema as a tool for understanding the evolving geographies of ethnic diversity between and within national contexts.

Yet Johnston et al.'s developing schema was not universally applauded, and it was the subject of a multiway debate published in the pages of the *Journal of Ethnic and Migration Studies* (JEMS) in the early 2010s.[2] The roots of the debate were in a controversial exchange between Ron's long-term

collaborator Mike Poulsen and the social geographer Ceri Peach. Peach argued that Poulsen had claimed that Britain's levels of segregation were comparable to the US – that South Asian segregation in Leicester and Bradford might be compared with Black segregation in Chicago and Miami. Recall, also, that in the earliest iterations of their schema, type-VI areas – a subset of type-V areas with more than 30 percent of the dominant 'non-White' group resident – were labelled as 'ghettos' (for example, Johnston et al. 2002; Poulsen and Johnston 2006). A key point of contention from Peach was with the technical definition of 'ghettos' and the criteria used to 'manufacture' them, as well as with the associated media attention that these claims had attracted (Peach 2009; 2010; for a wider reflection on the origins of the ghetto and meanings see Wacquant 2013).

The impact of the language of ghettoes is not difficult to imagine. One example includes the now infamous 'sleepwalking into segregation' speech by Trevor Phillips, then Chair of the Commission for Racial Equality, which served to negatively stereotype communities and places (for a detailed discussion and critique, see Finney and Simpson 2009). As Peach (2009, p. 1388) outlined,

> [t]he distinction between the ghetto and the enclave is crucial. The ghetto is negative, the enclave is benign; the ghetto is forced, the enclave is voluntary; the ghetto is real, the enclave is symbolic; the ghetto is threatening, the enclave is touristic […] Ghettos are the product of exclusion, compulsion, enforced separation, individuation, dysfunctional family structures, and substance abuse. The PJF [Poulsen, Johnston, Forrest] use of the term 'ghetto' (even though it was replaced by a numeral in the later iterations of their system) stigmatises South Asian communities whose motivations for clustering are far from those of the American Black ghetto […] The South Asian areas are marked by strong family values, lack of individuation, high religiosity and frequently abstinence from alcohol. The very growth dynamics of the enclave, more natural increase than hunkering down, are different.

It should be noted that Johnston et al. (2010) countered Peach's claims of association between Trevor Phillips' speech and its impact with their findings, which Peach (2010) then disputed.[3] Nevertheless, the heated exchange between Johnston et al. and Peach acts as a powerful reminder of the responsibility of scholars engaged with research of wider social, political and public interest. As Deborah Phillips (2007, p. 1139) perceptively warns,

> as scholars we also have an obligation to think critically about the knowledge we are producing, how it might be used and whether we might, unintentionally, be perpetuating some of the prevailing negative images of ethnic segregation.

Even the word segregation, which may, in academic writing, be intended as a neutral term referring to how two or more population distributions differ from each other, carries a more loaded meaning in the press, for example.

The debate continued in JEMS with a response from Wright, Holloway and Ellis (2011) to both Johnston, Poulsen and Forrest, and to Peach. Wright and his co-authors shared Peach's concerns about the misuse of segregation terminology, but also supported Johnston's and his colleagues' move away from segregation index measurement. Johnston, Poulsen and Forrest (2015b, p. 41) claimed that the Index of Dissimilarity, for example, offers

> no information on the changing characteristics of individual neighbourhoods, of the degree to which they are either dominated by a single ethnic group or have a diverse ethnic composition—let alone the exact composition of such diverse neighbourhoods.

Their schema, in contrast, allows scholars 'to evaluate the degree and nature of local ethnic diversity.'

This shift towards ethnic diversity was important – a gap particularly noticeable in the UK literature (exceptions include Catney 2016a; Catney, Wright and Ellis 2021; Jivraj and Simpson 2015; Rees and Butt 2004). However, Johnston et al.'s concentration on White and 'other than White' groups does little to capture the co-residence in neighbourhoods of people from *several* minority ethnic groups. As a result, their schema serves to mask ethnic residential mix. What the neighbourhood schema can – and cannot – reveal about ethnic residential diversity was the focus of the critique from Wright, Holloway and Ellis (2011). They explain how Johnston et al.'s

> framework is designed to reveal *multiple types of segregation*, not *types of residential diversity* […] Their scheme cannot reveal specific types of diverse neighbourhoods where the diversity is about mix, not the presence/absence of a white population

(p. 170), despite the goal of the schema to capture mix. Wright and colleagues developed an alternative approach (see also, Holloway, Wright and Ellis 2012), with two distinctions from Johnston et al.'s schema pertinent to this chapter. First, the schema by Holloway et al. does not centre the presence/absence of the White population, but unveils the composition of *diversity* – the ways in which *multiple* racialised groups live *together* (or not). Secondly, rather than focusing on concentration – the extent to which groups live apart (particularly from the White group) – their schema recognises that segregation and diversity can co-occur simultaneously in residential space.[4] We revisit this critique in the next section, which considers what contributions Ron might have made using neighbourhood ethnic group data from the 2021 Census.

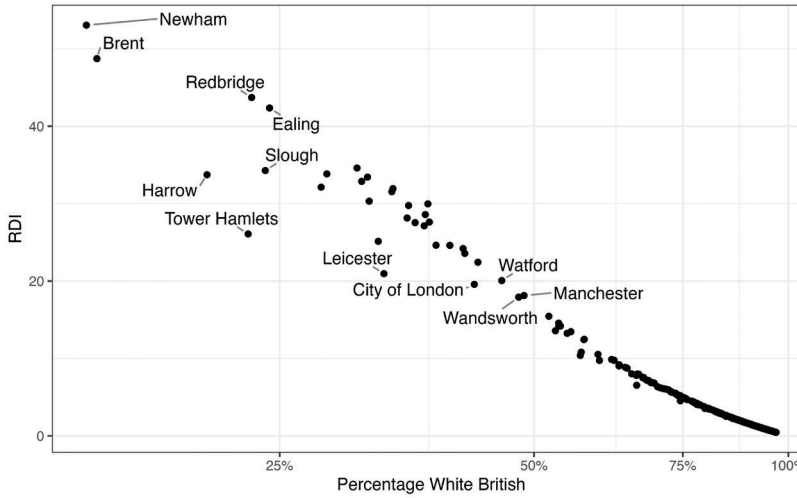
8.2 Findings from the 2021 Census

How do early findings from the 2021 Census of England and Wales complement those that Ron might have made? In considering this question we share the first outputs from a large Economic and Social Research Council funded project *Geographies of Ethnic Diversity and Inequalities* (GEDI).[5] GEDI is providing timely and impactful evidence on the ways in which ethnic diversity has grown, and the nature of the differing – and persistently unequal – neighbourhood experiences of people from different ethnic backgrounds. The project examines, analyses and explains the UK's changing ethnic geographies using Census data from 1991 (when an ethnic group question was first included in the Census of England and Wales) to 2021. An article titled 'Ethnic diversification and neighbourhood mixing: A rapid response peer reviewed analysis of the 2021 Census of England and Wales' was published in *The Geographical Journal* a short time after the data were released (Catney et al. 2023). Reflecting the substantial public, in addition to academic, interest in ethnic residential diversity, the article received considerable national and international media attention.[6] In this chapter we share insights from the first three articles from the GEDI project (Catney et al. 2023; Catney, Ellis and Wright 2024; Lloyd et al. 2024)[7] in addition to early Census research by Harris (2024). Ron had a voracious appetite for new Census data, and as a thorough but efficient scholar, there is no doubt that he would also have been one of the early analysts of, and commentators upon, 2021 Census data.

Catney et al. (2023) created spatially consistent neighbourhoods (Lower Layer Super Output Areas, LSOAs; the next level up from census Output Areas) for the 1991, 2001, 2011 and 2021 censuses, and analysed comparable ethnic groups for each of these time points. They showed the growth of ethnic diversity of the population of England and Wales, and how this growth was mirrored across small areas, with an increasing number of residential neighbourhoods home to substantial populations of several ethnic groups. This increasing diversity, they demonstrate, has grown in urban areas, but also in new – suburban and rural – locales. A decrease in ethnic residential segregation has occurred alongside this increasing neighbourhood ethnic diversity.

At the time of the release of 2021 Census data, there was much media and political attention directed towards so-called 'minority-majority' areas; places where more than 50 percent of their populations were either not White British or not White. Ron would no doubt have found this focus of interest significant given its overlap with his and colleagues' neighbourhood schema – such areas would straddle their type-III and type-IV areas. Catney et al. (2023) complicate this focus on the presence/absence of White people and instead argue that the residential mosaic of England and Wales is much more nuanced. Figure 8.1 is taken from their paper and shows the relationship between ethnic diversity (measured using the Reciprocal Diversity Index; see their paper for details) and the log of the percentage share of the population that is White British in

Figure 8.1: Ethnic diversity (measured by the reciprocal diversity index) and proportion of White British population in districts in England and Wales, 2021



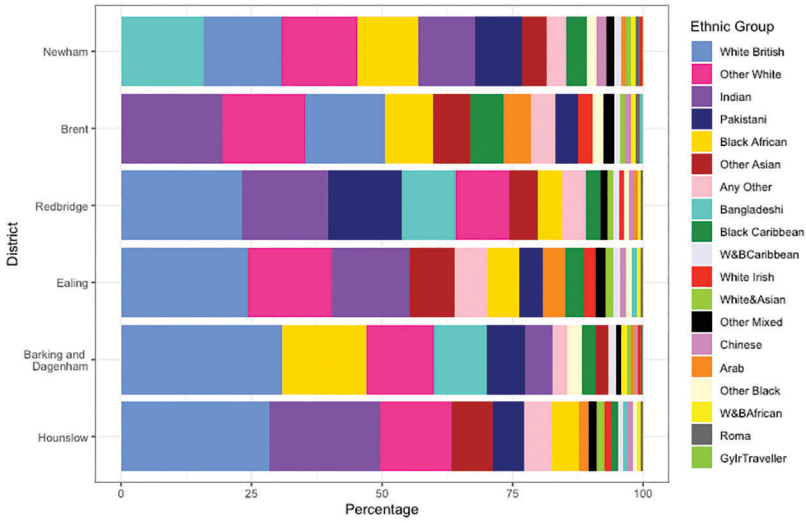
Source: Catney et al. 2023 / CC-BY 4.0.

the 331 local authority districts of England and Wales. The figure demonstrates how districts with a smaller share of the White British population have higher levels of ethnic diversity – where the populations of several ethnic groups are present in appreciable numbers. The pattern is clear: 'districts being characterised as 'minority-majority' should instead be thought of as ethnically diverse places' (Catney et al. 2023, p. 68). A binary focus on White/not White (akin to the Johnston, Forrest, and Poulsen schema) would miss this complexity. As Catney et al. argue, 'to understand the ethnic mosaic across England and Wales it is more illuminating to consider mix than majority' (p. 63).

The composition of the diversity of these spaces is made clear in the authors' 'rainbow plots'. An example is shown in Figure 8.2, which depicts the six most ethnically diverse districts in London. The 'diversity of diversity' in these districts is itself illuminating of the importance of paying attention to the composition of ethnic mixing, and how this varies geographically – a conclusion that resonates with Ron's focus on diversity, and also with the critique of his work which argued that the ethnic mix is obscured by his schema.

Harris (2024) later published a complementary piece that focused on four English cities – Birmingham, Leicester, London and Manchester – preferring the term 'no majority' cities to 'minority-majority' because no ethnic group, including the majority White British, account for more than half of their populations. He concludes that these cities experienced increased neighbourhood ethnic diversity at the same time as decreasing ethnic residential

Figure 8.2: Ethnic group composition of the most ethnically diverse districts in London, 2021



Source: Catney et al. 2023/CC-BY 4.0.

Notes: Ethnic groups are ordered left to right by largest to smallest population size in 2021. Ethnic groups in the legend are ordered by population size in England and Wales in 2021. W&BCaribbean = Mixed White and Black Caribbean; White&Asian = Mixed White and Asian; W&BAfrican = Mixed White and Black African; GyIrTraveller = Gypsy or Irish Traveller.

segregation, with no evidence that decreasing segregation within these cities (which he argues could, in principle, be driven by the White British leaving) is co-occurring with increasing segregation at other geographic scales.

8.3 Geographic scale and the local

Ron's desire to 'ensure that geography is at the forefront' of segregation analyses (Johnston, Poulsen and Forrest 2009, p. 107) inevitably led (or perhaps was led by) his exploration of the spatial scales of ethnic residential segregation. Collaborating with Bristol colleagues, Ron delved back into the 2011 Census to grapple with the more technical developments in the multilevel modelling of segregation (Jones et al. 2015; Johnston et al. 2016; see also Chapter 7, this volume).

Underpinning this work was a desire to move beyond simple description of segregation and find a means to understand how and where segregation was at its most intense – something that the Index of Dissimilarity (ID) as the *de facto* descriptor of segregation could not provide. In particular, Ron and colleagues were concerned with the fact that without adjustment it could not provide a

means to decompose the contribution that a particular spatial scale provided to the wider overall state of segregation (Harris 2017, provided an alternative resolution to this issue); the ability to combine different aspects of segregation so that, potentially, comparison between ethnicity and class (economic and occupational status) was possible; along with an acknowledgement that using the ID led to unsatisfactory conclusions with respect to the magnitude – and in particular – significance of changes in segregation value. This work was underpinned by advances in segregation measurement initially pioneered in education research (see Leckie et al. 2012) and by the PhD research of Rebecca Pollinger at Bristol, where the variance component of a multilevel model – the measure of the variability of a term within a given level – was proposed as a measurement of segregation when the term in question was a population characteristic of a set of neighbourhoods. The underlying reasoning proposed that if there was no segregation then there would be no variability, and hence zero variance. By contrast, where variance was not zero, so variability was present (and by extension therefore also segregation). As this was proposed in the modelling framework, the significance of the differences between variables could be tested. One significant and important addition seen in the work was the challenge to the assumption that segregation should be higher at smaller spatial scales (see Manley, Jones and Johnston 2019). Under an aggregation regime (moving from small neighbourhoods to larger ones by combining and adding populations together) this idea holds because the aggregating process smooths data. However, using a multilevel structure the basic spatial units of smallest neighbourhoods are preserved, and it is possible to explore if the *structure* of larger neighbourhoods holding the smaller ones provides a means to understand segregation (for the initial argument see Manley, Flowerdew and Steel 2006; for later modelled elaboration, see Jones et al. 2018).

Empirically, a key paper by Johnston et al. (2016) also served as more than the provision of methodological advances in the segregation literature. Through their multilevel modelling approach, they demonstrated the differences in segregation levels, and change, at three different spatial scales for seven selected ethnic groups in London between 2001 and 2011. They showed how segregation levels were greater at the macro-scale (local authority district) and micro-scale (Output Areas) for most ethnic groups than at the meso-scale (Middle Layer Super Output Areas). They also demonstrate significant decreases in ethnic residential segregation in London at the micro-scale, with minimal changes at the macro-scale. Their study provides insight into the persistence of London's ethnic geography at the district level across the capital, alongside decreasing ethnic concentration at the neighbourhood level. Harris and Owen (2018) observe that further research needs to be undertaken into the use of such models to study change over time, as measures of variance are not invariant to the size of the population groups, which might mean that population growth or decline is confused with changing patterns of segregation.

Further insights from the 2021 Census

A multilevel application of 2021 Census data has not yet emerged at the time of writing but early findings provide some insights into the spatial scales of ethnic diversity. Catney et al. (2023) show increasing ethnic diversity at the national (England and Wales) and subnational (districts, LSOAs) scales. Harris (2023) focuses in more detail on the spatial scale of changes in ethnic residential segregation both by using data at the (typically) Output Area scale, with a geography harmonised across the 2001, 2011 and 2021 Censuses, and by considering if the changes in segregation observed for four selected cities are matched by changes in their wider 'spatial extents', which include various combinations of the cities' boundaries and neighbouring travel to work areas.

Catney, Ellis and Wright (2024) take a different approach to considering the scales of ethnic diversity and the processes behind its formation: they consider the interconnections between individuals, neighbourhoods and *households*. They use consistent Census data on neighbourhoods and mixed ethnicity households for England and Wales for 2001, 2011 and 2021 to explore connections between ethnic mixing within households and neighbourhoods. They argue that household composition – specifically, ethnic mixing within the household – has been overlooked in studies of neighbourhood ethnic transitions. They use the neighbourhood schema introduced earlier (Holloway, Wright and Ellis 2012; Wright, Holloway and Ellis 2011) adapted to the UK context (Catney, Wright and Ellis 2021) which identifies neighbourhoods according to their level of ethnic diversity (high, moderate and low) and, in the case of the moderate- and low-diversity types, ethnic group dominance. They show that neighbourhoods that transitioned into higher diversity typically had higher proportions of mixed ethnicity households. Catney, Ellis and Wright (2024, p. 1) argue that the focus in neighbourhood transitions studies on individuals (in neighbourhoods) ignores interethnic mixing at the household level, and that 'including this intermediate scale of analysis adds to our understanding of neighbourhood ethnic mixing and processes of integration.'

Ron's developments in segregation studies demonstrated his ability to identify important gaps in knowledge, and fill them with studies that satiated empirical curiosity, progressed methodological approaches, and – most importantly – advanced our understandings of how the populations and societies of his areas of enquiry were changing. His concern with the relationships between different 'types' of segregation (for example, residential neighbourhoods, schools) *and* their 'characteristics' (for example, by ethnicity/race, social class) have received comparatively little attention by other scholars in the field. We next reflect on the opportunities offered by a more holistic approach to studies of segregation, particularly through adopting an intersectional framework.

8.4 Towards an intersectional research agenda for segregation research

Building on our review, the rest of the chapter explores an area of segregation research that distinguishes Ron's (and his colleagues') research from many others in the field, to offer a possible research agenda for scholars of segregation. We consider the potential offered by advancing an intersectional approach to segregation research. We dip a tentative toe into this underdeveloped research area by briefly considering what an intersectional approach might add to segregation studies, and why this might be an important future direction.[8] We do so while reflecting on Ron's contributions not in the specific area of intersectionality, since he had not directly pursued an intersectional approach to segregation, but by considering the ways in which his research paved the way for the development of an intersectional segregation research agenda.

Initially coined by Crenshaw (1989) as a unique means to describe how race, class and gender – along with other important demographic or personal characteristics – overlap and have interdependencies with each other. As such, intersectionality provides a framework to highlight the lived experiences of additional disadvantage for individuals with multiple disadvantaged characteristics. Initially intersectional work focused on how the dual aspects of race and gender intersect and meant that, in the case of Crenshaw, African-American women experienced greater levels of discrimination and disadvantage as a result of being discriminated by *both* gender *and* race. Thus, it was not the case that, for instance, gender was the driver of discrimination for this group, but that the *combination* of gender *along* with race that meant that more profound disadvantages were experienced. It is important to note here that although Crenshaw was pivotal in developing understandings of intersectionality, there is a substantial debt to be paid more generally and widely to Black feminist scholarship and, crucially, activism (see Hopkins 2019 for a useful discussion around these issues and more detail than we have space here to discuss).

We characterise this development as going from simple methods and simple data to complex data with complex methods. The simple methods are those that allow a descriptive measurement of segregation. This was a sufficient approach for the initial explorations of single dimension racial segregation in the urban areas of the USA during the late 1920s onwards (Park, Ernest and McKenzie 1925). However, that no longer works because the two-group situation has expanded to include a much wider diversity of racial groups – in the US context Hispanic and Latinx populations are as important in shaping diversity/segregation patterns as the Black and White populations were originally (see, for instance, Clark et al. 2015; Iceland et al. 2014; Massey and Denton 1988; Wright et al. 2014). In the European context, greater recognition of the diversity of groups – as a comprehensive starting point, for instance, the England and Wales 2021 Census provides data for 19 ethnic groups – is

necessary alongside the acknowledgement that socio-economic, cultural and age segregation patterns do not develop in isolation of each other. Moreover, the advent of antiracist legislation has meant that other characteristics are also recognised as important, and the ability to study smaller identifiable groups has increased. As a result, the simple tabulation that allowed segregation to be studied as a binary (typically Black and White in the US, and White British and non-White British in the UK) must now include multiple dimensions simultaneously.

Although there is a developing awareness of intersectionality in the segregation literature (see, for instance, Owen et al. 2023), the number of studies which satisfactorily tackle the ways in which the multiple identities that individuals identify with in their (residential) lives *and* through which urban space is organised, is limited. More broadly, although there is substantial literature on which to draw, intersectionality as a fully developed framework has been relatively slow to gain traction in the urban social sciences and in urban geography, especially those with greater focus on quantitative methods. Partially, this may be a consequence of an underdeveloped distinct methodological toolkit, or empirical approach, that can be adopted. Moreover, a genuinely intersectional approach to empirical studies represents a clear and substantial challenge. For instance, the literature has been at pains to highlight that

> [r]esearchers using intersectionality are urged not to adopt an additive approach and instead to look at how specific forms of inequality are mutually constitutive; yet sometimes the methods used result in an additive approach being used (Hopkins 2019, p. 938).

Intersectionality as a research framework can be particularly challenging for quantitative studies: underpinning the idea is the importance of experience and perception, and as a result how multiple individuals can experience the same oppressions in very different ways. As such, there is a tension between the need to provide group identities – the creation of categories to compare, combine and contrast is one of the fundamental approaches in quantitative social science – and the need to recognise the diversity of lived experiences that may evade rigid categorisations. Computationally, many segregation measures do not deal well with a large multitude of groups or small counts, which are more likely to arise when considering multiple identities (such as ethnicity, gender, and, say, class for individuals in relatively small neighbourhoods). It is therefore perhaps unsurprising that qualitative researchers have made more inroads into the literature using intersectional approaches than those who seek to explore and understand the world using quantitative approaches (critical quantitative geography: see Chapter 9, this volume). However, the need to bring intersectionality into segregation studies has been borne out in the developing literature around COVID-19 incidence and risk (see, for instance, Griffith et al. 2021; 2022) which highlights the connectivity of risk associated with, for example,

ethnicity, poverty and occupation. Casting more broadly, there have been some quantitative explorations in health geography (see, for instance, Bell et al. 2024; Green, Evans and Subramanian 2017), within the methodological literature (see Bell, Holman and Jones 2019), and by Ron and colleagues within the political voting literature (Johnston et al. 2020). Indeed, a footnote[9] at this point should note that the approach undertaken in Johnston et al. (2020) utilised almost the same modelling framework as the multilevel segregation analyses discussed earlier, and therefore much of the groundwork is laid out already!

We encourage theoretically informed approaches to the study of segregation to place intersectionality into play with the literature on urban sorting and residential location, on which the segregation literature is so often built. We suggest that quantitative approaches can provide insight into the diversity of lived experiences but, by building on the intersectionality framework, it might be possible to provide a more nuanced insight into oppressions (particularly at the group, if not the individual, level) in the urban form. We argue that a recognition of the plurality of experiences in residential sorting is important because of inequalities between ethnic groups *and* place. Housing searches and residential purchases are not made as the result or the consequence of a single identity, and as such with single measures of segregation we omit much that contributes to our urban composition. Segregation can be understood as a spatial manifestation of inequalities within urban areas, which differently impact people from different ethnic groups given their unequal (social and spatial) experiences in the housing and labour markets (Peach 1996). A novel ethnic group specific deprivation index (EGDI) developed as part of the GEDI project (Lloyd et al. 2024) using 2021 Census data reveals how the housing, employment, health and education experiences of people in different ethnic groups are not equal within and between neighbourhoods. In other words, similarity of place does not lead to similarity of experience, and the EGDI shows the complex geographies of ethnic inequalities. While people in one ethnic group living in a neighbourhood might experience low relative levels of deprivation, people in another ethnic group may suffer high deprivation, in that *same* neighbourhood. Clearly, attention needs to be paid towards the unequal ways in which people experience their neighbourhood, and how segregation might shape, or be shaped by, these inequalities. An intersectional approach to segregation studies might reveal the connections and interplay between ethnic inequalities and how they are compounded by, for example, occupational (or class) inequalities and/or age discrimination in the housing market – experiences which inform and constrain residential decision-making and opportunities.

Paving the way towards an intersectional approach: Ron's contributions

Ron did not explicitly develop an intersectional framework for segregation research, but his work did pave the way for its development. In his earliest

days as a scholar, Ron demonstrated a desire to illuminate and understand socio-spatial inequalities; these were a central part of his inaugural lecture, as documented by Harris in Johnston (2022; see also Chapters 1 and 9 of this volume). Ron advocated 'work which will recognise the social inequalities of spatial systems, diagnose their causes, and prescribe policies for their removal' (Johnston 2022, p. 106). We highlight three publications in which Ron made steps towards a more intersectional understanding of segregation, but there may be more. The first, by Harris, Johnston and Manley (2015), explored the relationship between ethnic and social segregation, highlighting that they often overlap and are often confound. They use a typology to assess whether minority ethnic groups are disproportionately concentrated in neighbourhoods in England and Wales containing the lowest proportions of their adult populations in full-time employment and evaluate how those concentrations have changed between 1991 and 2011. They explore the extent to which areas of high ethnic concentration are also areas where economic activity is at its lowest. The conclusion of the paper is that ethnic and social segregation intersect substantially and increasingly over time. Secondly, the book by Harris and Johnston (2020), made a specific and important contribution in taking the unusual move of combining neighbourhood and school locations in exploring segregation. Whilst their approach was not directly intersectional, their research does also ask whether socio-economic separations add to ethnic segregation, and highlights that the urban ecosystem is sufficiently complex and diverse to need multiple aspects to be considered together. Finally, by looking slightly further back in time, we find an attempt to move towards a more intersectional form of understanding in Johnston et al. (2006) in their consideration of dual ethnic identities and the resultant need to go beyond single variables to identify the plurality of identities.

So how might we get closer to an intersectional understanding of segregation? The rationale we deploy in this chapter considers the nature of the urban space and returns to the fundamental core of our understanding around how people organise, choose, sort and are sorted/constrained into their residential spaces. Segregation studies often look to explore the state of a single factor in urban space which, given methodological and data limitations, seeks to understand a snapshot moment of a dynamic phenomenon then reduced to a single measurement. The snapshot is a critical element in how we characterise the process; however, the reduction to a single measurement is problematic because it simplifies too far how we, as individuals, navigate urban space. While a single characteristic may, legitimately, dominate an individual's experience of urban space, it will not be the only factor that they experience it with. In other words, whilst we measure segregation focusing on, for example, a socio-economic dimension, it is not the only consideration or constraint that individuals have as they select or are sorted into their residential location. Other, intimately linked, variables such as ethnicity or race, may play an equally important role in neighbourhood selection/sorting, and therefore segregation outcomes. As a result, it is not a large step to argue that such studies

might helpfully include both socio-economic and ethnic or racial factors simultaneously.

In terms of the framework that intersectionality provides, Crenshaw (1991) highlighted three aspects of identity: the structural, the political and the representational – each of which map on to areas of interest across urban geography. The structural refers to aspects within the social fabric and how they oppress individuals who experience their negative elements. The political refers explicitly to how biases accumulate. Racial discrimination can potentially be experienced by all individuals who identify within a racialised minority; gender discrimination can potentially be experienced by all women. The emphasis that intersectionality brings is where we can acknowledge that these elements work together – identifying with both the racialised minority and the oppressed gender group – and then acknowledging that there is an additional disadvantage accrued as a result of the duality of identity and thus there is a need to highlight them both together. The crucial element here is that in not acknowledging the additional disadvantage and discrimination is to miss an important aspect of the lived experience. The final of the three, representation, considers how imagery is used and reinforces disadvantage. Here it can be considered in the ways in which communities and developments in the urban arena are portrayed for specific groups in specific places, to the exclusion of other groups and actors. In developing the segregation literature, we suggest that the structural (in terms of sorting and selection) along with the political (in terms of which characteristics are included and excluded) might be particularly relevant.

An intersectional approach to segregation analyses is clearly demanding in terms of its data requirements. Taking the 2021 Census of England and Wales as an example given its focus in this chapter, the Office for National Statistics (ONS) Create a Custom Dataset tool offers excellent flexibility and choice of cross-tabulated data,[10] but given important data disclosure considerations, incurs restrictions to the user for smaller geographies such as LSOAs, which need to be considered for detailed geographical analysis of intersectional segregation. The ONS consultation on the future of population and migration statistics showcase some exciting fresh possibilities for analysis using administrative data, but likely with significant compromises in terms of ethnic group and/or geographical detail.[11]

8.6 Conclusions

Concentrating mainly on the British context, this chapter has reflected on, documented, and remembered Ron's research on segregation by exploring several core themes that underpinned his work. It was not intended that this chapter would provide a comprehensive review of Ron's research in the field of segregation – a full review which could easily fill the pages of this edited collection – but rather to remember and celebrate Ron's contributions to the

segregation literature through a more selective reflection on his work. In addition, it is hoped that the chapter will become a useful resource for researchers of segregation at all career stages – established colleagues, early career researchers and students – in recognition of the many people Ron inspired and mentored throughout his distinguished career, and who are still reached through the legacy of his research. Ron's segregation research was typically highly collaborative, particularly with his close colleagues Mike Poulsen and James Forrest, and with Bristol colleagues too. The lack of gender diversity in his collaborations in segregation research reflect a wider gender inequality in the field which, while somewhat lessening, is still seen today, and which is mirrored in quantitative geography more broadly (for insight and commentary see Franklin et al. 2021; Crane et al. 2023) – and represents a reminder for established segregation scholars to mentor, encourage and cite women, minority ethnic and religious groups, and other underrepresented people in the field.

The title of this collection, *Geography and a Geographer*, captures wonderfully the central theme of Ron's research on ethnic segregation and diversity. He was a *Geographer*, with all the typical passion for *Geography* and its distinctive offerings to the Social Sciences (Johnston 2022). Ron fittingly (and comically) entitled the final section of an article on segregation measurement 'Conclusion: more Geography please' (Johnston, Poulsen and Forrest 2009). We remember Professor Ron Johnston OBE, FAcSS, FBA: *Geographer*.

Notes

[1] Ron 'crossed swords' with Gorard about how to measure segregation – see Johnston and Jones (2010), and Gorard (2011).

[2] Another, earlier, debate was hosted in *Urban Studies*, between Johnston and colleagues and Ludi Simpson (Simpson, 2004, 2005; Johnston, Poulsen and Forrest 2005). There is insufficient space in this chapter to elaborate on this similarly important intervention, other than to briefly state its focus: Simpson (2004) demonstrated that the population of South Asians in Bradford – a group and city the subject of much focus in public and policy debate as an example of so-called 'self-segregation' – had grown in neighbourhoods in which they were *already* populous due to growth from migration and more births than deaths, rather than selective movement towards neighbourhoods with high South Asian concentration, and that there was dispersal from main areas of settlement of South Asians. Johnston, Poulsen and Forrest (2005) employed concentration profiles to query Simpson's (2004) conclusion and pointed instead towards increasing segregation of South Asians between 1991 and 2001. Simpson (2005) countered this claim and urged Johnston and colleagues, and indeed segregation scholars more widely, to invest in studying the *processes* of ethnic group change – of migration, births and

deaths – in explaining the ethnic mosaic over the static pictures provided by segregation indices.

[3] Harris and Johnston (2020) suggest that Johnston et al.'s original labelling of the typology was designed to show that the clustering of certain ethnic groups rarely results in exclusive enclaves in English cities (so to argue against the existence of US-style 'ghettos' not for) (Harris and Johnston 2020).

[4] For an application of the Holloway, Wright and Ellis (2012) schema to the UK, see Catney, Wright and Ellis (2021).

[5] Geographies of Ethnic Diversity and Inequalities (GEDI); ESRC award ES/W012499/1. See www.gedi.ac.uk. The authors of this chapter are two members of an international team of researchers collaborating on this project, which launched in mid-2023.

[6] Including *The Guardian* online and in print, BBC national online, BBC World News, BBC Breakfast.

[7] The Office for National Statistics is thanked for the provision of data.

[8] At the 12th International Conference on Population Geographies (Queen's University Belfast, 2024) several papers were presented on emerging research on intersectional approaches to segregation and inequalities, demonstrating increasing interest in this approach.

[9] Which Ron was fond of using!

[10] www.ons.gov.uk/datasets/create [Accessed 7 November 2024].

[11] https://consultations.ons.gov.uk/ons/futureofpopulationandmigrationstatistics/ [Accessed 7 November 2024].

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9. People, places and a pandemic: critical quantitative geography and the spatial variable

The Quantitative Spatial Science Research Group

Two libraries have existed in the School of Geographical Sciences, University of Bristol. The first, accessible to students, had its contents relocated many years ago. The second, with books and papers encroaching across its desk space, a step ladder to reach its upper shelves, and not a room to dwell upon contemporary health and safety requirements, was the office of Professor Ron Johnston. It contained hundreds – quite possibly thousands – of books, as the snapshots, in Figure 9.1, display. These were more carefully arranged than any first impression suggests. It was impressive how quickly Ron could locate and retrieve a text.

The collection spanned the many diverse areas of the discipline that Ron studied and participated in. Quite a number were review copies, annotated in their margins by Ron's notes and comments. Many others were his own, both in possession and authorship. These included versions translated from English into other languages. This self-archiving extended to a copy of all his papers, each numbered and arranged in chronological order, filling multiple, well-packed ring-binders. His undergraduate and Master's dissertations were there. His PhD thesis too (each are now with the Royal Geographical Society with IBG, in London). And, amongst all of these, was a set of slightly browning foolscap pages. A study of these revealed something special: a transcript of Ron's inaugural lecture, a 'public lecture' to friends, family and academic colleagues that he presented in celebration of his appointment as Professor of Geography at the University of Sheffield, in February 1975. At just 33 years of age, it remains young for a full professorship today and was much rarer then.

The University of Sheffield had stopped publishing inaugurals sometime in the years before Ron's. He jokes to his audience that the cessation could be interpreted as 'an odd backhander to some of you here tonight' (Johnston 2022 [originally 1975], p. 110). However, a transcript of it has now been published in the *Scottish Geographical Journal*.[1] The lecture seeks to demonstrate the social validity of geographic research with reference to what is described

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as the spatial variable – the title of the lecture – which 'operates because every place on the globe has a unique location' (Johnston 2022, p. 111) and arises, at least in part, as a product of the interaction between an individual and their social environment. This chapter draws inspiration from that aim, and from the lecture's discussion of the spatial variable and its place (/space) in geography. A key difference, we fear, is that our text is not as knowledgeable as its forerunner. This is not false modesty but recognition that Ron's lecture is an intellectual *tour de force*. We highly recommend reading it for the ideas, for the geographical and historical context, and for the scholarly craftmanship it encompasses. It encapsulates a model geography in more ways than one.

Examples contained in the lecture include topics that Ron would study throughout his career, including the biasing and gerrymandering effects of electoral boundary-making on electoral results, and the role of locales (contextual and 'neighbourhood effects') on influencing electoral and other behaviours (see, *inter alia*, Johnston 2015, and Chapters 5 and 6 of this volume). In it, Ron's interest in the local(e) is underpinned by what he calls a sociological theory of structural effects, which appears to be balancing individual agency with structural/social/environmental constraints on that agency: '[it] suggests that individuals are predisposed to act in certain ways because of their personal characteristics but that pressures emanating from their environment might lead them to behave differently' (p. 118). Those influences, of and on the local(e), are both a product and a reproducer of spatial variation; both the antecedents and the consequences of socio-spatial inequalities. The geography outlined in the lecture has an applied social, even political, purpose: Ron states that he is a subscriber to the view that geographers 'will recognise the social inequalities of spatial systems, diagnose their causes, and prescribe policies for their removal' (p. 111). To us, it reads as a strapline for a socially concerned, relevant and critical geography.

Finding the lecture was to discover a lost treasure chest, filled with the wit and wisdom of its author. We could, we are sure, anonymise the content, pass it to someone who knew Ron, ask who wrote it and bet safely on its correct attribution. As noted in the foreword to its publication, so many of Ron's personal attributes come shining through: widely read, a passion for geography, a dry but generous humour, a respect for colleagues, an interest in their research, and a healthy disregard for pomposity. It is testimony to those traits that we can attest to how generously he gave his time to us, as well as to others, often assuming an unofficial mentoring role that helped support and inspire our own research and careers.

The depth of his thinking – as well as the tendency of disciplinary debates to go around in circles – is revealed by how much of his inaugural lecture could be written for today. It is not just of the moment. Rather, it raises questions at the interface between quantitative geography, geographical explanation and critical geography that still seek answers in the context of (geographic) data science, urban and social analytics, 'big data', and rapidly expanding technologies such as machine learning and artificial intelligence, including GeoAI (Wolf, Harris and Heppenstall 2024). Key amongst them is the role of

Figure 9.1: Photographs of the School of Geographical Sciences' 'second library' – the office of Ron Johnston



Source: Archives of the School of Geographical Sciences.

Notes: Towards the upper right-hand corner of the lower photograph is a picture of the British delegation to the first European Colloquium on Theoretical and Quantitative Geography in Strasbourg, 1978. It is reprinted in the Epilogue (Figure E.3) of this book.

quantitative geography in highlighting, understanding and explaining socio-spatial inequalities and their socio-economic, demographic, political and spatial causes, as well as the role of quantitative geographers in ameliorating, not contributing, to those.

Situating the lecture

Stressing its contemporary relevance does not deny the lecture its historical context. In the early to mid-1970s the UK was experiencing sharply rising inflation, an energy crisis, geopolitical tensions with the USSR, conflicts in the Middle East, declining standards of living, and a referendum on continued membership of the European Economic Community. Some of that context is alluded to in the lecture, which has a wider framing around matters of spatial and social welfare (of 'illfare' too), and the social inequalities of spatial systems. It was written towards the last throes of post-WWII Keynesianism and nearing the approach of monetarism/free-market conservatism/Thatcherism in the UK. In fact, Ron's inaugural lecture was given in the same month that Thatcher was elected leader of the Conservative Party.

The timing of the lecture was also within two years of Keith Joseph's cycle of deprivation speech. Until the Conservative election defeat of 1974, Joseph was Secretary of State for Social Services and, as such, established a joint Department of Health and Social Security and Social Science Research Council working party on what Joseph believed to be 'transmitted deprivation'.[2] This continued under the successor Labour Government albeit with increased emphasis on structural factors rather than 'problem families' (Welshman 2005). Neither the speech nor the working party is directly referenced in the lecture but it does speak of evaluating 'arguments of the sort so strongly advanced by Sir Keith Joseph' (p. 119). That it does so in the context of using areal data as 'surrogate variables where predictions of the individual effect are not possible' (p. 119) suggests that Joseph's aspirations to understand what causes the production and reproductions of deprivation were not far from Ron's mind.[3]

The interrelationship between the when and the what of the lecture is relevant to another of Ron's interests: histories of geographical thought and praxis. It was written at the cusp of a contested period in human geography's history when the battle charge of the 'quantitative revolution' – a period well-documented by Ron and others, including in the various editions of *Geography and Geographers* (for example, Johnston and Sidaway 2016; see also the Preface and Chapter 11 of this volume) – was pressed-back against the radical and humanistic challenges, with postmodern and poststructural 'turns' to follow, and occasional skirmishes with the fields of GIS and GI Science (see, especially, Pickles 1995 and responses to it, such as Flowerdew 1998 and, more outspokenly, Openshaw 1997).[4] Ron's lecture cites the more normative models of spatial organisation that characterised the decade or so of spatial science up to his professorial appointment but does so with a hint of gentle scepticism, or maybe just perspective, that later finds direct expression

in an autobiographical account of his encounters with the quantitative revolution: 'for me the "quantitative revolution" was a decade or more of floundering; it was often exhilarating, frequently frustrating but, in retrospect, largely unproductive and disillusioning' (Johnston 1984, p. 54). Of course, Ron's prodigious rate of publication might imply a somewhat demanding threshold for productivity. Any floundering did not curtail his Professorship.

The disillusionment – not strong enough to prevent a book on multivariate analysis in geography (Johnston 1978) – appears rooted in dissatisfaction with the idiographic elements of geography ('interesting people lecturing us on intriguing things and places, with no evidence of a "whole"', Johnston 1984, 1978) whilst also with the overly nomothetic ones too ('I found central place theory both boring and irrelevant to New Zealand', Johnston 1984, 1978, p. 47). The lecture makes no such complaints; it is appreciative of a wide range of methods and approaches, and of its audience. Nevertheless, as it moves to a conclusion it leans away from the nomothetic towards the idiographic instead: 'no study of a spatial variable can be understood outside of the context of the socio-cultural matrix in which it is operating […] Thus we need to steep ourselves in the socio-cultural and political milieux' (p. 121). Perhaps what the quantitative revolution lacked was a less generalising and more nuanced explanation for geographical variations in society, their causes, the scales at which they operate, where and why local context matters, and the ways that geography both mediates and is built from the interplay between structure, environment and agency (the relative contribution of these also being central to the validity or otherwise of Keith Joseph's ideas). Or, it may simply have lacked data.

Revisiting the spatial variable

In summary, the lecture steers a carefully plotted course between highlighting the challenges of measuring, modelling and explaining the causes of the spatial variations that are produced and reproduced by social systems, including by their supposed measurement, whilst demonstrating the important contributions that geographers have made to and by doing so. Although not wholly camped in the quantitative fields, there is nothing in the lecture, in the later autobiographical account, or in Ron's more recent work to suggest he ever greatly veered from when 'very early on, I became convinced of the need to express conclusions quantitatively' (Johnston 1984, p. 41). Yet that same autobiographical account expresses doubts with empiricism 'closely tailored to a minority audience but fitting into no overall theoretical framework' (Johnston 1984, p. 48) as well as with 'an approach [if not underpinned then certainly influenced by positivism] which the "radicals" discredited and which I was increasingly uneasy about' (p. 47).

Was Ron a spatial scientist in the sense portrayed in *Geography and Geographers*? He presumably welcomed the connotations when he supported the most recent name change of the Spatial Modelling Research Group at the School of Geographical Sciences, University of Bristol, to be Quantitative Spatial Science (for an earlier Research Assessment Exercise, it was simply

Quantitative Analysis). However, we suspect his interests were too wide-ranging, his intellect too broad, and his academic reading too copious to ever be tied to any one all-encompassing and, at best, partial form of explanation in geography. It is probably better to regard him as a spatial social scientist (as well as, of course, geographer), using quantitative data and methods to evidence and measure the effects of spatial processes, guided by social theories, but not constrained to an end goal of establishing general spatial laws.

Looking today, as a group of quantitative geographers, many (but not all) of whom are already older than the 33-year-old Professor Johnston, what we find in his lecture is a steer towards what elsewhere is described as critical and/or pragmatic quantitative geography (Harris 2022; Kwan and Schwanen 2009). Critical in the sense that it is outward-looking, highlighting socio-spatial inequalities, their consequences and, if possible, their causes, but inwardly self-critical of its own limitations – of the data, of who they exclude, of their modes of production, of the ways they codify and construct geographical spaces; of being too data-based and too data-biased. Pragmatic in the sense that although none of us wishes to ennoble quantitative methods as *the* way to undertake geographic enquiry (we believe geography gains from its pluralism of methods and praxes), it remains *a* way to evidence social injustices within the broader canon of approaches that highlight and seek to tackle the social inequalities of spatial systems. It has some alignment with what has been described as strategic positivism (Wyly 2009) although strategic quantification is a better description because it avoids the impression that quantitative empiricism must entail only strict methods of deduction, hypothesis testing, the pretence of impartiality, a belief in only that which is empirically verifiable, and so forth (presumptions that some of us, at least, are sceptical about). Nevertheless, we can agree with Wyly that, contrary to the portrayal of some critiques of spatial science, the 'presumed linkages between epistemology, methodology, and politics were never fundamental or immutable' (Wyly 2009, p. 310), and still aren't.

For the rest of this chapter, we take the inspiration provided by Ron's lecture to revisit the spatial variable in the context of the COVID-19 pandemic, as it spread across England. We consider the geography of the pandemic in spatial and in social terms; specifically, the possibility of more deprived neighbourhoods having higher rates of COVID-19 infection. In doing this, what we seek to demonstrate is a form of critical, quantitative geography that is not solely tied to abstract 'law-making' or overly complex mathematical/economic formulations – much as we may admire the ambition of those who seek explanation through them – but is more heuristic, using data and modelling to highlight the socio-economic inequalities of spatial systems, whilst remaining cognisant of the part that data captures and representations can play in underpinning processes and systems that generate some or other of those inequalities and exclusions (which artificial intelligence and machine learning also have the potential to shape and exacerbate, through the displacement of human labour by technology, for example). Towards the conclusion,

we also reflect on how critical quantitative geography might engage with 'the spatial variable' and the challenges of doing so.

The 'we' in this are the members of the Quantitative Spatial Science Research Group (QuSS) at the University of Bristol.[5,6] This research group and its predecessors have a long history that has included amongst its members Peter Haggett, Les Hepple, Tony Hoare, Kelvyn Jones (Tony and Kelvyn have co-authored the Epilogue of this book), Ed Thomas (an outstanding lecturer who taught computing and computational geography to many cohorts of Bristol undergraduates), and another contributor to this book, Paul Plummer (see Chapter 10). It is, we are glad to say, now less gendered and more diverse, although there is much more to be done for us to be more fully inclusive in these and in other regards, a statement true of quantitative geography more broadly. Ron valued the group immensely and would, from time to time, suggest a topic to be written on together. In principle it would be a collective endeavour (see, for example, Johnston et al. 2019; 2020). In practice, Ron had written most of the paper before the rest of us had started and was generally waiting for us to catch-up. This is not to imply that he did not welcome comments, input, or suggestions; he did (usually). It is just witness to his prestigious ability to gather his thoughts, sharpen an argument, and write.

9.1 Dashboards, data and disease

In a series of conversations convened with geographers by Clyde Browning of the University of Maryland in the early 1980s, Hall (1982, p. 74) observed that,

> I think perhaps its greatest disappointment is that the original quantitative revolution didn't deliver as much in explanation as its advocates hoped. The modelers promised too much and delivered too little.

Those modellers had theories, many anchored in spatial perspectives on economics (for example, Christaller and Lösch) or by analogy to physical systems (for example, gravity models or entropy). New methods of multivariate statistical analysis had become available, including regression, principal component and factor analysis. What often they lacked was detailed data, partly because the computational infrastructures that enable the routine collection, storage and processing of them was, of course, more limited than today.

At the risk of cliché, data now are everywhere and heralded as providing fresh opportunities for geographic data science – the latest in a proliferation of geo- prefixes that have included GIScience and geocomputation, and might unintentionally signal a lessening aspiration from (spatial) science, rewinding through computation, back to data (but see Arribas-Bel and Graser 2024). These data can better calibrate models, cast a spotlight on social patterns and behaviours, and predict (statistically or otherwise) with greater spatial,

temporal and attributional precision than ever before, including 'nowcasting' in real time. Sometimes they are collectively referred to as 'big data', albeit a nomenclatural over-simplification that misses how 'small data' can also provide important insights but be as challenging to analyse and draw reliable knowledge from. Yet, regardless of the language, the point stands: these data are claimed to have, and are often sold as having, the potential to offer greater data-based insights, including about spatial processes and outcomes. The selling is done as much by the academic community as it is by those who directly profit from them.

It would be foolish and remarkably myopic to deny that much of this data is a product of digital and data capitalism (Beer 2018; Mayer-Schönberger and Ramge 2018), and/or the products of governmental or other geosurveillance (Kitchin 2021). This does, of course, mean that data and their applications are not independent from the modes of production that a critical perspective would see as re-/producing the socio-spatial inequalities that users of those data may say they are evidencing or trying to restrain (similar arguments are present in Pickles 1995 and its engagement of GIS with critical social theory, as they are also in Curry 1998). As such, data are neither entirely innocent nor neutral witnesses to society. Ron recognised this tension amid the disciplinary in-fighting of the late 1970s/early 1980s, seeking a position of accommodation that had the hallmarks of pragmatism without losing a critical edge (Johnston 1981; and see our Conclusions, below). Quantitative geographers are generally not known for their political radicalism – a possible exception is Danny Dorling, also once a quantitative geographer at Bristol, who encapsulates the possibilities of using data to expose socio-spatial inequalities (see, *inter alia*, Dorling 2023) – but there is no particular reason why data cannot be used for powerful social ends: consider, for example, Florence Nightingale's graphical presentation of her data showing the causes of soldiers' deaths in Crimea, 1855–1856, and how many of those deaths were preventable by more hygienic hospitals (even more so without the fighting).[7]

The data we use in this study are a product of governmental monitoring. Likely most would agree that the monitoring served an important social and public good, helping to understand and to instigate public health measures in response to the potentially fatal COVID-19 virus. Not all will share this view, however, since the same data were used to plan and provide justification for geographical containments of populations and to limit, sometimes fully prohibit, the movement of people between places. We are not making an argument against the lockdowns – it is possible that the UK Government procrastinated too long in implanting such measures (Calvert and Arbuthnott 2021) – but noting that, as ever, the data are not 'just data'. They were politicised from their beginning. The data originate from the UK Coronavirus Dashboard and are the reported counts of COVID-19 cases in English neighbourhoods each week; specifically, the 2011 Census Middle Level Super Output Areas (MSOAs). They are described more fully by Harris and Brunsdon (2022) but now span a longer period of 109 weeks, commencing from the 7 days to 7

March 2020, and ending in the 7 days to 2 April 2022. Free mass testing for COVID-19 stopped in England on 1 April 2022 (the date makes for an easy jibe against the then Government) so beyond this date the infection counts are increasingly unreliable.

Due to data censoring avoiding individual data disclosure, MSOAs with fewer than three cases in a week are reported as zeros in the published data. Consequently, if we sum-up the cases for MSOAs within higher-level geographies such as local authorities or regions, the tallies will be lower than the published counts for those higher-level geographies; notably so in weeks when the disease is relatively rare and so fewer MSOAs pass the non-disclosure threshold. Over the duration of the study period, this undercount was greatest in Hackney and the City of London, representing about 5 percent of reported cases. These are two London Boroughs combined into one in the data, with the reason for their merger being the same reason why the disclosure threshold is often not met within them: relatively few people live in the City of London (it is a financial and business centre, not a residential area).

To bring the neighbourhood-based and regional totals into alignment, we adopt a heuristic that slightly raises the number of cases in some MSOAs, where the goal of the adjustments is to make minimal but informed changes to the MSOA counts: we assume that MSOAs with a reported non-zero count in one or both of the weeks either side of the 'zero week' are likely to have had one or two cases in that 'zero week' as well. Next, we change some of the remaining zero cases to, instead, represent one case in certain MSOAs that are randomly selected but with probability of selection favouring those with the most weeks of reported cases through the pandemic (highest frequency). As a final, minor adjustment, we add a case to a small number of randomly selected MSOAS with probability of selection equal to their total cases that week, favouring areas where a small change to the reported cases will make least marginal difference to the estimated COVID-19 rate.

In practice, these changes are trivial compared to the greater source of undercount, which is from those who chose not to be tested for COVID-19, or were asymptomatic. Their number is, of course, unknown, creating a situation not uncommon in the emerging areas of geographic data science of data that have wide spatial coverage and good geographic and temporal precision (at least in comparison to conventional survey data) but potentially complex biases because of the selective and self-reporting. What may be done in such situations is to cross-reference the more uncertain data with others in which there is more confidence – consumer data against the Census, for example (Lan, Kandt and Longley 2018; Longley and Harris 1999); or, in this case, the (adjusted) dashboard data against the modelled estimates released by the Office of National Statistics (ONS) from their Coronavirus (COVID-19) Infection Survey. However, the 'more certain' data are usually restricted to coarser population aggregations, where those aggregations may be spatial, temporal or in terms of the attributes and categories of what is measured. In essence, it is a trade-off between precision and bias in whether to use the more

detailed data or the data more representative of the population-at-large, but gains may arise from calibrating the former against the latter.

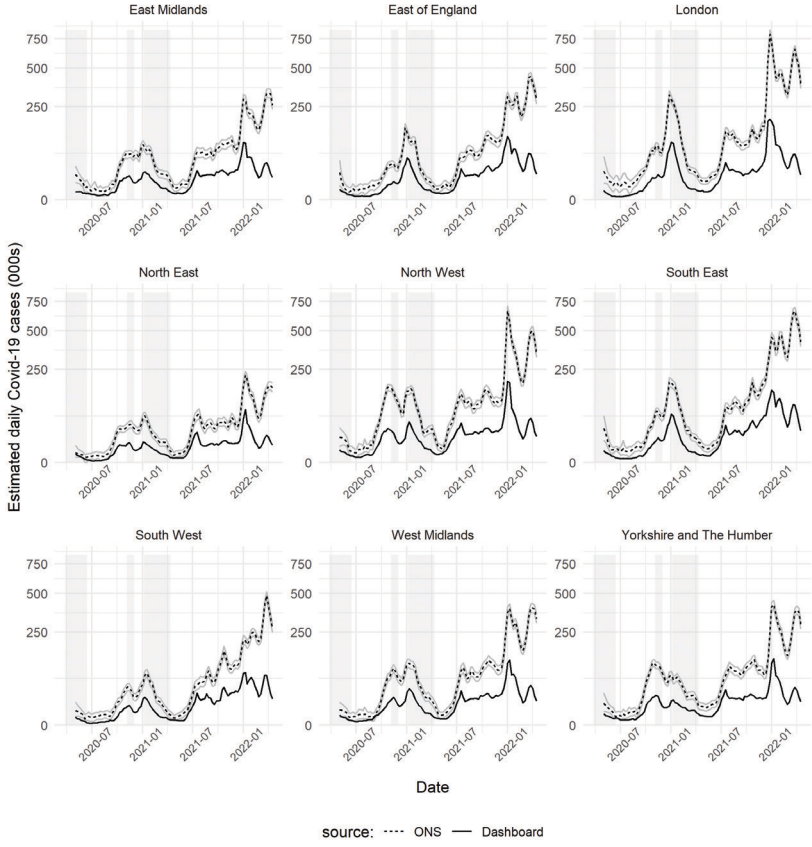
The regional counts from the dashboard and modelled survey estimates are compared in Figure 9.2. The two datasets show similar rising and falling trends, with Spearman's rank correlations for the time period ranging from +0.93 in the North West region to +0.98 in the South East. However, the regional differences can be large. For example, in the first week of 2022, the variance in the regional numbers of cases is 18 times greater when using the ONS than the dashboard data. Given that the variance measures a health inequality that, in turn, will map to social, economic or demographic inequalities, the considerable uncertainty in its magnitude is hardly trivial to those interested in socio-spatial inequalities and studying the geography of COVID-19, but it has been regularly overlooked, including in some of our own work (Harris and Brunsdon 2022).

The uncertainty extends into the neighbourhood data. For the same week as above, and using the dashboard data, the variance in the COVID-19 rates attributable to the neighbourhood scale exceeds that due to regions by a ratio of almost 2-to-1, so apparently more of the geographical patterning of the disease is between neighbourhoods than between regions. An interpretation of this is that local geographies and differences matter more than regional geographies do for this week. However, after applying a simple weight to the neighbourhood counts, ensuring they sum to the ONS regional estimates, it changes to a 1-to-1.2 ratio instead, with seemingly more of the variance now between regions than neighbourhoods. The more dominant scale of the disease's geographical patterning appears to have flipped through no process other than the handling of the data.

Admittedly, the upweighting is too simple. To arrive at the ONS estimate, it scales the dashboard data by the same linear multiplier per week for all neighbourhoods in a region. This assumes that the undercount, as a proportion of the ONS estimate of cases for that week, is the same for all neighbourhoods in a region, regardless of their population composition, which is very unlikely. Still, the main point remains: the data are inherently uncertain – a less generous word is undependable – with consequences upon our understanding of the geography of the disease and whom it was in-/affecting. Such a property is hardly unique to the many sources of data that geographers now study. The temptation is to ignore it and take what is given but that clearly is unsatisfactory when it leads to a circularity: the spatial variation we think we are measuring is varying, substantively, with the way we are measuring it.

It is impossible perfectly to correct the under-reporting of positive cases in the dashboard vis-à-vis the ONS data and know that we have done so. Any adjustment of these dashboard data is guesswork, no matter how well-informed. Benchmarking them against the ONS estimates assumes those estimates are the more accurate in magnitude, at a regional scale, which is likely but not guaranteed. A way forward is to treat the various data as alternative but 'part-truths', using four different versions to explore if they tell the same

Figure 9.2: The estimated weekly regional cases of COVID-19 from the ONS Coronavirus Infection Survey (with its 95% credible interval) and from the reported cases appearing in the Government Dashboard data. The national lockdown periods are shaded in grey



Source: Richard Harris.

Notes: Note that the apparent under-reporting of cases in the dashboard is even greater than it first appears because of a non-linear scale used on the vertical axis of the chart, necessitated by how large the difference can be.

broad story in terms of whether more deprived neighbourhoods were more susceptible to the disease than the more affluent. Should it be so, then we will take it to evidence not just a health inequality but a social inequality too; the argument being that if the spread of the disease was purely random then higher and lower income groups should have the same expected COVID-19 rate. But, if neither random nor uniform then the causes of any differential infection rates must have a social component, for example, occupational

and environmental exposures (Lawrence 2020). In an informal way, what we could be said to be doing is updating our strength of belief in the results of one dataset based on what we observe in others.

Of the four, the first version of the dashboard data is with the minor adjustments for undercounts due to the data censoring/case disclosure threshold. The second is those data with the simple linear scaling to the regional counts applied. Both are as described above. A more complex multiplier that is both neighbourhood and week specific is obtained by using the ONS' modelled estimate of COVID-19 rates for age groups as well as their estimate of the regional number of cases. The idea, based on spatial microsimulation (Lovelace and Dumont 2016), is iteratively to weight and reweight the cases so that (a) the weighted number of neighbourhood cases tallies with the regional estimate, and (b) the weighted COVID-rate for the neighbourhood in which, say, the average 2–11 year old lives (or 12–16, or 17–24, or…), is the same as the ONS' modelled COVID-rate for the same age group.

This weighting-reweighting provides the third set of estimates but it has two problems: first, it does not allow for regional variation in the COVID-rates for the age groups; second, there is no necessary reason why the COVID-rate for the neighbourhood of the average 2–11 year old should be the same as the (average) COVID-rate for 2–11 year olds, and so forth for other age groups. The first of these problems can be addressed, in part, because the ONS does provide, but with less temporal precision, estimates of the regionally specific COVID-rates for the age groups: they are fortnightly and they are also less certain, being based on smaller samples. Using these estimates for the iterative reweighting creates the fourth set of estimates.

Not all the data are available for the full period of the study: the first version spans the 109 weeks; the second spans 101 weeks, from the 7 days to 2 May 2020; and the third and fourth span 89 weeks, from the 7 days to 25 July 2020. Each is a result of extensive web scraping from the ONS' website and subsequent data wrangling to collate them into a consistent format. To paraphrase Hall's earlier comment, we may now find that data promises more than that it delivers.

9.2 Levelling-up? COVID-19 infections and areas of affluence/deprivation in England

From early-on in the pandemic there were calls to recognise it as a syndemic (Courtin and Vineis 2021), but not necessarily a global syndemic because some countries have provided a better social context for limiting the effects of the disease than others (Mendenhall 2020). This recognition that social context matters is at the heart of the syndemic concept: it says that the determinants of a person's exposure, susceptibility to, and health impacts of the disease are not simply biological or a function of comorbidity but of biological

and social interactions, especially conditions of social inequality and injustice (Singer et al. 2017). As Horton (2020) states,

> The "science" that has guided governments has been driven mostly by epidemic modellers and infectious disease specialists, who understandably frame the present health emergency in centuries-old terms of plague. But what we have learned so far tells us that the story of COVID-19 is not so simple. Two categories of disease are interacting within specific populations—infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and an array of non-communicable diseases (NCDs). These conditions are clustering within social groups according to patterns of inequality deeply embedded in our societies. The aggregation of these diseases on a background of social and economic disparity exacerbates the adverse effects of each separate disease.

This potential for COVID-19 disproportionately to impact on particular socio-ethnic groups was also recognised in an early report published by Public Health England (2020) that looked at the risk factors under eight main headings: age and sex, regional geography, deprivation, ethnicity, occupation, inclusion in health groups, deaths in care homes and comorbidities. Its conclusions extend but are consistent with an earlier analysis by the ONS (2020), finding that the mortality rate from COVID-19 increases with the level of neighbourhood deprivation, reaching an age standardised rate that is over twice as great in the most deprived locations when compared to the least.

Morrissey et al. (2021) analyse monthly infection numbers, also sourced from the Government Dashboard, over the period from March to December 2020. They show that area-level deprivation is significantly associated with COVID-19 cases for most of their study, although the relationship is reversed in November and December 2020. They attribute this reversal to the system of local and tiered lockdowns that were more lightly imposed in the South of England – which is where the Delta variant spread quickly – than in regions such as the North East and North West, which are where more of the most deprived neighbourhoods are concentrated. Welsh et al. (2022) similarly observe that the first and stricter lockdown in England particularly benefited those living in more deprived local authorities. However, those 'greater benefits' arise precisely because the more deprived neighbourhoods were at greater risk beforehand. A sailor is at less risk of drowning if they have temporary shore leave but that does not remove the more permanent threat of the sea.

Even if the various lockdowns and restrictions (temporarily?) disrupt the link between neighbourhood deprivation and COVID-19 cases, it does not alter Morrissey et al.'s conclusion, which is that deprivation is a key driver of COVID-19 outcomes. Arguably this is a different finding from Daras et al. (2021), who evidence that, additional to age, the most important factors associated with COVID-19 mortality in England (as opposed to infection)

are prevalence of long-term health conditions, living in care homes, living in overcrowded housing and ethnic composition – but not income deprivation *per se*. However, this interpretation will be affected by the effects of income deprivation being co-linear with and therefore present but measured through long-term illness and overcrowded housing instead. This proposition accords with Albani et al. (2022) who show that inequalities in transmission and vulnerability factors explain the highest proportion of mortality by deprivation. Sources of transmission include residential overcrowding and high occupancy. Vulnerability includes (neighbourhood rates of) diabetes, hypertension, coronary heart disease, chronic obstructive pulmonary disease and obesity.

Deprivation intersects with but is not reducible to ethno-cultural associations (see also the discussion in Chapter 8 of this volume about intersectionality). Barnard et al. (2021) evidence that among those under 75, the effects of the pandemic on deaths have disproportionately impacted ethnic minority groups irrespective of area deprivation, but for the White group it is disproportionate for the most deprived areas. Pedellini et al.'s (2022) analysis of English local authorities concludes that deprivation had a stronger effect than ethnicity on COVID-19 infection rates until October 2020, while the effect of ethnicity becomes more pronounced at the peak of the second wave and then again in May–June 2021. In their geographically more detailed analysis, Harris and Brunsdon (2022) show that initially, in the first wave, the disease disproportionately affected the neighbourhoods of Black residents but, as the pandemic progressed, especially the Pakistani, but also the Bangladeshi and Indian groups, had the highest exposure. What these findings reflect are the spread of the disease, although unlike the work of another Bristol luminary, Peter Haggett (see, *inter alia*, Haggett 2000), what we are focusing on are outcomes of, not the processes of disease diffusion. Even so, it is possible to infer some clues to the socio-spatial mechanisms by which the disease is transmitted: initially certain groups are more exposed to the disease through their work or residential environments and susceptible to local transmissions of the disease. However, containing such an infectious disease is exceptionally difficult and so, eventually, it will reach other population groups (who may also have less immunity, having not already been infected). The transmission occurs through a mixture of socio-economic, behavioural and pathological factors.

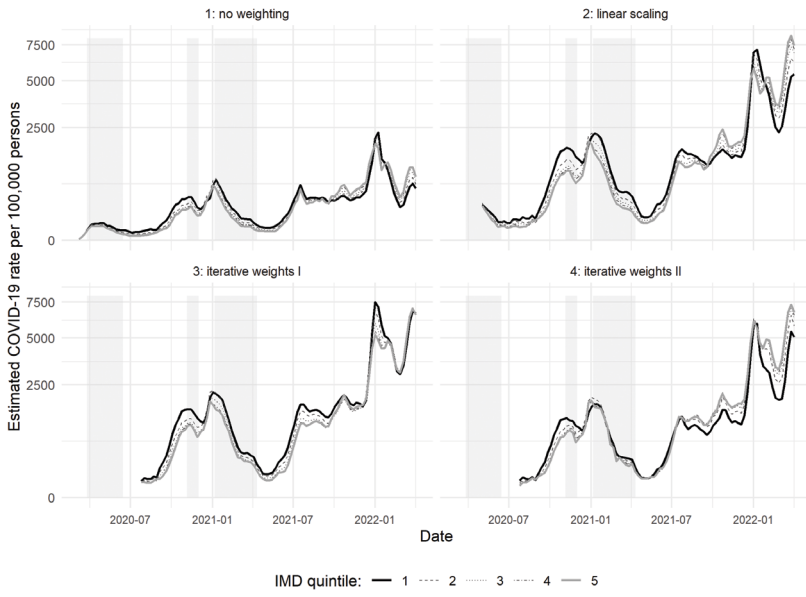
Do the most deprived neighbourhoods have higher COVID-19 infection rates?

Figure 9.3 shows the estimated COVID-19 rates for five groups of neighbourhoods, as estimated with each of the four versions of the data (no weighting, scaled up to the regional numbers and with the two variants of the iterative reweighting). The groups are based on the 2019 Index of Multiple Deprivation,[8] population weighted to give an average deprivation value per neighbourhood at the 2011 MSOA scale, then grouped into quintiles from the

20 percent most deprived neighbourhoods (group 1) through to the 20 percent least (group 5).

Figure 9.4 simplifies Figure 9.3 showing whether the most affluent (quintile 5), most deprived (quintile 1) or another group of neighbourhoods had the highest COVID-19 rate in each week of the study. Recall that not all data are available for all weeks. For the first set of data (no weighting, the top line of the figure), the rate was highest in the most deprived neighbourhoods for 76 of the 109 weeks (69.7 percent). For the second set, it was highest in those deprived neighbourhoods for 71 of 101 weeks (70.3 percent). For the third, 71 of 89 weeks (79.8 percent). Only for the fourth (bottom line of the figure) does a different impression emerge, being highest in the most deprived neighbourhoods for 37 of 89 weeks (41.6 percent), exceeded by the 38 weeks for the most affluent neighbourhoods. Nevertheless, there is general agreement that infections typically were highest in the most deprived neighbourhoods, up to July 2021 at least – a period that spans when the disease was at its most dangerous in terms of deaths resulting from infection, the peaks of which broadly coincide with the lockdown periods – implying that the most socio-economically deprived were the most vulnerable when the health risks were greatest.

Figure 9.3: The estimated COVID-19 rates in the neighbourhood deprivation quintiles with each of the four versions of the data (1 is the most deprived quintile, 5 is least)



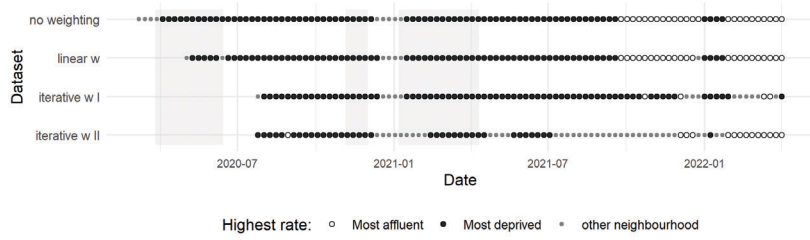
Source: Richard Harris.

These are just descriptive statistics, although the 'just' is not to demean their simplicity. An advantage of the more detailed sources of administrative and linked data becoming available for research is that they can be used to tell powerful 'stories' and to construct quantitative narratives that benefit from effective data carpentry – including data visualization – without jumping immediately to complex mathematical or statistical formulations. Quantitative analysis has always been as much art as science. A skillset to encourage in our students is how to wrangle data computationally to allow for what might be regarded as modest yet important algebraic manipulations. Sometimes a powerful tale can be told by something as superficially simple as a percentage or rate, and how that varies across social and geographic spaces.

Nevertheless, the COVID-19 data can also be approached in terms of a statistical model, wherein the number of infections per neighbourhood in any week is modelled as a Poisson multilevel model with an offset equal to the number of people who live there. What this models is the log of the infection rate, to which a 'random effect' at the neighbourhood level is added to allow that some neighbourhoods have higher rates than others in that week. Taking this idea forward, some control variables are added, on which the predicted rate per neighbourhood is then conditional (in other words, we have 'controlled' for the effects of the additional variables). These are the percentages of the populations aged 2–11 years (pre and primary school age), 12–16 (secondary school age), 18–24 (typical university student age) and 25–34 years (younger adults), as well as the number of care home beds per adult population and whether the neighbourhood contains an Accident and Emergency hospital.

These variables are described as control not as explanatory variables because their purpose is less to determine (explain or explore) causes of the variations in the infection rates than to allow for 'unusual' circumstances that are known to inflate or deflate them; for example, early in the pandemic when care home residents were highly at risk, and other periods when schools or the return to universities were a key transmitter of the disease. Of interest is the final

Figure 9.4: Neighbourhood type with the highest estimated COVID-19 infection rate in each of the weeks of the study with each version of the data



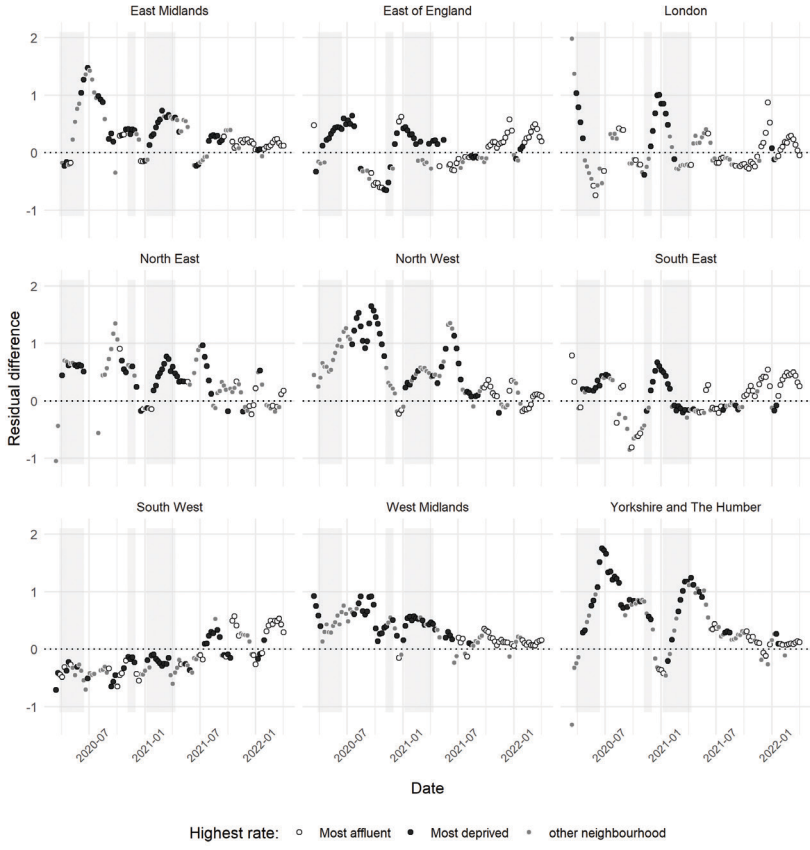
Source: Richard Harris.

component of the model, which is a second random term representing the regionalised quintile of deprivation. There are five quintiles and nine regions, hence 45 regionalised quintile groups. The deprivation quintiles are relative to the region in which the neighbourhoods are contained. For example, quintile 1 for London represents the neighbourhoods with the highest measured deprivation in the capital, not necessarily in the whole of England. Quintile 5 for the South West is the least deprived neighbourhoods in that region, which may or may not include neighbourhoods in the most deprived quintile nationally. These regionalised quintiles of deprivation measure a form of 'intersectionality' (see also, Chapter 8) where geographical context (the spatial) 'interacts' with the socio-economic. They allow for socio-spatial grouping effects, whereby a given quintile in a given region contains neighbourhoods that collectively tend to vary from the average conditional (log) infection rate, nationally, for that week (from what is expected given the control variables and base rate).

A separate model is fitted for each week so, for the unweighted data, there are 109 models and 109 estimates of the 'regionalised deprivation effect'. That effect is illustrated by Figure 9.5, which is interpreted as follows: each week one from, (a) the most affluent quintile, (b) the most deprived quintile or (c) another of the quintile groups will have the highest effect on the modelled infection rates in each region. It is then plotted on the chart only if it has a 95 percent confidence interval (not shown) that does not cross zero. Whilst this means it is 'statistically significant' in the sense that the interval does not contain zero (where zero indicates no overall uplift or decrease in the modelled COVID-19 rate for neighbourhoods in that quintile), it does not mean that the group's rate must be significantly greater than another's. It is possible, for example, that the rates for the most affluent and also most deprived neighbourhoods are actually very similar, with both statistically different from zero. However, one will be higher, and it is that which is shown.

Even if the differences between some groups were trivial, this would not change the conclusion drawn from Figure 9.5 – that it is too simplistic to say it is the most deprived neighbourhoods that necessarily had the highest infection rates over the length of the study period. It depends upon the region. The most deprived neighbourhoods more often had higher conditional rates of infection than the most affluent ones in the East Midlands (40 weeks vs 27), East of England (43 vs 38), North East (37 vs 13), North West (35 vs 21), South West (39 vs 31), West Midlands (41 vs 29), and Yorkshire and The Humber (39 vs 24). They did not in London (17 vs 39) or the South East (35 vs 41). Furthermore (but not shown), if the second of the iteratively reweighted datasets is used instead of the unweighted one then in every region the most deprived neighbourhoods had higher rates less frequently than the most affluent ones. The explanation for this is partly because the second of these two datasets cuts-out some of the initial period of the pandemic, during and after the first lockdown, when the deprived neighbourhoods were probably at greatest risk. However, it is also lies with

Figure 9.5: Showing which of the neighbourhood groups in each region had the highest conditional log infection rate each week



Source: Richard Harris.

Notes: This uses the unweighted data (dataset 1). If no rate is statistically different from zero with a 95 percent confidence interval none is included for that week.

the inherent uncertainties of the data, and how they are handled. To believe that the most affluent neighbourhoods had the higher rates more frequently requires a leap of faith in the weighting applied to that data. To believe, instead, that the most deprived neighbourhoods did requires a hope that the under-sampling of infected populations did not align with wealth; that the populations of affluent neighbourhoods had the same propensity as those of deprived ones to be able to access, take and report a COVID-19 test given an infection.[9] Either position is problematic and not resolved by potential process-specific explanations that can also be reasoned in both directions: people in wealthier places have larger activity spaces (so larger

exposure) but people in deprived places are less likely to be able to work from home (so larger exposure).

9.3 Is there a deprivation effect?

Given the body of evidence showing the intersection of COVID-19 vulnerability with poverty and disadvantage, it may seem unnecessarily contrary to question whether there is a relationship between exposure to COVID-19, as evidenced in infections, and deprivation. However, an argument can be made that the (supposed) regionalised deprivation effects do not tell a complete geographical story.

To explain why, we extend the levels of the model. Previously we had neighbourhoods nested into regionalised deprivation quintiles. These now are further nested into the regions themselves, at a third and top level of the model. What we find is that for the period of the study, most variation is at a neighbourhood scale; that is, in any week, some neighbourhoods have more cases than others, implying a localised patterning to the disease. But this often coexists with variations between regions (a regional geography) that exceed the generally much less substantial differences between the regionalised deprivation deciles. What this means is that variations *between regions* exceed the variations between the deprivation deciles within regions, and this is nearly always true, regardless of whether the unweighted or the second of the iteratively reweighted data are used. The sharpest differences are between the North West and Yorkshire and The Humber, with highest rates, and the South West (especially), East of England, and South East, with lowest.

However, before we dismiss the deprivation effects as marginal, we might first return to the central focus of Ron Johnston's inaugural lecture, the spatial variable and the challenges it poses. In particular, we should note that geographies of deprivation in England, and the UK more widely, are not exogenous to (not independent of) regional geographies, which was part of the motivation for the previous Conservative Government's Levelling-Up agenda under Prime Minister Johnson (HM Government 2022) – a political rediscovery, of sorts, of regional (and subregional) socio-economic inequalities.

A further way to extend the model is to look at whether there is a relationship between the neighbourhood infection rates and the proportions of the populations of various subregions that are living in each of the deprivation quintiles, where the subregions used here are a somewhat bespoke amalgam of major towns and cities, London Boroughs, and local authorities. Stated another way, the model is now asking whether concentrations of poverty (also of affluence, and of other quintiles in-between) are related to the (log) infection rates, still including the various control variables.[10] The result is somewhat 'bi-modal'. Over the period of the study, it is the concentrations of populations that live in the most deprived but also the most affluent neighbourhoods that are associated with raised infection rates. However, it is the former that

appear more influential. With the first version of the data, the percentage of the population in the most deprived neighbourhoods has a statistically significant effect on raising infection rates (at a 95 percent confidence interval) for 68 of 109 weeks (62 percent). For the most affluent neighbourhoods it is for 46 weeks (42 percent), and less for other quintiles. The effect size is almost 50 percent greater, on average, for the poorest than the wealthiest neighbourhoods. Over the shorter period of 89 weeks, in the fourth version of the data, the percentage of the population in the most deprived neighbourhoods has a statistically significant effect for 30 weeks (34 percent) and 22 weeks for the most affluent neighbourhoods (25 percent). Again, the average effect size is almost 50 percent greater for the poorest than the wealthiest neighbourhoods.

Looking back at Figure 9.3 it may be observed that, going into the first and third lockdowns, the estimated infection rates in the most affluent neighbourhoods (quintile 5) are similar to those in the least affluent (quintile 1); but, during the lockdowns and subsequent to them, the rates in the former are typically amongst the lowest for the quintiles. An interpretation of this is that affluent populations are amongst the spreaders of the disease, perhaps because they are amongst the most mobile and financially advantaged to benefit from schemes such as the 'The Eat Out to Help Out Scheme' (a government-funded subsidy of restaurant dining in August 2020, designed to help the hospitality sector but shown to have had a significant causal impact on new cases, accelerating the subsequent second COVID-19 wave: Fetzer 2022); yet also the ones better able to protect themselves from infection as the cases rise again, at least until the Omicron variant when far fewer restrictions were in place.

9.4 Critical but pragmatic: encountering the spatial variable

As we know, Ron's inaugural lecture focuses on the spatial variable – but what is the spatial variable? It may seem unduly belated to raise this question only towards the end of this chapter, although doing so is not intended as an afterthought. Rather, it helps to tie together some reflections on the lecture, the analysis we have presented here, and some thoughts on the on-going challenges of 'the spatial variable' to practising critical quantitative geography within a framework of a pragmatic but not merely data-driven empiricism. Some related reflections are also present in Harris, Heppenstall and Wolf (2024).

In fact, what is meant by the spatial variable is not completely stated in Ron's lecture. There is an early definition – '[T]he spatial variable might immediately be defined as the distance between two places' (Johnston 2022, p. 111) – but it is problematised, operationally, in the very next sentence: 'A further definitional problem arises, however; distance is measured between two points, but most places are areas, not points. And so is introduced the modifiable

units problem', now more typically called the modifiable areal unit problem or MAUP (see Chapter 5, this volume), to which we return presently.

Distance is an underpinning leitmotif of the lecture, characteristic of how the effects of the spatial variable are conceived and formed, and of the spatial extent they operate over. However, the lecture is wise to how distance also encounters definitional problems since it can be measured in various ways, including physical (for example, Cartesian) or social, economic and psychological distance, and at various scales too. There is interest in the 'micro-scale' – in how spatial contexts and locales can affect behavioural outcomes – and in how the local and particular, which might include the distinctiveness of places and the peer effects of neighbourhood-level interactions (that may inform voting behaviour, for example; see Chapters 5 and 6), are situated within broader and more general structures and processes. Examples of geographers' interest in the spatial variable are plentiful but much of the lecture is less on defining it precisely than on illustrating the complexity of what the spatial variable means to geographical research, demonstrating that it – whatever it really is – is far from straightforward to operationalise, methodologically or conceptually within such research. How we do so is both a product of, and informs, geographical explanation and thinking. That insight remains true today, as does the underpinning sentiment that applications employing the spatial variable shed an important spotlight upon society.

In our analysis, the spatial variable is the COVID-19 infection rates of neighbourhoods. More generally, what we are interested in is geographical variation in those rates, conditional or otherwise on other variables. Some variation is inevitable; it is implausible that they would be the same, everywhere. What we are considering is whether that variation reflects some structured (non-random) geographic patterning in the data. In essence, what we are looking at is maps of COVID-19 infections, and asking if they reveal any substantive, geographic (and temporal) variation that we might be interested in from a social perspective.

There is much in quantitative geography that can reasonably be said to lack the more philosophical, social theoretical debates and discussions that can be found in other areas of human geography. However, the work we present here or was co-authored with Ron is not atheoretical or merely motivated by the data or method. It is typically centred on a social issue, such as the possibility of ethnic residential segregation and whether it is increasing or decreasing in the UK. There definitely were occasions when Ron could see the potential of a new method (for example, multilevel modelling) to approach a topic in a new way. However, the application of empiricism and technique was underpinned by an interest in the topic. His work was not overtly partisan, ideological or dogmatic but clearly incorporated an interest in social justice and social concerns. Apparently, he was once told he was a spatial sociologist (Johnston 1984, p. 49). There are worse things to be accused of.

Our *modus operandi* is that spatial variations are representative of spatial inequalities, and when we begin to handle the data not only in terms of

geography but also in terms of 'social categories' – in this case the deprivation profile of neighbourhoods – then what is evidenced are socio-spatial inequalities. Perhaps this lacks intellectual ambition when compared to aspiring to 'laws of distance' or other axioms of spatial behaviour that were sought, with mixed success, in the goals of spatial science. And perhaps we are too cautious of more avowedly scientific frameworks, analogies and metaphors that seek to explain and to tame 'the spatial variable', often in quite abstract terms. What we describe is not positivistic but more of a pragmatic empiricism that is situated in what we hope to be social relevancy. As such, there may be something axiomatic here after all: divisions in society are spatially realised and spatially reinforced; opportunities vary geographically; much is dependent upon where you happen to be born and to whom; and an abiding role of geography is to highlight spatial injustices.

Epistemological and ontological challenges remain. In Chapter 4 of this book, Joe Painter argues that Ron's work is 'characterised by a definite commitment to realism'. Do we share the same commitment? Possibly. To suggest that underlying social, economic, cultural, political and other structures are not, in some sense, 'real' risks denying their ability to forge, reinforce and remake socio-spatial inequalities and injustices. Their effects on people's lives and life chances are not imagined or inconsequential neither to the individuals themselves nor the society of which they are a part. But they are social constructions, as are their quantitative representations. A deprivation quintile is a categorisation, of a subjective measurement, of a contested concept, here related to a health outcome that is political and uncertainly measured. It is a statistical artefact, hardly real in the sense of some immutable truth. But if social structures are not natural, fixed or independent of who or what gives them meaning, it does not follow that they are benign in their socio-spatial consequences, and it is those that we are interested in.

Our discussion may point to an underlying pragmatism, which is true, although not if this is reduced to meaning 'we should do it because it works'. For us, quantitative geography should be self-aware and cautious of its supposed axioms and assumed foundations, whilst remaining intellectually curious and explorative of the possibilities of spatial science in a manner well-articulated by Haggett (1994, p. 18):

> There may well be limits to the predictability of human behaviour which makes prediction in the social sciences fundamentally flawed […] But as someone who finds continual refreshment from the work of colleagues in physical geography, I consider that if the boundary exists it should continue to be actively probed.

What we are describing is somewhat agnostic to any belief that socio-spatial systems can be easily reduced to models and data, or that socio-spatial outcomes would be fully explained, determined and predicted if only those models and data were good enough. Social science has the inconvenience of

studying people, 'as individuals, communities and societies; their behaviours and interactions with each other and with their built, technological and natural environments.'[11] For these, quantitative approaches are often found to be lacking. Yet, clearly they do work in some contexts and circumstances. The intriguing questions are why they do, where they do, when they do and in whose interests?

A tension present in spatial analysis is that generating evidence for the existence of spatial patterns and of spatial inequalities is a process tied to the spatial frameworks, conceptions and presumptions used for the analysis. The tension is evident when, for example, local Moran's scores are used to highlight clustered patterns of spatial 'hot spots' in a sample of data, identifying places where what is found in one location is reflected in neighbouring places too. To calculate the Moran's scores requires a property of geographic space – or, rather, our analytical representation of geographic space – to be constructed; specifically, a conception of neighbours. These need to be defined *a priori* and encoded within a spatial weights matrix. Therein lies the potential circularity: we end-up evidencing the strength or otherwise of geographical clustering based on a pre-specified notion of how (for example, over what distances) we think that geographical clustering should operate and be evidenced.

The tension is present in multilevel models too, including those of our earlier analyses. In a geographical setting, multilevel models 'slice and dice' geographic space into discrete areal units at a range of scales, then look at statistical variations between those units. This means that spatial inequalities are measured as a function of spatial configurations, again defined *a priori* to the measurement. That assumes those configurations align spatially with the geography of what is being studied. 'And so is introduced the modifiable units problem' – are the areas we use and the scales we use them at really the best ones for the study?

A potential way out of this conundrum is to try various specifications, which may usefully shed light on different scales of clustering, and perhaps on the scale of the process(es) that generate the clustering. Such thinking steers spatial analysis towards inductive modes of reasoning, hoping to work backwards from pattern to process (Nelson 2024), or simply resting on the evidence that whatever processes do exist are clearly not creating equal outcomes and opportunities for all. It also steers it towards more exploratory and 'descriptive' forms of analysis, notwithstanding their often statistical and inferential veneer.

This is not necessarily a problem. Theoretical and methodological obfuscation is not an asset if a powerful story can be told simply and eloquently with data, and if the effective communication of that story, which may encompass carefully thought-out maps, graphs and other geo-visualisation, leads people to act upon it. But is it enough just to evidence socio-spatial inequalities or does a truly critical quantitative geography need to explain them in ways that go beyond using words like 'space', 'clustering' and 'context' as place-holders for

un- or under-explained causes of those inequalities, to instead having a much better theoretical, process and/or causal model about what created them?

Of course, statistical models are only one type of even quantitative models that can be employed in geographic research. We readily acknowledge that quantitative approaches, howsoever conceived, will only get us so far. We have no dispute with or desire to distance ourselves from the qualitative, nor any phenomenological critique that suggests quantitative methods are inadequate for addressing the (more?) important question of how socio-spatial inequalities are experienced, lived, embodied and negotiated in people's day-to-day lives. Yet, we are convinced of the relevance of quantitative geography to revealing and tackling the production of socio-spatial inequalities; also to contributing to social and critical thinking within the discipline and more widely. Whether we can definitely establish causes, what those causes might be (a relic of our modelling or a product of something 'real'), and whether we need to establish causes at all to be useful are questions that solicit a range of opinions from within this group (and in the following chapter).

9.5 Conclusion

Over four decades ago, Ron wrote,

> The thrust of some of the humanistic challenge and almost all of the radical challenge has been that quantitative human geography is ill-conceived, irrelevant and counter-productive to the achievement of a better and fairer society and an improved quality of life for the individual. Ideologies have been placed in opposition: consensus and accommodation seem unlikely. The possibility of accommodation has been proposed here, however. A role for quantitative work has been outlined which is not antithetical to the major theoretical tenets of the radical challenge, though it may inhibit achievement of its practical goals. The accommodation, if achieved, will be uneasy but quantitative work will continue. If there is no accommodation, dissensus may lead to entrenched positions, to the detriment both of the discipline and of society (Johnston 1981, p. 46).

Not for the first time, he has beaten us to a conclusion. In citing this passage, our emphasis is not on the intra-disciplinary hostilities against which Ron was writing at the time, but on our shared belief in the on-going value of quantitative geography – we can also say spatial (social) science – and its scope to be critically framed and socially relevant in its study and treatment of the spatial variable. We are glad that previous antagonisms do not characterise the discipline in the same way now as they did then; a change aided, no doubt, by Ron's own work and its clear demonstration that critical, quantitative, human geography need not be an oxymoron.

Notes

[1] Why the *Scottish Geographical Journal*? Serendipity largely: the consequence of an afternoon conversation between two members of the REF (Research Excellence Framework) subpanel for Geography and Environmental Studies, one of whom is the journal's very encouraging editor, Chris Philo. Happenstance or otherwise, the *Scottish Geographical Journal* and Ron's inaugural lecture have a spatial feature in common. Both appreciate the importance of geographical context and of the distinctiveness of, and hence variation in, places, be they in Scotland or elsewhere.

[2] That Council is the forerunner to today's Economic and Social Research Council.

[3] Joseph hoped to validate his own familial explanation ('problem families') and find policy measures to tackle the presumed cycle of intra-family transmission. Instead, Joseph's ideas were found to be found wanting although they were reinvented in the 1980s and 1990s by Charles Murray (for example, Murray 1990), and persist in narratives around a so-called 'underclass', a phrase that has mutated from an emphasis on structural-economic determinants to socialisation-behavioural ones; from referring to those excluded from the financial gains of the economic growth of the post-WWII USA (Myrdal 1963) to the 'idle thieving bastards' caricatures of the political right (Bagguley and Mann 1992).

[4] Stan Openshaw, well-known for 'popularising' the Modifiable Areal Unit Problem (Goodchild 2022) was at the forefront of geocomputation and GIS, with an immense legacy on the field of spatial analysis despite his career being sadly cut short by ill-health. He was passionate about the potential for geoinformation technologies in geography and sometimes outspoken in their defence: Openshaw (1991) is an extraordinary lambast against critics. It reflects a frustration in the (perceived or actual) marginalisation of spatial analysis from human geography at the time but was stoking divisions within the discipline that none of us want to return to. The gentler response of Robin Flowerdew is more considered.

[5] An initialism that could be pronounced as either kiss or, as Ron observed, cuss!

[6] Our grateful thanks to Jenny Crane and Thomas Jellis, also of the School of Geographical Sciences, for following Ron's example of reading across the discipline and providing us with very helpful feedback.

[7] www.sciencemuseum.org.uk/objects-and-stories/florence-nightingale-pioneer-statistician [Accessed 12 November 2024].

[8] www.gov.uk/government/statistics/english-indices-of-deprivation-2019 [Accessed 12 November 2024].

[9] In the early stages of the pandemic, tests had to be booked in advance and were in short supply. One of us travelled 15 miles to take a family member to the nearest test centre with availability, a journey that was only possible with a car (or possibly private jet; it was next to an airport).

[10] The Levelling-Up White Paper itself contains an interesting plot suggesting that the more income-deprived a local authority is, the more concentrated this income deprivation becomes within that local authority. It is Figure 1.23 of HM Government (2022).

[11] https://acss.org.uk/what-is-social-science/ [Accessed 26 October 2023].

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10. Quantitative human geography: a counterfactual approach to causality, inference and evidence

Paul Plummer

Contemporary discourse in human geography is often characterised by a critically engaged pluralism that encompasses a diversity of ontologies and epistemologies ranging across, but not limited to, positivism, realism, structuralism and postmodern understandings. Throughout his distinguished career, Ron Johnston promulgated critical engagement within quantitative human geography, between competing geographical discourses, and in the broader policy community. This critical engagement encompassed both the development of geographical knowledge and its application to finding solutions to real-world problems. As a member of the Bristol Spatial Modelling Group (BSMG) – now known as the Quantitative Spatial Science Research Group (QuSS; see Chapter 9) – I had the opportunity to be part of this dialogue, participating in often contested ontological and epistemological debates that went beyond the latest fashionable statistical techniques. In this spirit of critical engagement, I offer this chapter as a response to the recent QuSS manifesto for quantitative geography, focusing on its call to 'redouble our efforts to engage with the theoretical implications of causation in geography' (Wolf et al. 2021, p. 603).[1] This chapter is not a review of contemporary debates over causation and their implications for geography. Rather, the aim is to present a perspective on causal reasoning that I believe will allow us to make some headway in engaging with this aspect of the manifesto for quantitative human geography.

From the earliest days of the quantitative revolution through to the latest developments in geographical data science there has been a tension over the significance of theory and data in understanding the geographical world and bringing our knowledge to bear on public policy. At its inception, the quantitative revolution was supposed to entail a theoretically engaged empiricism, which involved a reorientation of human geography from 'mere' description to the search for empirical regularities between observed map patterns, from which it would be possible to test hypotheses and make inductive inferences to establish nomological laws. Oftentimes, quantitative human geography has been presented by both proponents and critics as a caricature of

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an unsustainable intellectual enterprise, grounded in a now widely discredited positivist conception of knowledge in general, and Humean conception of causal knowledge in particular. Typically, human geography's theoretical engagement with causation is seen through the lens of a critical realism, which has been influential in the broader social sciences in prosecuting the case that quantitative models and methodologies should be seen as, at best, providing summaries of empirical regularities rather than genuine knowledge of the causal mechanisms that determine the evolution of observed map patterns (Bhaskar 1975; Lawson 1997; Mäki 2001; Sayer 2000).

In this chapter I argue that nothing could be further from the truth. Recent years have witnessed an explosion of research on the meaning of causality, and on the nature and significance of causal reasoning in the social sciences (Cartwright 2007; Hoover 2008; Woodward 2003). Within the confines of a single chapter it would be challenging to do justice to the nuanced array of ontologies and epistemologies of causality that dominate the rapidly evolving intellectual landscape in econometrics, artificial intelligence and philosophy of science (Beebee 2014; Mackenzie and Pearl 2018; Reiss 2015). Rather, my strategy is to focus on the efficacy of a counterfactual theory of causation in establishing the conditions under which it is possible to establish cause and effect relationships in quantitative human geography. Here, I draw heavily on the theory of causation that has been developed by Hoover (2001) within the context of empirical macroeconomics. This approach has commonalities with the pathbreaking work of Pearl (2000) and Pearl, Glymour and Jewel (2019), employing graph theoretic representations to discover causal relationships in observational data. In turn, these approaches complement the recent new experimentalist revolution about causal reasoning based upon potential outcomes approaches (Angrist and Pischke 2015; Cunningham 2021; Morgan and Winship 2015). My rationale for focusing on recent developments in empirical macroeconometrics is threefold. First, there is a long and fertile history of adapting ideas developed in relatively simple recursive temporally dependent systems for the more general scenario of spatially interdependent and spatiotemporal systems (Bennett 1979; Hepple 1996; 2008). Second, it has been demonstrated that there is a formal equivalence between structural equation econometric models, graph theoretic models and potential outcome models of causation (Imbens 2020; Pearl 2020). Third, these are the models and methods with which I am most familiar from my own empirical research in economic geography.

Whilst it may be unfashionable in contemporary human geography, this chapter is grounded in an explicitly Humean standpoint regarding the possibility of causal knowledge of the world (Beebee 2016; Mackie 1980; McBreen 2007). This standpoint can encompass both conventional meaning-empiricist interpretations of causation that attempt to reduce causation to constant conjunctions (empirical regularities), and those interpretations that locate causation elsewhere, whether that be in causal talk and research practices (quasi-realism) or an external world (sceptical realism) (Beebee 2006;

Coventry 2006; Read and Richmond 2000). To begin to unpack the implications of this for how we might 'engage with the theoretical implication of causation in geography' in Section 10.1 of this chapter I consider the widely held trope that 'correlation is not causation'. Statistical thinking employs the language of probability, but this trope implies that there is something more to justifying inferring causes from correlations. Section 10.1 explores where we might look for that 'something more', using Bayes theorem as a heuristic tool with which to clarify the information and uncertainties that are involved in learning about causality from the data (Horwich 1993; 2011; Salmon 1990).

Beyond its use of as heuristic tool with which to explore themes in epistemology, Bayesian thinking is becoming a pervasive, and persuasive, way of thinking about both statistical inference and the logic of causal inference. These are themes that were explored at the inception of the quantitative revolution in human geography by another member of the BSMG: Les Hepple. In his much neglected but pioneering work, Les considered the difference that spatial processes, spatial structures and spatial patterns make for statistical thinking (Hepple 1995a; 1995b). Section 10.2 of this paper picks up on these themes, exploring the difference that geography makes when thinking about causal inference. During my time at Bristol these were themes that were the subject of lively debates between the members of the BSMG, revolving around broader debates about the relative significance of theory and data in acquiring knowledge and its application in the real world. Beyond our regular lunchtime meeting, I spent many hours debating Les Hepple over the relative merits of American pragmatism, especially in the work of Hilary Putnam (Hepple 1998; 2008). Since leaving the BSMG I have often had the opportunity to reflect on these critical engagements over the theory and practice of quantitative human geography. In section 10.3 I reflect on these critical engagements, considering the prospects of recent developments in the logic of probability and the logic of causality for bringing together statistical thinking, causal thinking and spatial thinking. I suggest that there is much to be learned from Ron's pragmatic approach to solving real-world geographical problems, Les's American pragmatism, and the Humean mitigated scepticism that I favour.[2]

10.1 Thinking causally, thinking statistically

Grounded in a metaphysically conservative mitigated scepticism, Hume argued from the empiricist standpoint that knowledge is derived from either sense experience or logic (Van Fraassen 2002). Whilst there is no *a priori* knowledge of what causes what, and no rational warrant for causal inferences about the world, we nonetheless are required to act upon the empirical regularities (constant conjunctions) that the world shows us. In his foundational analysis of the meaning of causality and the possibility of causal knowledge of the world, Hume offers the following definition of a cause, which is actually two definitions:

> We may define a cause to be an object, followed by another, and where all the objects similar to the first are followed by objects similar to the second. Or in other words where, if the first object had not been the second never had existed.[3]

To a meaning empiricist, talk of necessary connections, causal powers, mechanisms, forces and so on are meaningless because they are not amenable to sense experience. On the one hand, the world supplies observed patterns of events, 'an object, followed by another', and these are all we have to go on in coming to a causal interpretation of the world. This raises the question of how, if at all, we can learn about causal relations from the data. Using the language of probability, regularity theories attempt to reduce causality to inference from observed correlations (Hitchcock 2008). However, Hume also defines one event as causing another when the counterfactual statement that 'if one event were to happen then the second event had to happen', is satisfied. Quasi-realist interpretations of Hume embrace talk of causal powers, necessity and force as a product of a functional change in the mind, reflecting our confidence in making causal judgments from observing that events follow each other (Blackburn 1980). Here, counterfactuals are what the mind makes of sense experience, and causal necessity is a projection of our confidence that one event will follow another.

From the perspective of a transcendental realist theory of causation, empiricism commits the epistemic fallacy of reducing questions about the state of affairs that obtains in the world to how we learn about those causes. That is, empiricism conflates modal questions about the nature of the social world with the conditions of inference. In contrast to Hume's conservative metaphysics, transcendental realists propose an ontology that goes beyond sense data (experience) to embrace the existence of invariant unobserved structures, processes and tendencies which determine the state of affairs that is observed. Put differently, causal mechanisms generate empirical observations in the world, and causation is defined in terms of counterfactual invariance rather than in terms of empirical regularities. Critical realists go further, claiming that observing empirical regularities requires us to satisfy the conditions of system closure; something that is seldom achieved outside of idealised experiments. The conditions of closure are: (a) extrinsic: the phenomenon under investigation can be isolated from disturbing influences; and, (b) intrinsic: a cause always produces the same effect. It is human agency, through intervention (DOING), rather than passive observation (SEEING) that ensures that the conditions of closure are met under experimental conditions. In the absence of robust empirical regularities from which to infer causal relationships, realists need to provide a transcendental argument, typically dubbed abduction, or inference to the best explanation, to justify causal knowledge of the world.

The claim that there are no observable empirical regularities in the social sciences in general, and human geography in particular, seems to me to be unsustainable. Recent developments have put this into clear focus: 'big data' and machine learning 'data-mining' search strategies do not lack for empirical regularities. Whether these empirical regularities are the markers for the existence of necessary relations, either in an external social world, or as the product of a functional change in how we conceive of those regularities, is another question. Whilst they might disagree about the nature of causal modalities, Humean quasi-realists, skeptical realists and transcendental realists seem to agree that we need 'something more' than constant conjunctions (correlations) to justify our reasoning about causation in the social world. Hoover (2008) provides a classification of what that 'something more' might be, differentiating between informational and constitutional theories of causation. Informational approaches are essentially Humean regularity theories of causation in which the 'something more' is 'nothing more' in the sense that causation is reduced to the language of probability and the evidence contained in the observations from which we infer causal necessity or order (Henschen 2018b). For constitutive approaches, the existence of an invariant network of counterfactuals are fundamental, with causal mechanisms being encoded in our representations of those structures, typically as causal structural models (SCMs) and/or directed acyclical graph theoretic (DAG) models (Clarke 2018). Pragmatically, in theory-driven approaches, the causal structure is assumed to be correct and imposed *a priori,* with the strength of causal relationships estimated from the data. In contrast, in data-driven approaches, search algorithms are employed to discover causal structures from the patterns of probabilistic (in)dependence in the observations.

We can make some headway in thinking statistically about how to gain knowledge of the 'something more' by thinking about the relationship between theory and observation in the context of Bayesian epistemology. Initially, assume a Humean skeptical realism such that there exists a 'true' but unknown (and perhaps unknowable) data generation process (DGP) ($\aleph = \left[X, Y, Z, ..., \Theta\right]$). The social world provides us with observations, which are a realisation of the DGP and our measurement system, where $X = x, Y = y, Z = z, ...$ are observations produced by the network of counterfactual relationships existing between the measured variables $\left[X, Y, Z, ...\right]$, defined by the set of Θ parameters. If the phenomenon under investigation can be isolated from disturbing influences (*extrinsic condition of closure*) then we can validly partition the social world into a set of (endogenous) variables that are represented in an empirical model of the DGP $W = \left[X, Y, Z\right]$ and those (*exogenous*) variables $V = \left[.....\right]$ that are omitted from our representation. Satisfying the *intrinsic condition of closure* such that a cause always produces the same effect is defined in terms of the *invariance* of the set of parameters $\theta = \left[\theta_x, \theta_y, \theta_z\right]$ with respect to changes in either the partition between endogenous and exogenous variables or the set of observations.

Bayes's theorem is a piece of mathematics and a logic of inference that can be usefully employed in thinking statistically about how we use information provided by observations to learn about the social world using causal models (CM). Formally, Bayes's theorem states that our *posterior* degree of belief in a CM conditional on the evidence [$P(\theta \mid W)$] is equal to the product of our prior degree of belief [$P(\theta)$] and the likelihood of the evidence conditional on the CM [$P(W \mid \theta)$], divided by the expectedness of the evidence [$P(W)$], which is the inverse of how surprising is the evidence:

$$P(\theta \mid W) = \frac{P(W \mid \theta)P(\theta)}{P(W)}. \tag{10.1}$$

Here, probability is defined as epistemological uncertainty, measuring our subjective ignorance or lack of knowledge (Jeffrey 2002). Consistent with a meaning-empiricist interpretation, causal inference depends on the likelihood principle, which states that all the evidential information about θ, after W is observed, is contained in the likelihood function. That is, only $X = x, Y = y, Z = z$ are relevant in making inferences about θ (Hacking 1965). Beyond the likelihood ratio, Bayesian confirmation theory can accomodate both skeptical realism and quasi-realist readings of Humean causation, capturing the assumption of complete ignorance of the constitution of the social world through uniform prior probabilities, with changes in the posterior probability reflecting changes in our degree of belief in theories of that social world in light of the evidence.

A probabilistic theory of causation is a matter of 'probability raising'. Omitting the parameters in Equation (10.1) for expositional clarity, X is a *prima facia* cause of Y if the conditional probability of Y, given X, is greater than the marginal distribution of Y, and vice versa. That is, X causes Y if $P(Y = y|X = x) > P(Y = y)$ and Y causes X if $P(X = x \mid Y = y) > P(X = x)$. The trope that 'correlation isn't causation' stems, at least in part, from the fact that the probability calculus is symmetric, whereas causation is an asymmetric relationship. This manifests itself in the problems of distinguishing between both genuine and spurious causes and, also, observationally equivalent causal structures. As is widely known, it is possible to conditionalise and marginalise the likelihood function $P(W)$ into CMs representing respectively: (a) confounding, (a) common cause and (c) common effect causal structures (Pearl, Glymour and Jewell 2019). Insert 10.1 shows the causal order for these CMs in terms of both directed acyclical graphs (DAG) and recursive structural equation representations (SEM) of the network of counterfactual relationships between the set of endogenous variables.

Using Bayesian confirmation theory, learning about causality from observation can be considered as a comparative testing problem, evaluating the degree of support for competing causal orders using the information contained in

Insert 10.1: Observationally equivalent recursive causal structures

Define SEEING as the conditional probability models that generate an observationally equivalent joint probability distribution. In the case of the linear simultaneous equations example in this table, this observational equivalent can be tested as zero restrictions on the parameters defining the hypothesised causal structures representing confounders, common causes or common effects.

Define DOING as interventions or manipulations that fixed the values of variables, thereby imposing an exogenous structure on the network of relationships. For example, fixing $Z = z^{\star}$, breaks the probabilistic link in the system of simultaneously equations. Here, it is possible to test between confounders, common causes and common effect based upon the structure relationships that remain invariant under these interventions.

(a) Confounder

$$P(W) = P(X,Y,Z) = P(X \mid Y,Z)P(Y \mid Z)P(Z)$$

$$\begin{bmatrix} X \\ Y \\ Z \end{bmatrix} = \begin{bmatrix} 0 & \theta_{12} & \theta_{13} \\ 0 & 0 & \theta_{23} \\ 0 & 0 & 0 \end{bmatrix} \begin{bmatrix} X \\ Y \\ Z \end{bmatrix} + \begin{bmatrix} V_X \\ V_y \\ V_z \end{bmatrix}$$

SEEING	DOING
$X = \theta_{12}Y + \theta_{13}Z + V_x$	$X = \theta_{12}Y + \theta_{13}Z + V_x$
$Y = \theta_{23}Z + V_y$	$Y = \theta_{23}z^{\star} + V_y$
$Z = V_z$	$Z = z^{\star}$

(b) Common Cause

$$P(W) = P(X,Y,Z) = P(X \mid Y,Z)P(Z \mid Y)P(Y)$$

$$\begin{bmatrix} X \\ Y \\ Z \end{bmatrix} = \begin{bmatrix} 0 & \theta_{12} & \theta_{13} \\ 0 & 0 & 0 \\ 0 & \theta_{32} & 0 \end{bmatrix} \begin{bmatrix} X \\ Y \\ Z \end{bmatrix} + \begin{bmatrix} V_X \\ V_y \\ V_z \end{bmatrix}$$

SEEING	DOING
$X = \theta_{12}Y + \theta_{13}Z + V_x$	$X = \theta_{12}Y + \theta_{13}Z + V_x$
$Y = V_y$	$Y = y^*$
$Z = \theta_{32}Y + V_z$	$Z = \theta_{32}y^* + V_z$

(c) Common effect (unshielded collider)

$$P(W) = P(X,Y,Z) = P(Y \mid X,Z)P(X \mid Z)P(Z)$$

$$\begin{bmatrix} X \\ Y \\ Z \end{bmatrix} = \begin{bmatrix} 0 & 0 & \theta_{13} \\ \theta_{21} & 0 & \theta_{23} \\ 0 & 0 & 0 \end{bmatrix} \begin{bmatrix} X \\ Y \\ Z \end{bmatrix} + \begin{bmatrix} V_x \\ V_y \\ V_z \end{bmatrix}$$

SEEING	DOING
$X = \theta_{13}Z + V_x$	$X = \theta_{13}z^* + V_x$
$Y = \theta_{21}X + \theta_{23}Z + V_y$	$Y = \theta_{21}X + \theta_{23}Z + V_y$
$Z = V_z$	

the likelihood ratio and the prior probabilities (Sober 1993). Here inferring probabilistic causality from observation entails testing for 'probability raising' by evaluating probabilistic independence or, equivalently, testing for restrictions on the parameters of the CM. As it stands, the CMs in Insert 10.1 are observationally equivalent in the sense that the different causal structures are partitions of the joint probability distribution that have the same likelihood functions. According to the likelihood principle, this means that they are evidentially equivalent. If we are to make any progress in learning about causal structures from observation we need to go beyond this likelihood function. For Humean regularity theorists the 'something more' that breaks the

symmetry of observational equivalence comes from either employing algorithms to search for patterns of probabilistic (in)dependence in the data, or embracing the assumption of temporal precedence such that causes precede effects (Hoover 2005). For counterfactual theories the 'something more' comes from either imposing *a priori* theoretical restrictions on the possible patterns of probabilistic dependence, or from manipulations in the causal structure through experimental design or policy interventions (Henschen 2018a).

Consider a generalisation of the likelihood function that incorporates both contemporaneous and temporal dependence, where $W_{t\text{-}1} = \left[W_{t\text{-}1}, W_{t\text{-}2}, \ldots..\right]$ is the history of the system variables. To focus on the logic of causal inference in the context of patterns of probabilistic dependence, assume that Z can be impounded in a set of exogenous variables U, such that the subset of variables $Q = \left[X, Y\right]$. That is, the joint probability can be partitioned into a conditional and marginal probability:

$$P\left(W_t | W_{t-1}, \theta\right) = P\left(Z_t | Q_t, Q_{t-1}, \theta_z\right) P\left(Q_t | Q_{t-1}, \theta_v\right) \tag{10.2}$$

where $P\left(Z_t | Q_t, Q_{t-1}, \theta_z\right) = P\left(Z_t | \theta_z\right)$ satisfies the *extrinsic condition of closure*, with Z being isolated from disturbances in $Q = \left[X, Y\right]$.

From the perspective of contemporary dynamic econometrics, learning about causality from observation takes place in the context of a hierarchy of exogeneity testing, employing a hierarchy of exogeneity concept of 'weak', 'strong', and 'super' exogeneity (Engle, Hendry and Richard 1983). First, 'weak' exogeneity is defined as a valid conditioning in the sense that there is no information loss in partitioning the joint probability into a conditional and marginal probability, where the marginal probability can be ignored for purposes of inference:

$$P\left(Q_t | Q_{t-1}, \theta_v\right) = P\left(Y_t | X_t, Q_{t-1}, \theta_{y|x}\right) P\left(X_t, Q_{t-1}, \theta_x\right). \tag{10.3}$$

A key assumption is that the parameters $\left(\theta_{y|x}, \theta_x\right)$ are free to vary in the parameter space, with no cross equation restrictions. It is noteworthy that failure of 'weak' exogeneity due to cross equation restriction can occur because of non-linearities, rational expectations (Lucas Critique),[4] or optimal control policy reaction functions. Secondly, 'strong' exogeneity, often referred to as Granger causality,[5] is an explicitly temporal test for feedback between variables by imposing zero restrictions on the lagged variables:

$$P\left(Q_t | Q_{t-1}, \theta_v\right) = P\left(Y_t | X_t, Y_{t-1}, \theta_{y|x}\right) P\left(X_t, Y_{t-1}, \theta_x\right). \tag{10.4}$$

Lastly, 'super' exogeneity is defined by the condition that the parameters of the conditional probability do not change with changes in the parameters of the marginal probability. This encompasses both parameter constancy over time $P(Y_t \mid X_t, Q_{t-1}, \theta_{y|x,t})P\left(X_t, Q_{t-1}, \theta_{x,t}\right)$, such that $\theta_{y|x,t} = \theta_{y|x} \forall t \in T$, $\theta_{x,t} = \theta_x \forall t \in T$, and invariance to changes resulting from policy interventions. Assume that there are interventions I_x that change the marginal probability $P\left(X_t, Q_{t-1}, I_x, \theta_x\right)$, then invariance is defined by the condition that the parameters of the conditional probability satisfy the *intrinsic condition of closure* such that a cause always produces the same effect:

$$P(Y_t \mid X_t, Q_{t-1}, I_x, \theta_{y|x}) = P(Y_t \mid X_t, Q_{t-1}, \theta_{y|x}). \tag{10.5}$$

By way of illustration of the implications of this hierarchy of exogeneity for thinking about causality, consider the relationship between a structural vector autoregression (SVAR) and a reduced form vector autoregressive (VAR) representation of the potential causal relations between the endogenous variables $Q = \left[X, Y\right]$ and exogenous variables $V = \left[.....\right]$. Let A_0 be a matrix of parameters representing the network of interdependencies defining contemporaneous causal order as, for example, in Insert 10.1. Typically, the SM and DAGs that are embedded in SVAR and VAR representations of causal order assume recursive structure in the causal order of variables. Allowing for temporal dependence in the form of an autoregressive structure, where $A\left(L\right)$ is a matrix of dynamic adjustment parameters and L is the length:

$$A_0 W_t = A\left(L\right)W_t + V_t \; V_t \sim N\left(0, \Sigma\right) \tag{10.6}$$

where, by assumption, $\Sigma = E\left(VV^T\right)$ is a diagonal variance-covariance matrix of structurally independent shocks. Rearranging as a reduced form VAR:

$$W_t = A_0^{-1} A\left(L\right)W_t + A_0^{-1} V_t = B\left(L\right)W_t + U_t \tag{10.7}$$

where $B\left(L\right) = A_0^{-1} A\left(L\right)$, $U_t = A_0^{-1} V_t$, and where $\Lambda = E\left(UU^T\right)$ defines a non-diagonal variance-covariance matrix.

In the context of thinking about causality, the aim is to recover the contemporaneous causal interdependencies as represented in a structural vector autoregression (SVAR) from a reduced form vector autoregression (VAR) using observations on $Q = \left[X, Y\right]$ (Kilian and Lutkepohl 2017). To move between the VAR and SVAR representations it is necessary to diagonalise

this variance-covariance matrix, $\Sigma = E(A_0^{-1}V, \left(A_0^{-1}V\right)^T)$. Here, the problem of observational equivalence manifests in the fact that A_0^{-1} is not unique because there exists alternative orthogonal linear transformations (Cholesky decompositions) P^{-1} for which there is a different causal ordering having the same likelihood functions, $\Omega = E(P^{-1}V, \left(P^{-1}V\right)^T)$.

Assuming that the dynamics are restricted to a first order autoregressive process, L=1:

Structural vector autoregression (SVAR) representation:

$$Y_t = \rho X_t + \beta_{11} Y_{t-1} + \beta_{12} X_{t-1} + \nu_{1t}$$

$$X_t = \lambda Y_t + \beta_{21} Y_{t-1} + \beta_{22} X_{t-1} + \nu_{2t} \tag{10.8}$$

Vector autoregressive representation (VAR):

$$Y_t = \Pi_{11} Y_{t-1} + \Pi_{12} X_{t-1} + \varepsilon_{2t}$$

$$X_t = \Pi_{21} Y_{t-1} + \Pi_{22} X_{t-1} + \varepsilon_{2t} \tag{10.9}$$

where the relationship between the parameters of the SVAR and VAR representations are defined as follows:

$$\Pi_{11} = \frac{\beta_{11} + \rho\beta_{21}}{1 - \rho\lambda} \quad \Pi_{12} = \frac{\beta_{12} + \rho\beta_{22}}{1 - \rho\lambda} \quad \Pi_{21} = \frac{\beta_{21} + \lambda\beta_{11}}{1 - \rho\lambda} \quad \Pi_{22} = \frac{\beta_{22} + \lambda\beta_{12}}{1 - \rho\lambda}$$

$$\epsilon_{1t} = \frac{\nu_{1t} + \rho\nu_{2t}}{1 - \rho\lambda} \quad \epsilon_{2t} = \frac{\nu_{2t} + \lambda\nu_{1t}}{1 - \rho\lambda}$$

The hierarchy of exogeneity concepts maps into the information requirements for efficient and consistent parameter estimation ('weak' exogeneity), forecasting ('strong' exogeneity), and policy evaluation ('super' exogeneity) (Pretis 2021). First, in this simple dynamic system if there is predetermined feedback, for example, $Y_{t-1} \rightarrow X_{t-1} \rightarrow Y_t$, 'weak' exogeneity holds if either $\rho = 0$ or $\lambda = 0$, in which case $\epsilon_{1t} = \nu_{1t}$ and $\epsilon_{2t} = \nu_{2t}$. In general, agency undermines 'weak' exogeneity when cross equation restrictions are imposed due to, for example, rational expectation $\lambda\beta_{11} = -\beta_{21}$, or optimal policy reaction functions, such as $\theta = 0$, $\beta_{11} = -\frac{\lambda}{\beta_{21}}$, $\beta_{21} = \frac{-\beta_{22}}{\lambda}$. Second, if there is neither

contemporaneous nor lagged feedback then 'strong' exogeneity holds for X_t if $\rho = \beta_{21} = 0$. Finally, 'super' exogeneity holds if the parameters in the conditional model $(\rho, \beta_{11}, \beta_{12}, \nu_1)$ are constant over time and structurally invariant with respect to changes in the parameters in the marginal model $(\beta_{21}, \beta_{22}, \nu_2)$.

More broadly, the strategy of conditioning and marginalising joint probability distributions allows us to make some headway in thinking statistically about causality. Satisfying both the intrinsic and extrinsic conditions of closure are testable hypotheses that are imposed on the likelihood functions rather than *a priori* epistemological and ontological commitments. Pragmatically, using the likelihood principle and the hierarchy of exogeneity testing provides a suite of tools with which to address the problems of distinguishing between genuine and spurious causes and observationally equivalent causal structures. On the one hand, informational approaches that focus on temporal dependence as the marker of causality find a home in testing for 'strong' exogeneity in the context of a reduced form VAR model. In contrast, constitutional approaches that prioritise counterfactual structures that go beyond correlation are embodied in the concept of 'super' exogeneity and testing for invariance under manipulation and policy interventions. Beyond the likelihood principle, Bayesian confirmation theory allows us to address the issue of the 'something more' beyond empirical regularities, a topic that is critical to Humean interpretations of causal inference, to which I will return in the final section of this chapter.

10.2 Thinking spatially, thinking statistically

Since its inception at the beginning of the quantitative revolution, a key mantra to thinking statistically about the social world has been the difference that geography makes. In contemporary discourse, this covers a myriad of techniques and methodologies encompassing data visualisation, exploratory spatial data analysis, confirmatory data analysis and spatial data mining (Haining 2003). In particular, recent advances in thinking spatially and thinking statistically have focused both on Bayesian hierarchical modelling and spatial econometric modelling (Haining and Li 2020). The aforementioned BSMG member, Les Hepple (who is seen with Ron in the photo in the Epilogue of this book; Figure E.3), was one of the first generation of geographers to engage with the difference that spatial processes, spatial structures and spatial patterns make for statistical thinking (Hepple 1995a; 1995b). Early on, a number of researchers recognised that temporal dependence is non-recursive, whereas spatial interdependencies can be recursive with implications for thinking about statistical inference (Hepple 1996). Les was well ahead of his time in employing an explicitly Bayesian modelling

methodology to consider the difference that spatial interdependencies and spatial structure make when thinking statistically (cf. Elhorst 2010; Le Sage and Pace 2009). This section of the chapter picks up on these themes, exploring the difference that geography makes when thinking about causal inference in terms of the hierarchy of exogeneity testing articulated in the previous section.

Les was one of the first generation of quantitative geographers at Bristol (and elsewhere) who were instrumental in developing the concepts that were considered essential to describe and explain observed map patterns (Cliff and Ord 1981; Cliff et al. 1975; Haggett, Cliff and Frey 1977). Thinking spatially involved representing the dynamics of multilocational systems in terms of the spatial configuration of some entities (spatial structure) and the flows (spatial interactions) generated by that system. Geographical theories tended to focus on one of: (a) models of spatial structure, where the spatial distribution of entities and their properties are explained, dependent on assumptions about flows; (b) models of spatial interaction, which explain flows between entities given a spatial distribution of those entities; and, (c) models of structure-interaction adjustment between the spatial distribution of entities and the flows that they generate (Bennett and Haining 1985; Bennett, Haining and Wilson 1985). Mapping these key geographical concepts into the logic of Bayesian epistemology (Equation (10.1)), at any given time, $X = x, Y = y, Z = z, \ldots$ are a realisation of the data generation process, which results in a spatial distribution for each variable in the system $W = [X, Y, Z]$. Over time, the data generation process produces a sequence of map patterns for each of the variables in the system, which can be defined as a spatial data matrix of attributes, location and time. The spatial and temporal correlations between this sequence of map patterns are the result of data generation processes that can encompass diffusion processes, dispersal processes, exchange and transfer processes, and spatial interactions. Often generically dubbed spatial processes, these represent a network of counterfactuals relationships that are defined by a set of Θ parameters that includes contextual and peer group effects, distance and proximity effects, spatial gradients and the effects of spatial configurations on flows in a multilocational system (Haining 2014).

Building on Curry's (1998) pathbreaking work on the evolving landscape as a 'going concern' (see also, Sheppard 2000), I have argued elsewhere for a socio-spatial ontology that is grounded in a socio-spatial dialectic in which there is a dynamic interdependence between socio-economic processes and spatial structures (Plummer and Sheppard 2006; 2007; 2012). At any given time, the nature and extent of spatial interdependences are constrained by spatial structures, but over time they are mutually constrained, with spatial structures reproduced through socio-economic processes. This conceptualisation of space moves beyond Newtonian notions of exogenous space, frictions of distance and distance decay to consider the social nature of distance, where space is endogenous and uneven (Sheppard 1979). That is, the socio-spatial dialectic posits that the closeness of places is not simply a function of

Euclidean distance separating them but of the intensity and ease of interactions connecting them. Rather than assume *a priori* that space is an exogenous causal variable, thinking spatially and thinking statistically allows us to employ the hierarchy of 'exogeneity' concepts as a testing methodology, using empirical evidence to discriminate between exogenous and endogenous hypotheses regarding the feedback mechanisms operating between spatial interdependencies and spatial structures.

The previous section outlined the logic of causality and exogeneity testing in the context of an aspatial SCM and DAG modelling methodology, and the canonical SVAR and VAR dynamic econometric model specifications. When thinking spatially about the theoretical characteristics and assumptions of dynamic econometric models adapted to the geographical context, both SCM and DAG models effectively treat spatial units as a set of hermetically sealed spaceships or spatially independent dynamic systems (Hepple 1996). Generalising these theoretical characteristics to dynamic spatially interdependent systems, the same logic of conditioning and marginalisation with respect to a joint probability distribution and theory of reduction can be employed to explore the difference that thinking spatially makes to thinking statistically about causality. Put differently, it is necessary to consider the implications of the potential feedback relationship between spatial patterns, spatial configurations and spatial interdependencies for the logic of exogeneity testing and, hence, causal thinking in geography.

Assume a spatio-temporal data generation process operating in the social world that can be conceptualised as a generalisation of the causally recursive structure defined by Equation (10.3). In the context of spatially interdependent dynamic systems, the observations, Q_t, are now defined by a spatial data matrix representing the attributes of a sequence of map patterns, F_t is a matrix representing the spatial configuration of the system at time *t*, and θ_{xF} are the parameters representing both the relationships between the system variables and the spatial configuration of those spatial entities:

$$P(Q_t|Q_{t-1},F_t,\theta_v) = P(Y_t|X_t,Q_{t-1},F_t,\theta_{y|xF})P(X_t|Q_{t-1},F_t,\theta_{xF})P(F_t|Q_{t-1},\theta_F). \quad (10.11)$$

First, 'weak' exogeneity testing depends on the valid conditioning of the spatially interdependent system into exogenous and endogenous variables. Typically, in spatial econometrics, this is based upon *a priori* theory rather than as part of a more general strategy of exogeneity testing. In addition to this conditioning, there exist endogenous spatial effects which are derived from assumptions regarding the nature and extent of spatially interdependencies between localities. As regards 'weak' exogeneity, the challenge is to obtain consistent estimators of spatial models in the context of endogenous spatial effects; this has been widely studied in both the spatial econometrics and Bayesian hierarchical modelling literature (Fingleton and Le Gallo 2010; Haining and Li 2020). A distinguishing characteristic when modelling spatially

interdependent systems is that the system dynamics are conditioned on the spatial configuration of the system (that is, $P(F_t \mid Q_{t-1}, \theta_F)$). In practice it is typically assumed that space is exogenous such that there is neither contemporaneous nor pre-determined feedback between the variables defining the system and the spatial configuration of the system: $P(F_t \mid Q_{t-1}, \theta_F) = P(F_t \mid \theta_F)$. Conventionally, the spatial configuration of the system is represented by a spatial weights matrix defining the nature and extent of interdependencies between spatial units (Anselin 2010; Elhorst 2013).

Second, if 'strong' exogeneity holds, then spatio-temporal dynamics can be reduced to a sequence of map patterns that are temporally independent such that $P(Q_t \mid F_t, \theta_v) = P(Y_t \mid X_t, F_t, \theta_{y|xF}) P(X_t \mid F_t, \theta_{xF}) P(F_t \mid \theta_F)$. Effectively, this defines a cross-sectional model for which there exists a family of spatial econometric model specifications (SEM). The structural form of these models depends on valid conditioning in the partition of endogenous and exogenous variables, where the reduced form of the model is expressed in terms of the exogenous variables and a spatial multiplier (Anselin 2002). Here, the canonical models are a spatial analogues of conventional dynamics macroeconomic models: a 'neighbours' spatial autoregressive model (SAR), an 'externalities' spatial spillover model (SLX) and an 'omitted' variable spatial error model (SEM) (Anselin 2003). The focus is on model interpretation, model specification and model comparison using exclusion restrictions to test for 'strong' exogeneity. As with both SCM and DAGs, these modelling strategies face the challenges of observationally equivalence in identifying structural spatial model. Indeed, Gibbons and Overman (2012) suggest that there are perhaps insurmountable challenges in identifying the structural form of spatial processed from reduced form spatial model specifications without assuming prior knowledge of the data generation process (Holmes 2010; Pinske and Slade 2010).

Finally, the conditions defining counterfactual causality and 'super' exogeneity holds when the parameters of the conditional probabilities are stable over time and invariant with respect to changes in the marginal probabilities either through changes in regimes or policy interventions. That is, in the spatial system $Q = [X, Y]$ there is evidence that X causes Y if the following condition holds for the sequence of map patterns of Y conditional on the sequence of map patterns generating X and the processes generating the spatial structure of the system:

$$P(Y_t \mid X_t, Q_{t-1}, I_{x,F}, A_t, \theta_{y|xF}) = P(Y_t \mid X_t, Q_{t-1}, F_t, \theta_{y|xF}) \tag{10.12}$$

where $I_{x,A}$ represents interventions in either the process generating the (X) map patterns, $P(X_t \mid Q_{t-1}, I_{x,F}, F_t, \theta_{xF})$ or the spatial structure of the system (F), $P(F_t \mid Q_{t-1}, I_{x,F}, \theta_F)$. In multilocational systems, these policy interventions could be 'global' in the sense that they are operated on all locations

simultaneously or 'local' in the sense that they are the result of geographically targeting or geographically tailoring policy initiatives to subsets of localities. The challenges of identifying 'super' exogeneity and invariant networks of counterfactual relationships are likely to be exacerbated by the nature and extent of spatial interdependencies and potentially endogenously generated spatial structures.

10.3 Conclusion

The BSMG manifesto (see Introduction to this chapter) suggests that we need to 'redouble our efforts to engage with the theoretical implications of causality'. To make headway in engaging with this manifesto, I have attempted to unpack the trope that 'correlation isn't causation' by exploring the relationship between statistical thinking, causal thinking and spatial thinking. This entails critical engagement with questions of how to use empirical evidence to decide '*what causes what*', and the potentials and limitations of causal knowledge of the geographical world. For regularity and probabilistic theories of causality the 'difference making' comes from the presumption that causes raise the probability of effects, whereas for counterfactual theories it comes from invariance with respect to interventions. Drawing on counterfactual theories of causation, causal knowledge is possible in so far as empirical regularities are the consequence of the existence of causal structures, providing evidence for those causal structures. Accordingly, causal reasoning comes from both representing and intervening in networks of counterfactual relationships, which requires 'something more' than the calculus of probability. In contrast to critical realism, the intrinsic and extrinsic conditions of closure that are required to sustain causal knowledge are testable propositions rather than *a priori* ontological commitments. As a corollary, in addition to conventional model specification and diagnostic testing, causal knowledge requires embedding 'exogeneity' testing into the theory and practice of quantitative geography.

More broadly, engaging with the theoretical implications of causality raises questions about both the ontological and epistemological status of our claims to causal knowledge of the geographical world and the practice of quantitative geographers in bringing evidence to bear on our explanations claims about that world. Based upon conversations when I was a member of the BSMG, my sense is that Ron would embrace the position that the theoretical implications of causality are 'difference making' in so far as they help us solve real-world geographical problems, particularly those that are grounded in evidence-based policy. This is a theme that resonates with the type of American pragmatism advocated by Les Hepple and, perhaps more broadly, within contemporary human geographic discourse. At the time, I was more inspired by Putnam's (1975) claim that realism is the only philosophy of science that doesn't make the success of science a miracle. Interpreting the 'early' realist and 'later' pragmatist, Putnam's viewpoint was something upon which

Les and I had many fruitful discussions, but about which we were seldom in agreement. I know that Les thought that employing transcendental arguments to support the 'truth' status of causal claims based upon empirical regularities was hopelessly unrealistic. Hovering in the background of this chapter is the recognition that Les was probably correct, especially in his insistence on distinguishing between philosophical and practical reasoning.

In this chapter, I have adopted the stance of Humean mitigated scepticism regarding the relationship between philosophical and practical reasoning about the 'something more' that is required for causal knowledge. It is possible to accept a realist social ontology that posits *a priori* the existence of a real and independent social world, whilst remaining agnostic about the nature of that social world. Following Hume, scepticism embraces the impossibility of obtaining certain knowledge of causal (necessary) relations based upon either *a prior* reasoning or *a posteriori* contingent (constant conjunctions) observations. However, this scepticism is mitigated by the fact that 'nature' compels us to hold those beliefs if we are to function as actors in that social world. Here, counterfactual causal theories that rely on observation (SEEING) and intervention (DOING) to learn about the 'cement of the universe' puts centre stage the question of the epistemic standards that are warranted as agents in the geographical world. By combining our subjective degree of belief with the likelihood principle, which gives us evidence regarding one causal hypothesis over another, we can determine what it is reasonable to believe about the causal structure of a system. I contend that this form of subjective Bayesianism provides us with the epistemic standards that make it possible to have non-conclusive reasons for believing in the existence of causal relations. I don't know whether my Humean mitigated scepticism is something about which either Ron or Les would have approved but I would have enjoyed the prospect of lively and critical engagement with my friends and colleagues. Beyond the personal loss, it is a professional loss that they are no longer around to move the debates forward and make headway in the development of quantitative geography.

Notes

[1] This paper is part of a series: see also, Johnston et al. (2018, 2019).

[2] Although the previous chapter, written by present members of Bristol's Spatial Modelling group, makes less reference to causation, it remains a topic of interest amongst its members: see, for example, https://spatialcausal.org/, which is due to be published as a book.

[3] The quote is from paragraph 60 of Section 6 at www.gutenberg.org/files/9662/9662-h/9662-h.htm [Accessed 19 August 2025]. It is extracted from Hume (1975 [originally 1748 and 1751]).

[4] See www.econlib.org/library/Enc/bios/Lucas.html [Accessed 19 August 2025].

[5] See www.sciencedirect.com/topics/social-sciences/granger-causality [Accessed 19 August 2025].

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11. Decolonial openings of Ron Johnston's legacy: how to avoid new amnesias

Federico Ferretti

All along the seven editions of his key work *Geography and Geographers: Anglo–American Human Geography since 1945* [hereafter *G&G*] and related discussions, Ron Johnston offered remarkable examples of self-reflectivity. Stimulated by critics who stressed the need to foster plural views on the increasingly complex and multifaceted field of geography by including approaches such as (among others) feminism, gender studies, race studies, transnationalism, postcolonialism and decoloniality, Johnston fully recognised the urgency of a collective engagement to write 'different stories' from the 'margins' of the discipline, that fully consider those that are told from standpoints other than the Anglo-American ones. Johnston was well aware that we are never writing *the* history of geography, but only *a* history. This is the first reason for which, within the majestic Johnston opus, I chose to focus on *G&G*, to first explore the decolonial openings that can be inspired by Johnston's intellectual legacy. Drawing upon decolonial debates within and outside the Anglosphere on the need of wider inclusion in the discipline (theory and practice), and starting from *G&G*, my aim is to provide theoretical and methodological insights for writing new global, plural, cosmopolitan and multilingual histories of geography by recovering neglected people, ideas, places and moments in this field of study.

The second reason for choosing *G&G* is that I am especially interested in the history and philosophy of geography, a field of which Johnston's work was considered a masterpiece since its first appearance in 1979. Consistent with this book's editors' aim to 'look towards the future' while 'looking backward' (see Chapter 1), I argue for ending with Anglo-American centralities by performing an effective multilingual, transnational and 'undisciplined' turn in geographical scholarship. An important part of this task is the inclusion, in disciplinary histories, of sources such as archives of 'marginalia', 'grey materials' and personal memories whose employ Johnston deemed necessary in doing historical and theoretical work on what geography was, is and should be.

In the first part of this chapter, I broadly discuss the scholarly tendences to which I contend that *G&G* can still talk. In the second part, I address the need

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for geographers to value their histories being wary of disciplinary boundaries, which can include being also historians as Johnston was. Importantly, Johnston came to address the philosophy and history of geography after gaining scholarly respect in other subdisciplinary fields given that, as noted by Castree (2021, p. 4), he was also 'a leading figure in urban geography, in political geography [… and] in quantitative research methods'. Therefore, his trajectory provides an example that other geographers should follow when it comes to addressing historical themes. In the third part, drawing upon current scholarship on the pluriverse as one of the possible ways to decolonise the history of geography, I address matters of multilingualism and inter/transnationalism in geography. In the fourth part, I discuss the need for decolonising geography (also) through practices, which means going beyond our academic environments by valuing activism and public engagement.

I finally argue that social and political engagement within and outside universities is the true way for rendering geography relevant, building from its alternative philosophies and histories that allow for proudly challenging current technocratic and neoliberal rhetoric on 'relevance' only understood in terms of financial viability, commodification of knowledge and student 'employability'.

11.1 Worlding and diversifying histories of geography

As discussed by anarchist geographical scholarship (Springer 2016; Springer, Souza and White 2016; Barrera 2021), un-disciplining the discipline means enlarging the cultural, linguistic, spatial and methodological scope of geographical histories, and being aware that, for such tasks, pure academic theorising can hardly be 'relevant' if it is not linked to practices such as public participation, activism and, more broadly, social engagement beyond academia. As I discuss below, the very idea of decolonising disciplines through practices and beyond campuses is key within current rich and burgeoning strands of literature in the field of decoloniality (Esson et al. 2017; Mignolo and Escobar 2010; Radcliffe 2017). More recently, geographers have started to propose decolonial understandings of notions such as 'worlding' or 'reworlding' (Müller 2021; Tornel and Lunden 2022) alongside radical understandings of the 'pluriverse' (Ince and Barrera de la Torre 2024) to indicate the need of pluralising its very places, languages, and epistemes towards what has been defined a radical and multilingual turn (Ferretti 2022), cognisant that practices of translation and translocation are never neutral (Davies 2024; Zaragocin 2024).

Additionally, I extend French scholarship advocating for an 'inclusive history of the humanities and social sciences' (Feuerhahn and Orain 2019), able at the same time to overtake Eurocentrism and to 'undiscipline' the disciplines by questioning boundaries existing between different fields of study. In this sense, Feuerhahn and Orain

> do not endorse the division between "humanities" and "social sciences"; we do not favour a subset like the behavioral sciences. We are as interested in one field as in another and especially in the history of the divisions and partitions, as in what precedes them, subverts them, or smoothes out their specificities. We do not defend one definition of the humanities and social sciences against another. Everything interests (Feuerhahn and Orain 2019, n.p.).

From these open-minded and pluralistic grounds, these scholars reject presentism intended as projecting concerns of the present over the past, but do not deny that the past, when correctly handled, can inspire the present, which is one of my key contentions in this chapter.

Extending Johnston's legacy in similar pluralistic and pluriversal directions means at the same time being faithful to the legacy of a curious person, open to all kinds of intellectual stimulations as Johnston was, and prefiguring new geographies whose centre should be everywhere and the periphery nowhere, as Elisée Reclus (1830–1905) wanted the globe (intended as a human whole community or ecumene) to be, one century and a half ago (Ferretti 2007). Among the seven editions of Johnston's book, I consider here the last one (Johnston and Sidaway 2016) because, in addition of being the arguably most 'mature' version, it is also one of those that were enriched by the co-authorship of James Sidaway, whose works point exactly to some of the directions where I wish to steer my discussion. Sidaway's contribution was acknowledged as substantial by Johnston's himself after the earliest (2004) of their co-authored editions (Johnston 2007).

If one wishes to start from the voids to fill, the first point to note is that the selective nature of *G&G*, like any other summa of the accomplishments that a field of study has reached over a determined period, was overtly admitted by Johnston, who responded to some of the latest public commentaries on his book by claiming that it was 'a history, but certainly not the history' (Johnston 2019, p. 246) of geographical thought (see, also, the Preface to this volume). Among the commentators in the 2019 RGS-IBG session organised by James Sidaway, Michiel Van Meeteren and Colin Flint as both a tribute and a critical return on Johnston's work, and on Peter Taylor's *Political Geography: World Economy, National-State and Locality* (Sidaway, Van Meeteren and Flint 2020), McConnell (2020, p. 1) explicitly deals with the notion of 'margins', noting that

> Both books are written from the perspective of the core, yet, margins, in various guises, are frequently mentioned in both texts and in many ways underpin the political agenda behind these volumes.

In the case of *G&G*, these were the margins of the discipline, namely all the voices that were silenced or marginalised because their respective speakers, themes or places of enunciation fell outside the established and consecrated academic paradigms of a certain epoch due to social, ideological, gender,

ethnic, linguistic or geographical reasons (Ferretti 2019a). Nevertheless, McConnell acknowledges substantial changes across the seven editions of *G&G*, from 1979 to 2016, noting how the latest ones are more cognisant of matters with

> Silences and alternative voices in the history of geography, with expanded chapters on radical, postcolonial and feminist geographies, and a final chapter that strikes a refreshingly reflexive tone about the partial nature of knowledge production (McConnell 2020, p. 2).

It is from these enrichments that I would like to restart on proposing new avenues to expand geographies' memories, including the aforementioned critique of the very Kuhnian notion of scientific paradigm.

Johnston was likewise sensitive to this matter, recognising that, when he started working on *G&G* in the 1970s, he was '[d]eeply imbued in [Thomas] Kuhn and paradigms' (Johnston 2020, p. 2) but later questioned 'the full paradigm model (realising that complete revolutions were never likely)' (Johnston 2020, p. 3). This meant taking some distance from notions of scientific revolutions stemming from critical rationalism, and entailed some acknowledgement of postmodern claims for 'the breaking down of any paradigmatic logic and scepticism toward any linear reconstruction of the history of the discipline' (Minca 2009, p. 363). This citation, from Minca, appears at the beginning of the chapter that the 2016 edition of *G&G* dedicates to postmodernism, accounting for the deep rethinking and questioning that characterised the last versions of *G&G*, reconsidering the very ways in which one should do critical disciplinary histories of geography, rather than enriching the book by merely adding new pieces to a hypothetic geographical Pantheon.

In the same vein, in their 2004 foreword (reproduced in the 2016 edition), Johnston and Sidaway had warned their readers that *G&G*

> Should be read with the caveat that it remains a survey of key debates within English language human geography in the past sixty years, with a primary focus on the UK and anglophone North America. Even within this particular geographical tradition, we cannot adequately cover everything' (Johnston and Sidaway 2016 [2004], p. xv).

Already in the former editions, Johnston had made clear that some exclusions were intrinsic to this work, and explicitly justified these as substantial authorial choices. For instance, if the book dealt uniquely with what is normally termed as 'human geography', it is because Johnston was firmly convinced that so-called 'human' and 'physical' geography are two completely distinct disciplines in terms of their objects, methods and research goals, and therefore cannot be analysed together (see also Chapter 1, this volume):

> The links between physical and human geography [seem] tenuous, as those disciplines are currently practised. The major link between them is a sharing of techniques and research procedures, but these are shared with other disciplines too, and are insufficient foundation for a unified discipline (Johnston and Sidaway 2016 [2004], p. xxi).

However, when I mention (respectfully and constructively) 'amnesias' in *G&G*, I understand that these also belong to the book's historical and cultural contexts rather than to deliberated authorial intentionality.

In this sense, while the relatively late introduction of feminist themes in *G&G* has been already noted (Monk 2007), Mike Heffernan intriguingly discusses some relatively surprising lack of references to a European dimension in *G&G* in the decades in which the terms of the UK's adhesion to the European Union were negotiated. Thus, for Heffernan, *G&G* presented 'an essentially Anglo-American and Anglophone intellectual project, albeit emerging from an earlier European tradition' (Heffernan 2020, p. 1). This oblivion did not only imply a limit in the territorial span of a historical analysis of geography's pasts. Most importantly, for Heffernan, this denoted an implicit political attitude, considering that *G&G*, alongside Taylor's book, was 'conceived and written in northern English universities shortly after the 1975 referendum confirmed the UK's membership of the European Economic Community' (Heffernan 2020, p. 2). For Heffernan, this silence was 'symptomatic of a broader reluctance to consider the history and potential of human geography in European terms' (2020). Significantly, Johnston responded that, as for continental Europe, 'after 1945 Anglo-American geographers paid little attention to what geographers were doing there' (Johnston 2020, p. 3). This means that Johnston claimed only partial responsibility for this omission, because the book's intellectual focus corresponded to quite precise characteristics of the publics that were targeted: as Heffernan had guessed, *G&G*'s lack of engagement with a European dimension was rather the result of widespread indifference (or diffidence) for the Continent in Anglo-American milieus than a deliberated authorial choice.

Today, several contributions focus on the need for exiting the cage of Anglo-American (or even Northern, in the sense of the 'Global North') hegemony in making histories of geographies, calling for contributions from different geographical traditions, namely from the 'Global South' and/or from outside the Anglosphere (Clayton 2020; Craggs and Neate 2020; Ferretti 2019a). In recent years, special vibrancy has characterised the variegated rediscoveries of the roles played by Latin American (and especially Brazilian) geographers in the formation of international circuits of critical and radical geographies in the second half of the 20th century (Davies 2023; Ferretti and Pedrosa 2018; Melgaço 2017). Several recent works likewise discuss historical geographies of decolonialisation and anticolonialism (Craggs 2018; Davies 2019; Jazeel and Legg 2019). Two collective books have tried to start writing histories of radical

and critical geographies collecting contributions from outside the Anglo-American core, namely *Spatial Histories of Radical Geography, North America and Beyond* (Barnes and Sheppard 2019), and *Placing Critical Geographies, Historical Geographies of Critical Geography* (Berg et al. 2021). In both cases, reading these books, a multilingual academic migrant has the invariant impression that, despite their editors' and authors' commendable efforts, there is still a lot to do before reaching pluralistic inclusion in terms of both multilingualism and involvement of academic and geographic 'peripheries' in what I would term a pluriversal history of geography.

For instance, while the authors contributing to Barnes's and Sheppard's book provide some exceptional contributions to the history of radical geography in the USA around the 1970s, only a small part of that book addresses cases outside North America, that are eventually the UK (hardly outside the Anglo-American 'core'), South Africa, Mexico, plus two cases, namely France and Japan, which remain anyway fully part of the 'Global North', whatever geographical delimitations we may consider for this equally problematic concept (Sparke 2007). Some further national cases are addressed in *Placing Critical Geographies*, where anyway apparent unbalances in favour of the Anglosphere remain, given that for instance, of the 14 cases addressed in the book, full chapters are dedicated to the USA and Anglo-Canada, UK, Ireland and Australia/New Zealand, while the entire Latin America (including Brazil) is condensed in only one chapter, like the French-speaking world.

Thus, the overall balance remains quite unfavourable to the 'Global South', as most of the other chapters address cases such as Germany, 'Nordic' countries, Spain, Italy, Japan and so on, and little remains on the rest of what the authors call 'the peripheries of academic knowledge reproduction' (Berg et al. 2021, p. 4). While nobody denies that it is challenging to find contributions on the history of geography from all possible peripheral places, languages and traditions, especially if they need be related to critical approaches, it is interesting to note the editors' awareness of 'the limitation of state—and language—centric spatial differentiation' (Berg et al. 2021, p. 5), also entailing 'significant spatial variations within states' (p. 6). Accordingly, the editors relate the numerous challenges that delayed the publication of their work, resulting in the fact that 'some chapters could appear a little out-to-date' (Berg et al. 2021).

To these challenges one might add that, after the rich debates that were stimulated by the earliest International Conferences of Critical Geography since the 1990s, the interest in 'other' traditions that was expressed by numerous Anglophone geographers seemed to be more gestural than substantial (with several significant exceptions, however) as I discuss below. Furthermore, I would contend that, from the standpoint of a cosmopolitan and multilingual turn, provincialisms, chauvinisms and regional/peripheral linguistic imperialisms (even 'Southern', even outside the Anglosphere) are not less detrimental than the global Anglo-American domination to the pluralisation of geography. Thus, the business remains largely unfinished and, while there is no unique recipe for accomplishing pluralistic agendas, it can be tentatively argued that

after the spatial, transnational and decolonial turns, it is time to think to a pluriversal, multilingual and undisciplined turn for geography, starting from its histories and philosophies. Johnston's legacy is an excellent starting point for these 'undisciplined' endeavours, as I discuss in the next section.

11.2 Beyond disciplined discourses (why geographers should also be historians)

In *G&G*, ideas of disciplinary stable boundaries are questioned from the beginning, when it is stated that: 'There is no fixed set of disciplines, nor any one correct division of academia according to subject matter' (Johnston and Sidaway 2016, p. 12). This means denying, following David Livingstone, the existence of any 'metaphysical core to geography' (Johnston and Sidaway 2016, p. 13), acknowledging geography's complexity being aware that, additionally: 'There is controversy over the nature and definition of knowledge itself' (Johnston and Sidaway 2016). This quite relativistic stance about the nature of geographical knowledge allows considering broader methods and trends in historical sciences (especially on the side of intellectual and cultural history) to address the histories of geography. One of the first points on which, since its earliest editions, *G&G* proved Johnston's willingness to engage with broader methods in the history of science is related to the so-called 'contextual turn', overtaking former internalist readings of the production of knowledge by considering geography's broader historical contexts, defined as 'the occupational structure, the organisational framework for research, and the societal environment. These three interact in a complex variety of ways' (Johnston and Sidaway 2016, p. 35). Furthermore, Johnston's work gave also important contributions to biographical and autobiographical trends in the history of geography, which have been increasingly valued in recent years.

It is now generally agreed that considering life and professional trajectories of individuals is key to understand the contexts of the knowledges that they produced. Therefore, one can note that, already in 1979, *G&G* paralleled the early 'biographical turn' in the history of geography which is still flourishing today (Baigent 2024; Johnston 2019). Importantly, recently published (auto)biographical works are not limited to 'eminent' (often white, male and academic) people. This point has been strongly raised in the latest issues of *Geographers Biobibliographical Studies* (GBS), a series that was founded in 1977; that is, in the years in which Johnston was writing the first edition of *G&G*. It seems no coincidence that Johnston's undergraduate tutor and MA supervisor was a *GBS* co-founder, Walter Freeman (1909–1988), who was also a reader of the earliest drafts of *G&G* since 1977, when Johnston 'sent a copy to Walter Freeman for his comments' (Johnston 2007, p. 48). Freeman was a friend and collaborator of Anne Buttimer (1938–2017), a key inspiration for current uses of biography and autobiography in geography, who interviewed him for her Dialogue Project (Ferretti 2019b; Jones 2018). Thus, Johnston's

work played an early role in key debates over international trends in the history of geography.

In *G&G*, the prevailing emphasis is forcedly put on a limited (although rich) set of key people, a situation that Johnston acknowledged as his work had 'Overemphasized the roles of certain individuals [being] too heavy on lists of names of who said what. But can you separate ideas from people?' (Johnston 2007, p. 50). Also considering this kind of self-reflective questioning, it can be said that some intellectual ground for diversifying people to diversify ideas in the history of geography was already established within and around *G&G*. The latest Edition of *G&G* acknowledges the biographical turn that occurred in the last few decades in the field of the history and philosophy of geography, being 'More reliant—particularly in the earlier chapters—on biographical and autobiographical recollections of the conditions of their production' (Johnston and Sidaway 2016, p. xiv). This helps addressing key matters such as the importance of places, moves and materiality to understand the history of science, as stressed by one of the protagonists of the 'spatial turn' and of contextual readings in the history of geography, David Livingstone (Livingstone 1993; 2003), who notes that

> Unlike the earlier efforts of figures like Richard Hartshorne, who interrogated historical sources with the aim of identifying some eternal, unchanging, essential definition of the field, Johnston's project did not shy away from exposing the intellectual diversity of the discipline [and] the contingencies of its historical trajectories' (Livingstone 2007, p. 43).

Here, the key point is that *G&G* contributed to laying the grounds for further challenges to teleological and positivistic readings of the history of geography.

A *G&G* omission that might seem obvious for a work whose periodisation spans from 1945 onwards concerns ancient geographers (see Chapter 2 of this volume). Yet, I would contend that considering theoretical contributions of geographers' works from Antiquity (of which numerous examples were rediscovered by scholarly strands discussed in *G&G*, such as humanistic geographers) is quite important for the future of the discipline. Both classical works (Glacken 1967) and later textbooks in the history of geographical thought (Cresswell 2024) fully include Antiquity, often with a special focus on early Greek philosophy, and discuss the cyclical coming back of old ideas (for example, environmental determinism) under new forms, as a way of challenging positivism, historicism, and teleology in reading geography's histories. In this sense, it seems quite odd that, while choosing not to focus on geography before 1945, *G&G* indicates Alexander von Humboldt (1769–1859) and Carl Ritter (1779–1859) as mere forerunners of the paradigms of 'regional geography', something that actually belittles the importance of these authors' works in inspiring theoretical principles that still dialogue with critical geographies (Farinelli 2003; Minca 2007).

Importantly, one of the ideas from Antiquity that periodically resurfaces is the notion of interchangeability and collaboration of the disciplinary fields that are conventionally called 'history' and 'geography', which many geographers started rediscovering between the 19th and the 20th century. It was in the 19th century that scholars repeatedly defined this collaboration as being inspired by Greek writer Herodotus (fifth-century BC), whom Ritter (1974, p. 55) indicated as the founder of 'geographical history and historical geography'. Ritter's student, Elisée Reclus, considered likewise Herodotus as not only the earliest inspirer 'of history and geography', but also 'the first author who dealt with compared ethnography' (Reclus 1884, p. 7), making geography 'even more attractive than poetry, [because] he did not separate man [sic] from nature' (Reclus 1872, p. 2). Recalling similar statements by French geographers and historians such as Jules Michelet (1798–1874), Reclus launched his famous Spinozean aphorism deeming humankind as self-conscious nature, literally: 'Nature assuming consciousness of itself' (Reclus 1905, p. 1). This notion amazingly chimes with the ongoing rediscoveries of 19th-century philosophies of nature in geographical debates on the Anthropocene. Indeed, contemporary geographers claim that several notions under discussion in current Anthropocene debates were 'posed by geographers of the eighteenth and early nineteenth centuries: unity of nature, humans as nature made conscious, humans as nature's conscience' (Larsen and Harrington Jr. 2020, p. 1). According to authors such as Larsen and Harrington Jr., it was exactly the case with Reclus and Humboldt among others.

The importance of these early theoretical strands lies in their early questionings of binary divisions of humankind and environment, that their authors deemed as consubstantial, following German *Naturphilosophie*, including philosophers and naturalists such as Lorenz Oken (1779–1851) and Friedrich Schelling (1775–1854) in a perspective that did not divorce the terms that are known today as nature and culture (Ritter 1974; Tang 2008). The idea that history and geography are the two sides of the same coin was exactly an aspect of this consubstantiality. This means that all the numerous current pretensions to elaborate big geographical theories neglecting the historical roots, concrete people and spatial contexts of geographical thought risk being deceptive. Indeed, these attitudes do nothing different than fostering what authors such as Clarence Glacken have brilliantly defined as the Moderns' pretension of having invented everything, due to a lack of attention to the genealogies of knowledge (Glacken and Pred 1980).

Furthermore, *G&G* indicates authors and themes outside the Anglosphere as references for a genealogy of critical and radical approaches to the discipline, namely 'The late nineteenth-century views of [French] Reclus and [Russian] Kropotkin' (Johnston and Sidaway 2016, p. 312), followed by Brazilian geographer Milton Santos who 'Reminded English-speaking geographers of the Marxist-inspired works of [French] Jean Dresch on capital flows in Africa and [French] Jean Tricart on class conflict and human ecology, both prior to the Second World War' (Johnston and Sidaway 2016). Johnston and Sidaway also mention: 'Keith

Buchanan's presidential address to the New Zealand Geographical Society on the need for studying … the non-Western world' (Johnston and Sidaway 2016). Although not devoid of methodological challenges, as I discuss below, advocating the presence of 'noble' antecedents for possible critical genealogies in the history of the discipline is nothing less than joining the agenda of famous leftist French historian Lucien Febvre, who argued for the importance of summoning the past to organise the present (Febvre 1953). Starting from these openings, there is room to correct the limitations of prevailingly Anglo-based discourses, as I discuss in the next section, by linking multilingualism and cosmopolitanism to broader bids to decolonise geography (theory and praxis).

11.3 Beyond a region and beyond a language

As noted above, the limits of *G&G* in linguistical and cultural terms are very clear to its co-authors, who acknowledge the 'temporal (post-1945) and spatial (UK and anglophone North America)' boundaries circumscribing their work, as well as the need to develop their matters 'in broader historical and geographical contexts' (Johnston and Sidaway 2016, p. 345) to make sense of a 'wonderfully diverse' (Johnston and Sidaway 2016, p. 384) discipline. Drawing upon this positive appreciation of diversity, one can reflect on how to foster inclusion, starting from matters of language and publishing.

Interestingly, *G&G* presents the arguments of those who criticise the Anglocentric market of academic publishing in very clear terms, countering the assumption that a certain number of leading journals shall be deemed *the* international output rather than *some* of the possible international outputs to disseminate scholarship:

> It is therefore deceiving, if not intellectually dishonest, to identify these leading journals as the locus of international debates—unless, of course, one retains the belief that the entirety of relevant contemporary theoretical contributions in geography can be limited to the Anglo-American world and to English-language publications (Johnston and Sidaway 2016, p. 377).

The 'presumed universality' of concepts expressed in key Anglophone publications is therefore rightly questioned in *G&G*, although leaving open the question of how to best address the matter in concrete terms.

Extending my introductory discussion on what is effectively outside the 'core' in recent attempts to go beyond Anglocentrism, I cannot refrain from noting that, since the International Conferences of Critical Geography mentioned above (Desbiens and Ruddick 2006; Kitchin 2005), this debate seems to continue amidst ambiguities and contradictions, or at least misunderstandings. From my standpoint of a multilingual scholar and former academic migrant shifting across different 'national' or cultural setups, I still have

the impression, on the one hand, that many Anglophone authors who discussed these problems since 2000 or so remained substantially monolingual in their main reading and publishing habits. On the other, most critiques to Anglophone hegemony come from authors who, on their side, seem to simply defend smaller linguistic imperialisms or monolingualisms in idioms such as Italian, French, Portuguese or Spanish – all imperial languages. Although potentially unpopular, my contention here is that this last attitude does not mean pluralising geography, but simply claiming to increase the monetary value of one's own mother language in the academic market.

For instance, it is relatively rare to come across claims for using indigenous languages in scholarly conferencing and publishing, and numerous endeavours for multilingual publishing face material challenges in terms of time, money and commercial publishers' policies that rarely favour systematic translation. I would like to clarify that here, by multilingualism, I do not mean the pretention of publishing at each time in several languages, or to have multilingual simultaneous translations at each conference: in practical terms, only convincing most scholars to include materials in more than one language among their bibliographies and sources, and to consider more than one cultural 'universe' in choosing their intellectual references would already be a big win in the bid for pluralising and 'undisciplining' geography.

In the aforementioned *Placing Critical Geographies*, some notes on Ireland by Gilmartin (2021) give me the occasion to further clarify these points. This author argues that 'English is spoken in Ireland as a direct consequence of colonialism … This postcolonial reality challenges the supremacy of linguistic competency as the key marker of Anglo-American geography' (p. 184). While after my personal experience in Ireland I would not consider geographical scholarship taking place there as an exception in terms of Anglo linguistic hegemony, I find interesting another Gilmartin contention that 'Geographers working in and on Ireland are not unused to hearing their research described as local, parochial or provincial by colleagues in Ireland, and further afield' (Gilmartin 2021). While I think that issues with parochialism and provincialism are not necessarily associated with the geographical dimensions of a country (as they disgracefully concern plenty of so-called 'world-class' output), I also contend that one of the possible misunderstandings about a multilingual turn stands also in a certain kind of methodologic nationalism. That is, criticising Anglo-American hegemony does not necessarily imply the preference for local scales of analysis (although I fully agree that addressing 'local' cases does not always equate with 'localism'), and even less the chauvinistic defence of any particular identity. As argued elsewhere (Ferretti 2022), planetary linguistic imperialism and local linguistic (or cultural, or nationalistic) chauvinisms are the two sides of the same coin hindering cosmopolitanism, internationalism and multilingualism.

As an alternative to the specular limitations of universalism and localism, I propose to consider the notion of the 'pluriverse', one that is gaining scholarly interest thanks to the works of authors coming from both the Latin American

Modernity-Coloniality-Decoloniality experience and from debates on post-development (Escobar 2020). These scholars understand the pluriverse as 'a world where many worlds fit' (Kothari et al. 2019, p. xxviii), a phrasing that was directly inspired by the Zapatistas. Marisol de la Cadena and Mario Blaser define the pluriverse as part of their idea of 'political ontology'; that is, 'an imaginary of politics', associated with 'a field of study and intervention' as well as 'a modality of analysis and critique that is permanently concerned with its own effects as a worlding practice' (Blaser and de la Cadena 2018, p. 6). Ontologically, this implies that there is no world with which the researcher/discoverer could claim not to be implicated. This means methodologically that, when doing fieldwork, a purely external observation is impossible, as scholarly practices have an effect on both the 'researcher' and the 'researched', whose relations cannot be conceived without sharing and participation as recently claimed about literature on IRM (indigenous research methodologies) (Smith 2021). Otherwise, one would fall again into the trap of reproducing modernist colonial ways of producing knowledge by hierarchically separating the subject and the object of the investigation – that is, the disembodied gaze of Eurocentric civilisational supremacy.

The pluriverse has also political implications, that are defined by Escobar (2020, p. viii) as 'If worlds are multiple, then the possible must also be multiple'. The supporters of the pluriverse consider that there is not a sole, unique and right way to smash capitalism, patriarchy, racism, colonialism and environmental destruction. Challenging dogmatic narratives made by different political schools (often Marxist) in mutual competition for hegemony, these authors value the diversity and heterogeneity of the different (although often contradictory) social movements that self-organise from below in different regions of the world to question dominant discourses. That is, the pluriverse implies political pluralism, where 'Heterogenous worldings come together as a political ecology of practices, negotiating their difficult being together in heterogeneity […] inspired by the Zapatista invitation to reworlding possibilities' (Blaser and de la Cadena 2018, p. 5). Although politically concerned with Anthropocene matters such as the destruction of environments and of indigenous peoples, pluriverse scholars are first and foremost interested in thinking ontology and epistemology differently, seeking alternatives to what Sousa Santos (2016) calls 'epistemicide' through 'southern' epistemologies, and rediscovering decolonial practices rather than 'discourses'.

In this vein, the pluriverse is also associated with the notion of 'epistemic decolonisation' (Mignolo 2011), which questions the permanence of Eurocentric thinking in current critical theory, which is informed overwhelmingly by notions of European origin such as Marxism and poststructuralism. The way to follow, according to decolonial/pluriversal scholarship, is to rediscover subaltern sources, stories, and writings by neglected activists and thinkers from the Souths, including indigenous thinking (Mignolo and Escobar 2010). This similarly entails pluralism, because it is assumed that notions elaborated in Europe or North America are not the 'enemy' to destroy,

but parts of a plural framework within which no thought is allowed to crush another.

While in *G&G* there is no trace of the 'pluriverse', and the references to indigenous thinking are substantially limited to some notes on the concept of 'planetary indigeneity' (Sidaway, Woon and Jacobs 2014), one can find there elements of pluralism in both the critical assessment of the main 'paradigms' that alternatively dominated the discipline in those decades, and in the description of the different political schools fighting for academic hegemony. Indeed, *G&G* accounts for a plurality of positions in critical and radical tendencies within the discipline. While the book remains characterised by some omissions, for instance, in the field of anarchism, which remains quite neglected, its authors significantly contend that 'The "radical camp" was never a united body of scholars. Although Marxism remained a focus, it was attacked by others, themselves associated with "radical" stances', who declared their wariness of any 'taken for granted orthodoxy' (Johnston and Sidaway 2016, p. 224). Thus, *G&G* seems to implicitly support the plurality of approaches whose very presence challenges the idea that definitions such as 'radicalism' or 'socialism' are necessarily synonymous with (more or less orthodox) Marxism.

In this vein, it is noteworthy that, in *G&G*, several strands of critical thinking that were variously identified either with the 'cultural turn', or with 'poststructuralism', are discussed as developments of radical and critical tendencies in the discipline, exploring 'different levels of analysis and relations' (Johnston and Sidaway 2016, p. 219). *G&G* also reveals its authors' awareness of the limitations of geographical Marxism as defined by David Harvey, who 'interestingly' (Johnston and Sidaway 2016, p. 176) admitted the challenges that he met in his bid for bringing Marxist perspectives into geography, and vice versa. Finally, there should be a plurality of ideas to consider.

To definitively orient this discourse in the direction of 'decolonising geography', it is worth considering that the decolonial option generally differs from postcolonial critiques (although we should consider the extreme complexity, heterogeneity and porosity of the two fields) in putting an emphasis on praxes. It is no coincidence that, among the several examples of current scholarship on geography's alternative histories outside the Anglosphere, a particularly burgeoning literature addresses Brazilian and Latin American scholars. Crucially, most of the critical geographers from that area who worked in the second half of the 20th century have provided examples of 'theorising back' in relation to Northern recipes on development (Slater 2004). These included both political notions of European origin and endogenous ideas inspired by their lands' own histories including Indigenous and Afro-Brazilian insurgent traditions, challenging at the same time Eurocentrism and ethnocentric localisms (Carter 2018; Ferretti 2020; 2024). In the next section, I discuss some insights that we can draw from a critical reading of *G&G*, especially in its analyses of the practices grounding the production of scholarly geography, and in presenting critical thought as a key resource for addressing the thorny matter of geography's 'relevance'.

11.4 Beyond an (academic) environment: geographies of practices

Practices are given by *G&G* an important place from the beginning of the book, which dedicates its first chapter to discuss and question the different pathways of academic careers in geography between the USA and the UK, and their changes in the last few decades. Keeping in mind these 'ill-defined' (Johnston and Sidaway 2016, p. 5) criteria for assessing performances and career expectations remains fundamental for understanding how the field so delimited is definitively 'provincial', in relation to all possible non-Western and non-academic realities in which geography can play relevant roles. While geography is a consolidated presence in academic departments on both sides of the North Atlantic, *G&G* acutely shows how increasing competition has led to a sense of incompleteness and frustration among many practitioners of a discipline that took 'applied' (eventually quantitative) turns to follow governmental pressures over employability coupled with the growing need for securing external funding. Eventually

> The pressures for more applied work built up from the 1970s on in response to economic, social and political conditions […] both in terms of providing vocational and professional training for students in fields where employment prospects were good and in the pressure to cover institutional costs through 'earnings' from research activity (Johnston and Sidaway 2016, p. 309).

Then, the neoliberal doctrines that became dominant since the 1990s considering academic rentability as the key criterion for the access to careers and research funding need to be understood as a contextual factor that strongly conditions academic disciplines.

It is also puzzling to consider the effects that these conditions had and have over teaching and the resulting relations between geographers and their students. In the USA, 'There was an increasing emphasis on geographic education providing students with technical skills [for] employment and career potentials' (Johnston and Sidaway 2016). *G&G* takes comparatively into account differences between North America and the UK, where

> At the end of the twentieth century, for example, there were some 7,000 or so places available each year on geography honours degrees […] compared to only 4,000 or so who major in geography from all USA universities. This large stream of UK would-be geographers results from the discipline's strength in the country's secondary schools […] itself a product of successful political lobby by bodies such as the Geographical Association (pp. 372–373).

Here, politics enters geography from a side that may be criticised by critical scholars, that is political lobbying to compete with other disciplines for academic posts and money. Yet, this belongs to the materialities that it would be hypocritical to ignore, and that one must consider in all analyses trying to explain what is going on in specific situations.

From this standpoint, the relevance of a discipline is first measured in terms of rentability, suitability for commodification, student employability and so on. Although it may occur under different forms in the past, this is nothing new in disciplinary histories. As Johnston and Sidaway note

> The subject matter from which the discipline emerged comprised useful knowledge – maps, information about environmental conditions, material on trade potential etc. … To Mackinder, one of the discipline's founders in the UK, geography was an "aid to statecraft" (Johnston and Sidaway 2016, p. 308).

However, *G&G* shows how discussions on geography's relevance were not limited to those themes, and started to be inspired by authors such as Doreen Massey who were willing to respond to more complex questions than the mainstream ones, noting that, 'Social scientists (including geographers) should be involved in both reformulating the questions and raising others that are rarely, if ever, asked' (pp. 340–341).

Johnston and Sidaway stress how the expansion of the academic field of geography also entailed increasing its pluralism, given that 'As disciplines have become larger with the expansion of higher education, so that archipelago of academic villages has become more extensive—and pluralistic' (p. 23). Extending this idea, I would contend that enlarging the field of geography outside academic contexts is consistent with these premises, restarting from one of *G&G*'s concluding remarks over the fact that (re)making geography's pasts is part of making its present and futures, recalling the aphorism of Lucien Febvre mentioned above. Namely, 'We are making the future of geography as we practise it, just as we have been remaking its past by writing this book' (Johnston and Sidaway 2016, p. 399). Addressing matters on disciplinary practices, contexts and materiality, *G&G* lays the grounds for finding alternative ways to plurally foster geography's relevance. The first step for that will be stressing the intrinsic relevance of critical and socially committed geographical approaches.

Reading *G&G*, it remains clear how geographers' social consciousness clashed several times with commodification imperatives, for instance, over the contradictions that can be generated by industrial sponsorship. A key example that is discussed in the book was the campaign against Shell Oil, which used to sponsor the Royal Geographical Society. On the one hand, some geographers considered this kind of sponsorships a proof of the 'economic relevance' of geography in advising extraction corporations. On the other, in 1995

> Several members of the Ogoni people in the Niger Delta region of Nigeria […] were sentenced to death by a military tribunal (in a trial which Western observers claimed violated their basic human rights) and subsequently executed, […] related to protests over Shell's treatment of the Ogoniland environment, where it was involved in exploiting major oil and gas fields. A number of academic geographers argued that Shell's corporate patronage of the RGS-IBG should be ended because of its environmental record there and its alleged complicity in the trial of the Ogoni leaders (Johnston and Sidaway 2016, p. 334).

Well before concerns with extractivism became a key point in decolonial scholarship (Halvorsen 2019), geographers realised that they could no longer ignore the darker side of industrial cooperation. Similar matters were often raised about the traditional complicity of geopolitical advisers and mapmakers with the warfare industry.

G&G implicitly suggests that an alternative to this kind of ethically problematic 'relevance' is building geography's social and political relevance by understanding it as the capacity of having an impact on civil society and public opinion through activism and conscientisation, beyond the mere contexts of statehood and industry. *G&G* indicates the 1969 launching of the radical journal *Antipode*, alongside Bill Bunge's urban expeditions in Detroit in the early 1970s (Barnes 2017; Heynen 2013), as standing among the first actions of geographers who had 'concerns at the academics' "unworldliness" ' and tried to remediate to their "sense of failure" by dealing with major social issues' (Heynen 2013, p. 313). The capacity of certain radical and critical geographers to contribute to political and social mobilisations outside the academy was exemplarily shown by works of David Harvey on urban studies and of Neil Smith on uneven development, among many others. A key case is the development of antiracist geographies, of which an antecedent can be considered the expeditions led by Bunge and Gwendolyn Warren in the Afro-American neighbourhoods of Detroit (Horvath 2016).

Today, antiracist and anticolonialist geographies can be considered as an outstanding way for geographers to engage with very urgent public life matters raised by movements such as *Rhodes Must Fall* and *Black Lives Matter*.[1] In *G&G*, antiracist geographers are defined as a field that comprises

> Research on the geographies of racism; extending anti-racist principles throughout the "institutional practices" of the discipline, particularly in the classroom; increasing the participation and presence of non-white geographers in the discipline; and linking all of these to activism beyond […] the discipline, academic life and the university (Horvath 2016, pp. 275–276).

This is a key example of how activism and scholarly geography can come to productive conversations, as it has been the case with feminist and queer geographies and with the wider field that Johnston and Sidaway define as the variegated world of 'grey, public and participatory geographies' (p. 340), including diverse work that 'has a broadly emancipatory goal' (p. 343).

Among this public and emancipatory works, the authors mention

> Critical work in geopolitics, broadly defined. Books like Gregory's (2004) *The Colonial Present*, Harvey's (2005) *The New Imperialism* and Neil Smith's (2005) *The Endgame of Globalization* are all aimed at much wider audiences than their academic peers, and have been reviewed in the non-academic media. Furthermore, their authors have become public intellectuals (Johnston and Sidaway 2016, p. 343).

Playing roles as 'public intellectuals' is therefore one of the possibilities that are open for scholars to bring their work into relevance in wider political and societal dynamics. Yet, this does not eliminate all the possible challenges, for at least a couple of reasons. First,

> A number of geographers bemoan their discipline's apparent relative failure to address major contemporary issues within society – i.e. to be sufficiently applied and relevant, and therefore influential (Johnston and Sidaway 2016).

Second, and most importantly as this last issue can well be an effect of diverging views over the public role of geography, it is clear that the figure of the 'public intellectual' is not sufficient in itself to bridge the gap between academy and activism, that needs wider engagement with grassroots and social movements, and public matters.

Precious insights can come again from the history of Anglo-American geography in the decades addressed by *G&G*, and I would especially mention what Johnston and Sidaway call 'the legacy of human-oriented research in geography' (Johnston and Sidaway 2016, p. 193), including cultural and humanistic approaches. Indeed, the key opposition that occurred in the 1970s and 1980s between tenets of 'spatial science' and tenets of 'humanistic' (and later 'cultural' or 'relational') geographies, resulted in the widespread use of participatory methods, because 'doing humanistic, or cultural, geography' involves a variety of methods often characterised as ethnographic and contrasted to the positivist approach' (Johnston and Sidaway 2016). For instance, participant observation is still deemed as a key way to reduce the distance between the observed and the observer, questioning the dichotomy between scholarship and the (scholarly studied) world.

This chimes with decolonial scholarship which, 'rather than a means for collecting information […] think[s] of fieldwork as the practice of (and not

only at) a crossroads involving the practices of the anthropologist and of those that she works with' (Blaser and de la Cadena 2018, p. 5), questioning both the 'separation and the connection' that compose these practices. An intriguing example of such decolonial engagements with the very field of higher education is Aparicio's and Blaser's (2008, p. 59) discussion on the possibility of creating 'knowledges otherwise'; namely outside the actual modernistic framework of educational institutions and their intrinsic way of linking knowledge and power. Although characterised by challenges and contradictions that are abundantly discussed, the existence of alternative universities dedicated to indigenous or Afro-Descendant knowledges and their histories of resistance especially flourishing in Latin America (Cupples and Glynn 2014; Ress 2018) provides examples of pluralistic dialogues between scholarly methods coming from the 'Global North' and indigenous ways of constructing knowledge 'in partnership with other sites of practices' (Aparicio and Blaser 2008, p. 87). Geographers can engage with these 'other' knowledges and practices if they are fully aware of the still underplayed anticolonial, antiracist and 'alternative' sides of their discipline as increasingly revealed by the study of 'other geographical traditions' (Ferretti 2019a).

It is worth noting that, despite the 'amnesias' mentioned above, *G&G* already accounts for some very relevant aspects of the 'other geographical traditions' discussed. On the one hand, its authors note that the humanistic and radical turns in geographical studies in the 1970s were also (although not exclusively) a reaction against the domination of 'spatial science'. At that moment, key was going beyond positivism to provide 'a particular viewpoint and contribution to the overall social science goal of understanding society' (Johnston and Sidaway 2016, p. 100) finding 'better models than those of the "rational economic man"' (p. 125). Critical scholars started considering that 'Spatial science is technocratic in its orientation and application; it tends to reduce people to terms in equations; it thereby ignores their individuality and freedom of action' (p. 380).

On the other, the authors note that also the early quantitative turn had some subversive aspects; for instance, it was inspired by figures like Bunge who were also among the earliest radicals (Heynen 2013). Amazingly, some of these scholarly innovations took initially place almost clandestinely, 'in relatively fugitive, departmental publications, because of difficulties in getting such "new" material accepted by the small number of mainline journals' (Johnston and Sidaway 2016, p. 65). All this helps highlighting the notion of dissidence, which exposes the importance of exceptions to dominant (political and epistemological) trends and paradigms which do not necessarily become mainstream, according to the idea of 'other' geographical traditions (Ferretti 2019a). Through this kind of research, one discovers that the subversive potentials of geographical histories are more varied than is generally believed.

From the standpoint of critical scholarship, the insufficiency of what has been done so far was often noted by geographers who advocated 'more radical

paths beyond spatial science' (Johnston and Sidaway 2016, p. 196), of which the authors of *G&G* have always been very aware. I would then contend that the consciousness of these amnesias and insufficiencies of our own academic work should lead to increasingly valuing practices, activism and public communication as ways to render geography relevant beyond all technocratic and neoliberalist rhetoric on relevance understood as commodification and 'employability'. For accomplishing this task, we should be pluriversal and cosmopolitan in our practices, beyond discourses. This can include (but is not limited to) challenging linguistic hegemonies and their mirrors (that is, small-scale chauvinisms), and practicing multilingualism, interculturality and internationalisation rather than simply analysing these matters theoretically.

11.5 Conclusion

Considering *G&G* as a classical book in the history of geography that, according to Livingstone (2007, p. 5), 'wonderfully transgresses that falsely constructed boundary between textbook and research book', reinforces the idea that we should understand disciplinary histories as an indispensable instrument to do geography today, and to address current matters on relevance. As I argued, drawing on our own disciplinary memories to engage with broader critical and decolonial approaches (also beyond the discipline) can provide new openings to overtake the limitations of traditional histories of geography.

This discussion shows that there is no unique narrative encompassing complex, plural and entangled disciplinary histories. As Johnston and Sidaway note quoting Anne Buttimer, in the long-lasting polemics between different paradigms, 'only the rare dogmatist clings to one [idea] throughout' (Johnston and Sidaway 2016, pp. 390–391). Although I would not be so optimistic about the 'rarity' of 'dogmatists', one can anyway restart from the conclusions of *G&G* about 'hybridity' and approaches that are able to 'cut across the divides between the social-cultural and the spatial-analytical, the qualitative and the quantitative, the critical and the technical, and the social-scientific and the arts-and-humanities', considering their final wish for 'a future not of "either/or" but of "both-and"' (Johnston and Sidaway 2016, pp. 394–395). From this wish, I think that the new critical, multilingual and decolonial histories of geography that I propose here stand in consistent (although openly partisan) continuity with that work.

In this sense, while internalist and celebratory approaches to disciplinary histories have been already widely challenged, I would still question some lingering pretention that scholarship should not take explicit side in political and philosophical debates. For instance, Livingstone (2007) noted that *G&G* was a work

> Pleasingly bereft of partisanship. This is not to say that its author does not have his own convictions. To the contrary. But his

> personal predilections are never allowed to stand in the way of his concern to remain answerable to human geography's historical record […] when partisan enthusiasts are creating their own pantheon of great thinkers in the discipline, exorcising from their surveys those parts of the subject not to their political or theoretical tastes (p. 44).

While I agree with Livingstone that academic fashions and conformism can have deleterious effects over scholarly debates, I would further contend that to challenge these 'erasures of the unfashionable' we exactly need to be declaredly partisans.

In writing this chapter, I have provided likewise an example of partisanship, by integrally rereading and interpreting a rich work such as *G&G* in relation to my own agendas. However, I contend that it would be simply delusional to believe that scholars can refrain from their own partisanship, as denying one's own specific convictions, standpoints and positionalities would be a naivety or a trickery. While Johnston might have disagreed with some of my points, his work seems to contain enough acknowledgements of his own standpoint and self-reflective notes to leave it open for further reinterpretations and (more or less 'faithful') extensions. From the history of science and reception studies, we know very well how the public receptions of great authors' classical works are incredibly varied and even contradictory (Rupke 2006). Therefore, the ideas expressed in these works do not belong to anybody, as they are open to new interpretations and can serve different agendas. In my view, it is doing histories of alternative geographies, and alternative histories of geography, which are cognisant of the decolonial need for emphasising practices, and acting in the fields of activism and public communication, that we will make geography relevant, rather than focusing on mere rentability, employability and institutional services. This may include the need for critical scholars to make conscientious objection to their discipline's possible collaboration with warfare (today more than ever), extractivism, and destruction of environments, exploitation of people and so on. Only at this price we will gain social and political 'relevance'.

Note

[1] Rhodes refers to the British imperialist Cecil Rhodes (1853–1902); the movement has protested what he has been seen to represent: embedded forms of racism and imperialism that persist to the present day.

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Epilogue: Remembering Ron

Tony Hoare and Kelvyn Jones

The previous chapters in this book give a sense of scope and depth of the academic contributions of a uniquely prolific and influential geographer who, along with other contributors, we have been fortunate enough to know in person. But before the index pages roll, we also want to try to paint a word picture – and not just a word cloud (see Chapter 1) – of the person behind this astonishing formal record, drawing on the memories of those who have worked alongside him as friends and colleagues, academic and otherwise.

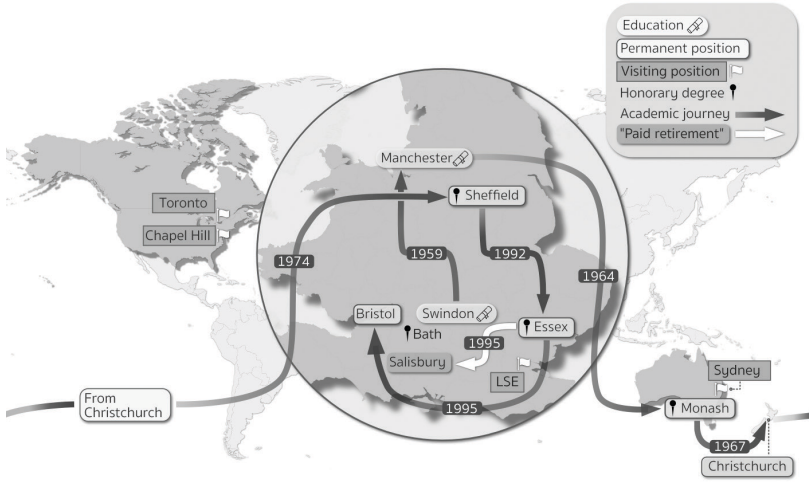
But where to start? Ron not only knew so many, doing as much as he did, but positively treasured and deepened those contacts whether in person – over coffee, at conferences, on the football terraces – or at a frenetic pace electronically once this came onstream. One of us reckoned to have had three emails a day from him, and the other recalls those frequent subjects in his inbox of 'I see/hear/understand that…', requiring instant attention to see what this or that common acquaintance had been up to now.

To garner the richest collection of memories from those who knew him particularly well we draw primarily on contacts from his own academic geography, which we map as Figure E.1. Only some 40 miles separate his first family home in the Borough of Swindon, in Wiltshire's northern 'Cheese country', from his last, Salisbury, in the same county's 'Chalk country' to the south, but he went around the world to get from one to the other. We wrote to what seemed his most likely then contemporary colleagues in the five centres where he made landfall for longest, in permanent academic posts, from his first such at Monash through to his last at Bristol. Here he moved into what he himself termed 'paid retirement' (Johnston 2016) with a professorial title but lecturer salary, when retiring from being Vice-Chancellor (VC) at Essex and he and his wife Rita settled in the Cathedral Close at Salisbury. We supplemented these recollections with those of some others, 'non-colleagues' but with strong links to his career through extensive co-working such as from publishing or his parliamentary work. Most were given the broadest of remits for their 'brief [hmmm!] recollections', but a few were pointed in particular directions that we were keen to flesh out. Inevitably, Anno Domini has taken its toll, particularly on his southern hemisphere contacts, but equally our non-random sample snowballed, with some suggesting others – 'you should also

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Figure E.1: Ron's own academic geography



Source: Tony Hoare and Kelvyn Jones.

write to X, he and Ron were close when he was here …'. Finally, we've also used obituaries, blogs and his own writings. Direct quotes, made to us, are italicised in this chapter. Quotes from other sources are in a standard font.

We finished up with nearly 50 recollections, from which we then distilled half a dozen common themes, illustrated below by some necessarily highly selective examples (apologies to those for whom we just haven't enough room). This layering of our interpretations as researchers on top of those of our researched respondents is grist to the mill of qualitative social sciences inquiry, of course, and inevitably has its built-in subjectivities. But just over a quarter way through the 21st century we can now triangulate ours independently through the output of ChatPDF (Morgan 2023), something Ron never worked with, through no fault of his! Reassuringly, and without any prompts or steers from us, this exponentially expanding software synthesised the transcripts file of our (anonymised) contributors into a very similar set of themes to the one we had already generated as our working framework, and use in what follows.

An academic dynamo

A common theme with our correspondents was their interaction with the quite astonishing contribution he made, first through his own academic

thinking, writing and publishing, and then to the framework whereby others could make their mark.

The words legendary and prolific made frequent appearances, to try to capture the volume, range, speed and quality of his own work, and the impressive and often self-taught skills set that lay behind it. Derek Gregory (DG) wrote on his geographical imaginations blog (https://geographicalimaginations.com/), 'He never stopped writing: writing, for Ron, was thinking – never a simple record of what he had done. So he never stopped writing because he never stopped thinking'. It was infectious too. Carol Proper remembered 'an incredibly active person, bursting with ideas and vitality. He was a great person to have an—often robust— discussion with.'

Ron could think and work *anywhere and anywhen*. Callers, ever welcome to his Bristol office, inevitably found him focused on screen and keyboard, never pencil-sucking and staring through the window. When in New Zealand one of us (AGH [Tony]) also heard of academic books and journals in the family holiday suitcases; Danny Dorling's (DD) first memory of meeting Ron was in the urinals at a Geography conference: 'He started asking me about triangular electoral graphs […] you really have to use your hands to describe how [these] work'. We would love to have had a CCTV camera on the crowded 7.19 am Great Western Railways regular commute from Salisbury, to see how many papers were read, and words written, before reaching Bristol's Temple Meads.

On the sheer scale of published output Peter Haggett (PH) recorded Ron's 'astonishing productivity […], it sets a Bradman-like record for human geography'.[1] Over a thousand peer-reviewed articles, and over 50 books and monographs. DG again: 'At one conference, he was late […] and I joked that he was presumably opening the Publishers' Exhibition—[…] and then I added, "Now I think of it, he is the Publishers' Exhibition", which brought the house down'.

His colleagues found it hard to keep up with both this vast output and its speed of production. The other of us (KJ [Kelvyn]) was responsible for the Bristol School's 2008 RAE (Research Assessment Exercise) submission 'and I would discover that Ron had a number of research monographs in the period that I did not even know about'. For another, earlier RAE, elsewhere, David Sanders wrote 'To both my embarrassment and delight, he produced more publications during his time at Essex [while also VC!] than any of my Government Department colleagues and made a significant contribution to our RAE submission'.

Nigel Thrift (NT) likewise: 'If you were co-authoring a paper with him (I did only once) he would always have finished his part before you had even thought about starting yours!'. AGH remembered the lunchtime meetings of the Bristol Spatial Modelling research group (see also Chapters 9 and 10, this volume): 'we sat around and pulled apart some piece of recent research he'd found for us as we chewed our sandwiches, and sometimes this led to an eventually published rebuttal piece for some poor unsuspecting first author. Without Ron we'd never have found the piece, and we would leave for home that same evening with his first draft of 'our' response in our inboxes'. KJ added, 'Ron would drive us until

the paper was submitted within the week of the seminar, and then he would be pestering the editor for a decision by the end of the next week'.

Another defining characteristic was his range. He was appointed to a Chair of Geography without adjectives, first at Sheffield and then at Bristol. For David Livingstone (DLiv): 'Ron covered more of geography's territory than anyone else on the field'. NT noted, 'he was primarily interested in quantitative empirical matters as applied to political geography […] But he wrote just as easily on theory, the history of geography and goodness knows what else (e.g., his Bellringing Atlas)'. With Sarah Whatmore, 'the very different kinds of geography which we each espoused was never a barrier to good conversations, due in no small part to Ron's enduring curiosity and genuine interest in the breadth and evolution of geographical scholarship'.

Multitasking was essential to his focus and vision on all these fronts. Peter Taylor remembered co-authoring the *Geography of Elections* (Taylor and Johnston 2016). In January they'd divided the planned chapters equally. 'Ron's […] all came in the post before Easter! […] I had one query and phoned Ron's secretary and asked about Chapter Four. She replied with her own question—"Which Chapter Four are you referring to?"' David Herbert (DH) co-edited many books with Ron: 'I recall staying overnight with him and Rita […] We sat down for coffee at the end of the evening and Ron promptly took out a manuscript he was working on and managed a perfectly sensible conversation whilst pressing on with his work'. Colin Rallings and Michael Thrasher, then at Plymouth, recalled a late-night exchange with another colleague and Ron in a conference bar on measuring electoral bias. 'We outlined our ideas, and the project was up and running. Running, being the operative word. We'd sketch out some ideas, he'd reply, with comments and suggestions of his own […] it was then full steam ahead. Most academics are linear—first this article, then this and maybe another in the far future. Ron was quantum, a one-man multiple co-processor. Research topics that seemed unrelated were instead effortlessly, or so it seemed, gathered together […] which left us wondering, why hadn't we thought of that? It was our good fortune that Ron had.'

He collaborated with others and tolerated their slowness, but also relished the one-man hands-on 'cradle to grave' nature of his work. KJ recalled, 'Ron loved playing with data and his empirical green fingers were able to draw out the most interesting of findings from stuff that looked initially hopeless. He was a wizard at using the SPSS software'. He used large-scale secondary data and wanted, indeed needed, to be as close to the analysis as possible. He didn't chase big grants, nor work much with research assistants, rather loving getting his own hands dirty manipulating and analysing data.

There was real *quality* too. Of his writings, DG wrote, 'it wasn't jobbing-writing: I've always marvelled at his ability to write so much and yet to hit the target so many times'. This was recognised by election to learned societies and award of medals. He received the international Prix Vautrin Laud and, very rarely for a non-American, the Association of American Geographer's Lifetime Achievement Award, as well as being awarded an OBE for services

to scholarship in 2011. Not bad for a lad who had failed O Level English and never retook it.

His enormous capacity for work extended to an enthusiasm for 'Good Citizen' work too, much of it unheralded and unseen. PH wrote, 'He simply was the busiest man in the room—and yet had time to volunteer (and deliver) when most of us looked for excuses […] When the British Academy wanted a Fellow to take on editorship of its prestigious *Biographical Memoirs*, it was Ron to whom they turned', this an annual volume of a mere 500–600 pages. And, 'when we came to designing the *Dictionary of Human Geography*, it was Ron who volunteered to take on the heavy job of Senior Editor. […] He plugged holes, left by errant contributors, by simply writing the entries himself'. He wrote 740.

For long periods he edited the discipline's major journals, was elected to the Council of the Institute of British Geographers, became its Secretary, Vice-President and President, and started its Book Club, offering members a discount on new publications. His British Academy Memoir reported 'The list of committees he sat on (and often chaired) is dizzyingly long—and Ron was almost invariably a very active and involved participant'; while, internationally, John O'Loughlin (JO'L) told us, 'Ron was instrumental in getting the IGU Commission on Political Geography off the ground […] he converted vague ideas floated late one afternoon into a complete document ready for voting by early the next morning'.

Last, but by no means least, he was a tireless academic referee. Geoff Evans (GE) wrote, 'For 20 years I edited […] *Electoral Studies.* Ron was the superstar reviewer. Papers sent on Monday were reviewed by Tuesday. And thoughtfully and fairly reviewed too. This is unheard of. The only problem was that Ron was addictive. No other reviewer ever did this – especially an omniscient figure like Ron. I just had to hold back on sending him everything'. NT echoed this, 'He always refereed papers at speed too and I had to restrain myself from sending him papers to review on the grounds of exploitation'. It's no surprise that the Web of Science recognised him as a Top Peer Reviewer.

But he was so passionate about what he did that this could sometimes show in frustration over quite trivial things. AGH noted, 'He could be pretty irate at the keyboard—"why has the server failed again? the link to the printer is down again"—and I'm not the only colleague to be hit by emails drafted with the CAPSLOCK on'. DD said, 'He didn't suffer fools […] I do worry that he worked too much and too hard. I think […] partly […] as it staved off him worrying too much that he wasn't doing enough […] He could get in dark moods at times.'

What drove this relentless productivity? He enjoyed it (mostly), was passionate about it, and it could be done on his own terms (unlike being a VC). The need to pass it on to the next generation, maybe given his background, acted as a kind of therapy. DD had once been told Ron's father's own story – captured at the fall of Singapore, then four years in Changi and on the Burma Railway. On his return home he suffered both mentally and physically and Ron initially saw little of him. Hence one possibility is 'fatherless ambition: children who grow up without a father may have a stronger desire to prove themselves,

as they may feel that they have something to prove to society. This drive to succeed can manifest itself in various ways, such as academic achievements, and professional success'.[2] Similarly, a Sheffield colleague, Bob Haining, found, 'a man extraordinarily driven […] very serious […] who worked extremely hard, sometimes taking on far too much, and who was intensely competitive'.

Finally, NT noted, 'there was always a part of Ron that remained private […] an honesty and straightforwardness to him, for sure, but […] also real complexity […] that he usually only hinted at, using a veil of bonhomie to keep people at arm's length. However, sometimes when he was depressed another Ron could be briefly glimpsed and […] I sometimes wonder if his extraordinary productivity was also a way of crowding out wayward thoughts'.

We all have to find our own responses to personal pressures, those that come from beyond our control but also those we bring on ourselves. Academic giants are no different.

A departmental man

As DG noted, Ron's leaving the Vice-Chancellorship at Essex after just three years 'created a sensation at the time'. Whatever its reasons, his must have often been a lonely position there, deprived of the academic base he'd enjoyed for 30 years. There was no geography department. Rather, he now had to spend frustrating time on formal and ceremonial obligations (an oft told tale was of dealing with a university governor who wanted to honour Margaret Thatcher) and administering the work of others. The allure of a return to the teaching and research he loved, to departmental life, warts and all, proved too strong. DD wrote, 'He would send me emails from his VC office in Essex that often ended "have to go, boring emergency university finance meeting … " '. NT, the intermediary who oiled the wheels of his return, now to Bristol, where he was already well-known, hosted a small welcome party 'in which he spoke of his relief at being back on academic terra firma. What was extraordinary was how quickly [he] settled in and became part of the furniture'.

Others had noted similar levels of departmental engagement before. In Sheffield, Paul White (PW) remembered his caring and easy social way with his colleagues, adding 'he would also step in with issues that arose'. For Paul's oversubscribed Paris field trip one year, then Head of Department Ron volunteered to reinforce the staff team, on condition he and his wife had a few days prior academic acclimatisation. The Johnstons found themselves booked into a room in a cheap Parisian hotel of uncertain provenance, but for some reason with a large mirror on the ceiling…

There was absolutely no expectation of any 'helping out' in Bristol, but it happened, even so. He offered teaching to the School of Geography's final-year course on the interactions of societal change and environmental issues, and a first-year course in the history of our subject, here taking over its pedagogic reins from Peter Haggett (what a succession!). Clive Barnett (CB)

found him equally keen to deliver lectures in his Year 2 political geography option: 'His contributions on electoral geography inevitably highlighted the Swindon case, then with its two Labour MPs—winning at least one back was a sine qua non for a return to power'. He was also a major motivator behind the School's vibrant human geography research group in Spatial Modelling (now the Quantitative Spatial Science group: see Chapter 9), where he was ever-present in the audience, energising our weekly discussions with his eager questions and sharp wit. And how he relished being a frequent presenter of new work at its seminars.

The School's people really mattered to him as well. Keith Crabtree was touched that Ron made the effort of the trip from home to the Mendips for his celebratory farewell field trip, although he had not known him for long and was in a very different academic field. This was typical of his general friendliness and openness to all, irrespective of status and interests. This extended to retired colleagues as well: PH was particularly appreciative of Ron's email blizzard of news of the University where he'd worked since 1966, commenting, 'thought you might like to be kept in the loop'.

Wendy Larner (WL), by comparison a newcomer from New Zealand, was among many recalling Ron's physical presence with affection: 'Despite his prodigious scholarly output, Ron was always physically present in his department [despite being amongst those living furthest away], supporting his fellow researchers and taking time to join in wide-ranging morning tea discussions […] he was an exemplary and engaged colleague'. It helped that his own room led directly off the staff common room, so he couldn't just sneak in and out unnoticed, even had he tried. Ron rarely sat there alone, more usually as the centre of an (often conspiratorial) cluster of staff of all shades of geographical endeavour and levels of experience. And he really did love to gossip.

This time back in the hurly-burly of a busy and successful academic community was a very happy one, as can be sensed from his own words on this final part of his career (Johnston 2016). As an affectionate memorial to the time spent there, and what its social interactions meant to him and to his colleagues, it's now the Johnston Room, as shown in Figure E.2.

A people person

Whoever first coined this well-worn phrase might have had Ron in mind. Not only was he naturally gregarious himself but his company was likewise valued for its warmth, humanity, humour, humility and support for others. More of our respondents commented on this than on anything else, and a collation of just a few hopefully gives the flavour of them all.

When first meeting Ron with the editorial team of *The Dictionary of Human Geography*, a nervous DG found him 'warm, welcoming and immensely enthusiastic […] combined with a tremendous sense of fun'. Essex colleagues spoke highly of him as their VC. To Denise Lievesley (DLie) he was 'very informal,

Figure E.2: The Johnston Room, School of Geographical Sciences, University of Bristol; the door on the far right led to Ron's office



Source: Archives of the School of Geographical Sciences.

accessible, and chatty' and 'enjoyed being mates with colleagues'; to DS, 'one of the kindest and most thoughtful people I have known'; while, to Michael Harloe, he was, 'immensely helpful and supportive, down to earth and addicted to some excruciating puns […] a popular VC who everyone felt they could talk to without any deference'.

Similarly, at Bristol, Jan Rigby remembered 'no airs and graces … he was happy to chat with anyone'. PH recalled, 'one of the kindest and most thoughtful of men' whose generosity meant he 'was always prepared to carry the heavy end of the piano'; and, Nabil Khattab recalled 'his modesty and approachability […] his openness during his illness […] sharing personal and intimate experiences is a gesture of deep trust and friendship'. For David Rossiter, Ron was 'ever cheerful and supportive' as a co-researcher, while, for Roger Lee, his achievements 'never outweigh[ed] the value and significance of personal contact' […] and 'above all, humane concern for those with whom he came into contact'.

This didn't stop with their death. The last email one of us had from him reported the death of another colleague from a different university, and he wrote elegantly about a Bristol colleague, Les Hepple, who had earlier died in post, tragically young (Johnston et al. 2010; see also, Chapter 10, this volume). David Herbert reported Ron telling him of the death of a mutual friend, enabling him to connect with the family, and then his driving to Anglesey to deliver the funeral oration. And, as part of his scholarship into the quantitative revolution in geography, PH recalled he was anxious to resurrect the largely unheralded role of former geographers (Percy Crowe, Stan Gregory, Michael Wise) in laying the foundation stones.

Finally, just three cameos. David Cutts, his PhD student to be, told us he was at a low ebb, finding no interest from anyone in supervising his research proposal until DD faxed it to Ron, then in New Zealand, as a last chance. Within 15 minutes a positive reply came back. 'I was ecstatic: he believed in me when very few did. He completely changed my life'. But Ron was no soft touch either. When David needed some statistical modelling, 'he got off his chair, got on his step ladder to get a book down from the bookshelf […] threw it over to me, and then said read this, come back in three weeks with some analysis. I walked out, cursing under my breath […] but it was the best thing he ever did. He was a special man who meant the world to me'.

Monica Cox, the School of Geographical Sciences' cleaner, remembers 'a curmudgeonly man whose days didn't start right if there was no coffee (he liked it fresh, not stood in the pot), milk, or newspapers'. Yet, when she returned to work after her partner had suddenly died, 'I sat in the common room when Ron came in and sat beside me. He grabbed hold of my right hand, squeezed it gently but tightly and started tapping it. He asked me if I was alright and then […] "it will get better, you will get better, but it will take a long, long time … I know I can't help you but … you know where my office is … if you … need time out. Please go and sit in it, and I promise you no-one will bother you". With one final tap of the hand, he gently kissed me on the cheek and gave my hand one last squeeze, got up, and walked away. Up until that moment I didn't think Ron knew I existed'.

'Curmudgeonly Ron' got off on quite the wrong foot with Jeni Milsom. As Bristol's newly appointed School administrator, she was sitting with colleagues in the Common Room enjoying coffee. 'Ron strode up to our table, slapped down the Times Higher Education Supplement, looked straight at me and boomed "late again" then strode off. I was so embarrassed that I got red-faced and went back to my office […] After a while my embarrassment turned to anger […] I knew that he worked with politicians so I fired off an email that included "you may be able to speak to women in the House of Commons like that but you don't speak to me like that". A few minutes passed and I heard a knock on the door. A very sheepish, mortified […] Ron profusely apologised and of course he wasn't blaming me, he had expected me to be equally as indignant with the newsagents […] Over the years I learned not only what an eminent and highly respected scholar he was but what a kind, proud, generous and thoughtful man […] too'.

A principled improver

Many respondents wanted to remember Ron's underlying motivations of loyalty, honesty, justice and fairness, and, in consequence, his wish to make things better.

The trust and respect of others naturally followed, as Andrew Gamble for one, reported. Ron was in charge of resource planning in Sheffield, then its second most powerful position as chair of the Academic Development Committee (ADC). At a time of financial stringency across the HE sector, '[Ron] recognised the need for changes and reform if its universities were to survive […] he was the opposite of a technocrat and […] won enormous trust and cooperation from the academic community for the way in which he ran the ADC'. Honesty over his loyalty to his subject also lay behind later his decision to leave an even more powerful one, in Essex. This 'exemplified his strong moral compass', wrote DLie, a then colleague, while GE saw here a personal imperative 'to get back to being a true, and very special, academic'.

This 'geography' of his to which he returned was no ivory tower of airtight rooms. To DLiv, 'he always had a wonderfully expansive conception of geography's domain […] allergic to restrictive definitions', while Andrew Schuman, then his PhD student, was 'indebted to this day to his thoughts on the perils of balkanisation in academic endeavour'. Geography also mattered if it improved things. DG wrote, 'throughout our long friendship Ron […] taught me […] that our collective work matters only in so far as it makes a difference to the world'. To practise what he preached, KJ noted, 'he used blogs to get over the practical implications of even highly technical research'.

His contributions to electoral geography best illustrate this (see also, Chapters 3, 5 and 6, this volume). Britain's 'first past the post' Westminster system of how votes turn into seats, which turn into power, is predicated on a geographical framework of parliamentary constituencies, which rapidly dates as society changes. The outcome, as PH noted, often offended, 'his deep concern with fairness'. Ron actively interacted over many years with the Parliamentary Boundary Commission. One Commissioner, Ian McLean, noted, 'Ron was one of those who showed that the rules in place for the 4th English [Boundary] Review were mutually contradictory […] and that anything followed. Hence every political party could appeal on at least one of the rules to achieve the gerrymandering it sought'. He also became a veteran presenter at Westminster meetings (though he only passed muster for one on being given a tie, having forgotten his own). A second Commissioner, David (Lord) Lipsey, told us that, although a political outsider, Ron was effective in this role 'because he was an absolutely scrupulous academic with a vast corpus of work, politicians nevertheless trusted him'. His communication skills were crucial; DLie recalled, 'one rarely meets someone so steeped in their research interests who is able to convey their importance to someone from a different discipline'.

That said, his love for his subject and its real-world importance was not always reciprocated! Some contributors sensed he and it drifting apart.

(Prophets in their own country, and all that?) DLiv recalled one Ron email rejoicing, 'at last something to read in TIBG' [*Transactions of the Institute of British Geographers*, UK Geography's primary academic journal] – much clearly wasn't – while another to JO'L, shortly before Ron's death, lamented 'a few places [in the UK], including Bristol, manage to keep the flag flying for the geography I do' – this in the wake of an editorial desk rejection of a submission to a leading geography journal 'as being of insufficient interest to geographic readers'.

Two final insights here. First, DD linked Ron's approval of the Research Evaluation Framework (REF) of UK Higher Education to its being a vehicle for social justice within academe, 'a way in which grammar school boys like him could be rewarded and promoted over gentlemen scholars who did far less'. This upwards mobility of those like him, 'from fairly normal backgrounds', then created space for the advancement of following generations.

Second, Ron and Willie Smith, previously colleagues in New Zealand, met up again in 1976 at a geographical conference in South Africa. Ron was its official overseas guest, and before his formal address, 'he startled his audience with a cogent description of what he had heard in his recent stay in the country and consequent acceptance of his obligation and need to speak out […] He […] bluntly stated that his experience confirmed the need to reject the inhumanity of the apartheid regime […] as a vital precursor to South Africa's international acceptance, growth, and development and […] in securing justice for all its people […] Ron's statement was courageous, its impact strengthened by his sincerity and that his views were grounded in his own direct experience'. The Soweto Uprising followed later that same year, but, sadly, the end of Apartheid had to wait almost two further decades.

Ron relaxing

'All work and no play makes Jack a dull boy', so they say, and Ron certainly wasn't dull. Many contributors stressed how he enjoyed his leisure time, particularly in the company of others. It had a nuanced relationship with his professional role too, both providing what could be an all-consuming escape from the tremendous pace he set himself there, but also enabling him still to deepen his enjoyment of the places he knew and loved.

Never more so than with football. It is hard to tap on your PC on the crowded Saturday afternoon terraces and colleagues enjoyed being there with him too, as Martin Siegert and Martyn Tranter recalled when their teams visited his beloved Swindon Town, a passion he had inherited from his father. The craic continued well beyond the final whistle. MS had an email from Ron in 2019, 50 years after Swindon had won their (only) major trophy, reminding him that the scorer of their winning goals that day gave his name to one of today's stands at the County Ground: 'he was remembering people and staying connected'. Both Marti(y)ns remarked that it is through such lower league

teams that places, people, local history and customs become enshrined and reproduced, rather than at the mega-rich clubs, stuffed with mercenary players, here one season and gone the next. Keith Swift, who, until recently, was custodian of Geography porter's lodge in Bristol, had some lovely football memories of Ron too –'he would always have a smile on his face in the mornings, especially if his beloved team […] had won', and colleagues seeking an effortless opening gambit to a Monday morning coffee-time chat were well-advised to have boned up on Swindon's weekend result.

In more serious contexts, GE remembered football as a great oiler of winding-down conversations after the pressures of reviewing all those articles for *Electoral Studies*, while DLie reported how, when Ron was VC at Essex, 'even quite formal meetings […] began with a lengthy appraisal of the previous Saturday's football games'.

While no-one among our correspondents remembered Ron actually playing football, they do his on-field enjoyment of cricket, sometimes in unlikely settings. At a 1978 meeting of European quantitative geographers in Strasbourg (Figure E.3 records the hirsute 'British team')[3], David Unwin told us Ron tried to teach a colleague from Grenoble the rudiments of the game, at midnight, in the corridor of their residence, after an appropriately 'convivial' evening.

When Eric Pawson was due soon to join the Christchurch department that Ron had recently left, PW, then Ron's Sheffield colleague, 'thought a meeting

Figure E.3: British geographers at the first European conference of quantitative geographers in Strasbourg, 1978



Notes: With thanks to David Unwin for helping to trace and contextualise the photograph). Ron kept a copy of this photograph on his office wall in Bristol (see Figure 9.1 of this volume).

with Ron might help prepare me for colonial life. All I remember of this was Ron asking me if I was a keen cricketer and shaking his head when I said "no"'.

While in Christchurch, Ron regularly played serious third-grade cricket. The tradition was for team-mates of the batting team to take their turn at umpiring, as Graeme Wynn once did when Ron came in as opening bat. An apparent snick, a loud appeal, and the dreaded finger was raised. 'Back came a dark, incredulous glare, held for several seconds before Ron stormed off to the pavilion […] I became, in that moment, perhaps the only professional geographer to dismiss Ron Johnston'. It was a decision never forgotten. The errant umpire was reminded of his error on occasions long afterwards, including most recently when visiting Ron and Rita at home in Salisbury.

Finally, the bells. Many contributors remembered Ron's outstanding contributions to the world of bellringing, also honoured in detail in some of his obituaries. Jim Platt passed over to us that in the *Salisbury Journal* which provided chapter and verse of his achievements, he was described as a 'a ringer of national and international standing […] who could always be relied upon to be there for our services, whatever the weather'.

He carried this passion around his academic world of our Figure E.1 – there were always bells to be rung, after all. Simon Reading's (SR) *Ringing World Obituary* noted his promise was spotted early. When he left home for Manchester and university, the Marlborough Branch Secretary reported, with sadness, that 'Chiseldon's young and progressive ringer has left the district'; while during that 'paid retirement' in Figure E.1 he both regularly attended practice at St Stephen's, Bristol, and rang at St Thomas, Salisbury. His record, a ringing endorsement of commitment and passion, included several major peals, and spells as Ringing Master in both Christchurch and Sheffield.

As in his day-job, so here too, not only was Ron practitioner and leader but also teacher and author. His daughter, Lucy, was one of many he taught, though SR noted Ron's fuse was sometimes short when correcting the mistakes of novice ringers. And he published two major volumes on his passion, including the co-authored *Atlas of Bells* (Johnston et al. 1990), which he claimed to be his all-time best-seller, maybe in jest (no-one seemed sure!). This is a further instance where his academic and recreational lives converged.

A more serendipitous one befell CB while attending a meeting of the South West regional Workers' Education Association tutors. One turned out to be an active ringer from Tiverton who told him, when asked, that 'of course he knew Ron Johnston'. And when casual lunch or coffee conversations with Bristol colleagues turned to places recently visited with friends or family Ron would often interject with 'it has a fine ring of six', or 'sadly, no longer a resident ringing band there now'.

Bells could also be vital therapy in a stressful life. At Sheffield, Ron led the process of departmental reorganisation, leading to the difficult-to-handle recommendation to close Geology which he and the VC then had to convey. The THES's 'Don's Diary' column needed some copy about the hard times

currently being faced by universities, so Ron sent in one on the week he had to break this news: 'I got some interesting responses, including to the aside I put in about relaxing by going to Sheffield Cathedral on the Thursday evening and practising for the national 12-bell striking contest' (Johnston 2017, p. 37). Our Figure E.4 shows him truly in his element, in the bell tower.

Figure E.4: Ron in his element in a bell tower



Source: Salisbury Journal, 14 July 2020.

One last peal

> Kua hinga te totara I Te Waonui a Tane
>
> (The totara [giant tree fern] has fallen in the Forest of Tane).

Wendy Larner quoted this apt Maori proverb, over the much-mourned passing of a great person, to help capture our sense of loss as an academic family following Ron's death.

But many contributors were also reminded of the loss to his personal family, though it would be invidious to pick out specific sources. Throughout his career and working life, Rita, his wife since 1963, has been a constant confidant, critic and sounding-board, a source of love and support, just as his role as father, grandfather and great-grandfather have in their turn brought joy and pride. Theirs is a very special loss and theirs a treasury of many personal memories alongside ours.

We hope we've given a fair and broad-brush picture of what it's been like to have known and worked with and around Ron as part of his professional life, an astonishing academic on many of the metrics of such things, and one who cared about more than just his own contribution to them. In Noel Castree's (2021) words, 'Geography's more extraordinary cartographer and navigator […] Ron was a passionate and highly accomplished all-rounder […] he cared about the discipline, not his own place in it' (p. 617).

As academics ourselves we're also aware of the limitations of what we have done, and we know Ron would expect us to acknowledge these. Most of those we invited to contribute did so, but a few not, finding it too difficult or painful. Umpteen others who could reasonably have been asked were not, through our own constraints of space and time. Maybe our picture has some in-built biases as well. It's inevitably painted in sharper tones for the later years than the earlier ones and maybe in brighter colours too: for all of us our outlooks upon others and theirs upon us evolve over time.

Despite his immense achievements and the recognition they rightly received Ron was no academic chameleon, effortlessly adjusting within and without to his changing environment. Along with the warm tributes from his Essex colleagues and the myriad VC orations faithfully delivered there, he began yearning for another, earlier, life to which to return, and he suffered as much from personal anxieties and stresses as does anyone who's a member of the human race.

But we and, we're sure, our contributors, are all the richer for having been able to interweave our lives with his. He'll be most welcome to live on in our thoughts as long as we live to have them. And his many contributions will live on in his treasured discipline of geography.

Thanks, Ron, for all the memories.

Notes

[1] This is a cricket reference (specifically, to Sir Donald Bradman).

[2] https://richcoward.com/fatherless-ambition-phenomena/ [Accessed 20 August 2025].

[3] That 'team' is, from left to right in the photograph, Lyndhurst Collins, Ron Johnston, Mike Bradford, Nigel Thrift, Bob Bennett, John Dawson (obscured), Les Hepple, Neil Wrigley, Dave Clarke, Stan Openshaw, Mike Batty and John Thornes, with Dave Unwin and Ray Harris crouching.

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Morgan, David L (2023) 'Exploring the use of artificial intelligence for qualitative data analysis: The case of ChatGPT', *International Journal of Qualitative Methods*, vol. 22, https://doi.org/10.1177/16094069231211248

Taylor, Peter; and Johnston, Ron (2016) *Geography of Elections* (Routledge Library Editions: Political Geography), Abingdon: Routledge.

Appendix E.1. The cast list (colleagues named in the Epilogue)

Names	Key Affiliations
Clive Barnett (CB)	Geography colleague, Bristol
Mike Batty	Geographer, UCL
Simon Burgess	Economics colleague, Bristol
Monica Cox	Geography colleague, Bristol
Keith Crabtree	Geography colleague, Bristol
David Cutts	Geography postgraduate supervisee, Bristol
Danny Dorling (DD)	Geography colleague, Bristol
Geoffrey Evans (GE)	Political Science, journal editor
Justin Fisher	Political Scientist, Brunel
Andrew Gamble	Colleague, Sheffield
Derek Gregory (DG)	Geographer and co-editor, British Columbia
Peter Haggett (PH)	Geography colleague, Bristol
Bob Haining	Geography colleague, Sheffield
Michael Harloe	Colleague, Essex
David Herbert (DH)	Geographer and co-author, Swansea
Tony Hoare (AGH)	Geography colleague, Bristol
Kelvyn Jones (KJ)	Geography colleague, Bristol
Wendy Larner (WL)	Geography colleague, Bristol
Roger Lee	Geographer and co-editor, Queen Mary
Denise Lievesley (DLie)	Data Archive colleague, Essex
David Lipsey	Parliamentary Boundary Commissioner
David Livingstone (DLiv)	Geographer, Belfast
Iain McLean	Parliamentary Boundary Commission
Jeni Milsom	Geography colleague, Bristol
Nabil Khattab	Sociology Colleague, Bristol
John O'Loughlin (JO'L)	Political Geographer, Colorado
Eric Pawson	Geographer, Christchurch
Jim Platt	Bell-ringer, Salisbury
Carol Propper	Economics colleague, Bristol
Colin Rallings	Political Scientist, Plymouth

(Continued)

Appendix E.1. (*Continued*)

Names	Key Affiliations
Simon Reading (SR)	Bellringer and obituarist, Sheffield
Jan Rigby	Geography colleague, Bristol
David Rossiter	Geography postgraduate supervisee, Sheffield
David Sanders (DS)	Colleague, Essex
Andrew Schuman	Geography postgraduate supervisee, Bristol
Martin Siegert (MS)	Geography colleague, Bristol
Willie Smith	Geography colleague, Christchurch
Keith Swift	Geography colleague, Bristol
Peter Taylor	Geographer, co-author, Newcastle
Michael Thrasher	Political Scientist, Plymouth
Nigel Thrift (NT)	Geography colleague, Bristol
Martyn Tranter	Geography colleague, Bristol
David Unwin	Geographer, Leicester
Sarah Whatmore	Geography colleague, Bristol
Paul White (PW)	Geography colleague, Sheffield
Graeme Wynn	Geography colleague, Christchurch

Appendix E.2. On reading further

Inevitably our [AGH's and KJ's] account is informal, selective and subjective. For those wanting more comprehensive and sober treatment, two important sources are Pattie, Charles; Taylor, Peter, and Jones, Kelvyn (2021) 'Ron Johnston', *Biographical Memoirs of Fellows of the British Academy*, vol. 20, pp. 89–109, which is freely available at www.thebritishacademy.ac.uk/publishing/memoirs/20/johnston-ron-1941-2020/, and Murphy, Alexander; Sidaway, James, and van Meeteren, Michiel (2022) 'Ronald John Johnston, 1941–2020', *Annals of the American Association of Geographers*, vol. 112, no. 4, pp. 1195–1205. https://doi.org/10.1080/24694452.2021.2009721. The latter is an 'in memoriam piece' that required special permission to be published in the Annals. It provides a comprehensive and detailed account that considers the person as well as what was achieved. It is complemented by an online supplement that contains his overwhelming CV up to 2013: 'Ron's productivity is so daunting that his bibliography becomes larger than life' (Murphy et al. 2022, p. 1197).

There are also several autobiographical pieces. In time order:

Johnston, Ron (1984) 'A foundling floundering in World Three', in: Billinge, Mark; Gregory, Derek, and Martin, Ron (eds) *Recollections of a Revolution: Geography as a Spatial Science*. London: Macmillan, pp. 39–56, in which he writes (p. 43) of his own work 'lots of little empirical pieces, few of them containing more than a simple analysis of a small dataset on a trivial hypothesis'.

Gold, John R. and Shepherd, Ifan (1983) 'An interview with Ron Johnston', *Journal of Geography in Higher Education*, vol. 7, no. 2, pp. 109–123. https://doi.org/10.1080/03098268308708881. Here Ron is questioned about his personal and educational backgrounds, career in geography, teaching styles, differences between students in different countries, graduate study in geography, writing books, the use of textbooks, and the role and problems of geography in higher education. The first part represents a candid autobiographical reflection from school days to the Chair at Sheffield.

With the 1986 book *On Human Geography* (Oxford: Blackwell) he attempts to fashion *'a satisfactory personal approach'* that did not separate out 'Ron Johnston as academic geographer from Ron Johnston as husband, father, Sheffield resident, change ringer, supporter of Swindon Town and Geoffrey Boycott, etc., etc.' (p. 3). The result is an extended book-length essay on how to do geography from a realist philosophical perspective, recognising that the problem was 'not empirical research but empiricism' (p. 3).

Johnston, Ron (2016) 'It's the money that makes no difference: Thoughts from "paid retirement" ', *The Arab World Geographer*, vol. 19, nos. 1–2, pp. 151–156. https://doi.org/10.5555/1480-6800.19.1.151. This is a commentary on a

volume of accounts by retired geographers of their work practices. It updates his autobiography to cover the Bristol years (post-1995) as being part of the Spatial Modelling research group in the School: 'My last decade has been extremely rewarding and productive because of the context in which I have been privileged to work […] I have—as always through my career—been interested in a wide range of things at the same time and somehow been productive in them, largely through the generosity of my colleagues. (Almost all of my publications in the last decade have been joint: this essay is a rare exception)' (p. 153).

Johnston, Ron (2019) 'Encountering Alan Wilson, filling the gaps in datasets (from the knowns to the unknowns) … and disciplinary history/progress', *Interdisciplinary Science Reviews*, vol. 44, nos. 3–4, pp. 301–318. https://doi.org/10.1080/03080188.2019.1670433. This autobiographical essay covers Ron's interactions with mathematical geographer Sir Alan Wilson over more than 40 years. It focuses on early work on gravity models and using entropy-maximising to fill holes in tabular data to study disaggregated voting patterns. Using that exemplar, he explores its implications for the study of disciplinary history in which many work within silos with little interaction between groups. He demonstrates that chance encounters play a considerable role in the interactions that do occur.[1]

Finally, there is an unpublished autobiographical piece, written in 2017 and entitled *An attempt at autobiography/memoir*. It had been deposited with the British Academy. This (unaccountably) stops around 1992 on the transition from Sheffield to Essex but headings suggest that it was planned to be continued. Fellows of the British Academy are requested to submit autobiographies concentrating on early aspects of their life that obituarists are unlikely to know or have easy access to. He writes that it is not an 'ali-biography' (a phrase used by the Labour politician Austin Mitchell, which is justification for past wrongs), and that it is written from memory (as he has no archive as such) and from his CV (a closely typed 186 pages that does not cover the last three years of his life). Searches have been made for a fuller version, but nothing has been found. It is characteristically frank in its account.

We have used all these biographical materials to inform our contribution in this volume.[2]

Notes

[1] Ron nominated Sir Alan for an honorary doctorate at the University of Bristol but sadly died before it could be awarded 'post-COVID'. The oration was therefore given by a colleague (in 2022), who was nevertheless able to retain words of Ron's high appreciation of Alan: see https://www.bristol.ac.uk/alumni/our-alumni/honorary-degrees/honorary-graduates/2022/sir-alan-wilson-/

[2] We are also aware of a Wikipedia entry, self-written in 2013, before Ron found out the rule that you could not write about yourself! It is important as it sets out what Ron thought were his main and distinctive contributions. It is over 2,500 words in length. However, we are unable to identify where this is presently available to view.

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GEOGRAPHY AND A GEOGRAPHER

REIMAGINING THE DISCIPLINE AFTER RON JOHNSTON

Edited by Richard Harris, David Manley and Robert Mayhew

Professor Ron Johnston OBE, FAcSS, FBA was one of the most celebrated geographers of his generation. Producing a prolific research record that spanned six decades, Johnston was an insightful, thoughtful, and open-minded contributor to debates and research practices in human geography, to understanding the histories and productions of geographical knowledge in modern Anglo-American geography, and to the study of electoral, political, urban, and social geographies. He was widely recognised as a champion of geography whose work continues to influence the field today.

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