

23 * *Traversing Space*

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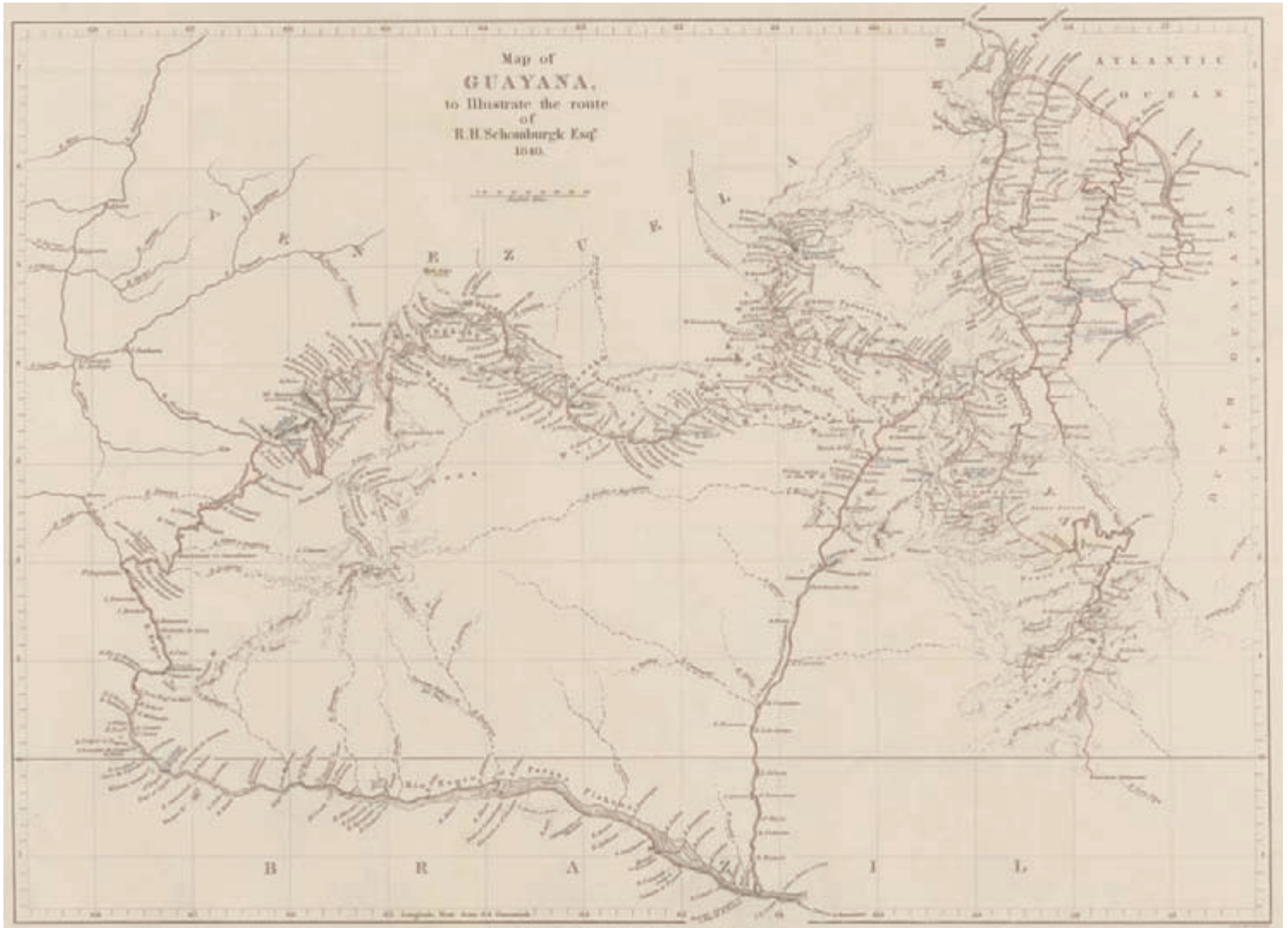


Figure 23.1. John Arrowsmith, *Map of Guayana to Illustrate the route of R. H. Schomburgk, Esq.*, from *Twelve Views in the Interior of Guiana* (London: Ackermann, 1840), 159. 38.8 × 27.2 cm. Courtesy of the Yale Center for British Art.

The *Map of Guyana* reproduced here (fig. 23.1), which comes from a large illustrated volume about northern South America published in 1840, is interesting in itself (it was made by an Anglicized Prussian explorer, Robert Schomburgk, whose boundary surveys have long been a major bone of contention among Venezuela, Brazil, Suriname, and Guyana; this map records some of those disputed expeditions), but even more as an example of a significant

nineteenth-century cartographic genre, one of considerable importance to a proper understanding of the relationship between mapmaking and empire building. What we have before us is the route map of a colonial explorer, the sort of thing that abounds in the pages of dusty nineteenth-century geographic journals, now safely squirreled away in the remote storage facilities of national and university research libraries. In their day, however, these meticulous survey reports from the

periphery, pouring into the hands of colonial administrators and metropolitan imperial agents, fed an insatiable desire for geographic knowledge about the expanding domains of Anglo-European power in an age of empire. Cartography and imperialism have long been comfortable bedfellows (mapmakers finding employment in the service of ambitious sovereigns, and they in turn receiving maps on which to plan their next moves or record their victories), but a serious historical investigation of this symbiosis requires that we look beyond mere slogans—“Maps are power!”—and dig in on the particular ways that maps were actually realized and deployed in the complex process of European expansion. Survey maps like this one offer an excellent occasion for this sort of work, a sample of which follows in this brief essay.

To begin, we should ask the familiar litany of historical questions: Who made these sorts of maps? And how? And for whom? And how were they used? Let’s take those questions in turn, using Schomburgk’s map as a point of departure, but always keeping in mind the larger cartographic project of which his work is an instance. In closing, we will take a moment to consider the legacy of this project as a whole, and the forms of resistance it has engendered.

So who made maps like these? Men like Robert Schomburgk, who while by no means a sophisticated savant, nevertheless had a solid grounding in practical mathematics, together with a taste for natural history and an appetite for demanding travel under difficult conditions. This sort of training was seldom learned in schools or universities (the curricula of which remained basically classical and humanistic at this time), but it could be acquired in the navy or military, or in the civilian practice of land surveying. The basic labor of this kind of cartographic project was the “traverse,” the survey technique by which a route through unfamiliar territory came to be inscribed on a sheet of paper, together with enough of the topographical features to constitute a workable map. People have been making maps this way for most of historical time, and Boy Scout manuals still lay out how such a sketch map can be done with little more than a compass. But rapid improvements in instrumentation over the course of the eighteenth century dramatically increased the positional accuracy expected of the traverse surveyor (and burdened him with considerably more kit and toil). The main development

involved new ways of “fixing” the control points for such a survey. Meandering down a river with a compass in hand, keeping track of the angles of the bends, estimating the distances by means of speed and time, gauging offsets to distant features of the land—all this will get you a pretty good squiggle down a sheet of paper. And the same thing can be done on foot across the plains or through the mountains (in fact, traveling guides of the nineteenth century counseled would-be explorers to determine the exact length of their stride, and to learn to keep count of their steps as second nature—the better to serve as a human pedometer in the field).

But just where does that squiggle *really fit* in the larger scheme of things? To resolve that question demands something like a set of reference points, fixed with respect to some general cartographic framework. The preferred framework is the grid system of longitude and latitude, but it wasn’t all that easy to position oneself in that grid in the era before satellite GPS. Latitude, admittedly, was not especially hard (lightly tweaked, the altitude of the pole star, which can be measured with a sextant, gives one’s north-south position in degrees from the equator), but longitude had been the headache of sailors and other travelers for a very long time. Only by the end of the eighteenth century had a pair of portable, reliable, and robust techniques for establishing one’s east-west position (in degrees from an arbitrary reference meridian—usually Greenwich, England) emerged.¹ One involved carrying a superaccurate watch known as a chronometer, which could keep local time at the reference meridian; comparison with local time (imagine using a sundial) at another location could be translated into a longitudinal distance in degrees. The other approach made use of almanacs of lunar motion and enabled an explorer to figure out local time at the reference meridian (where he was not), by means of observations of the moon’s position with respect to particular important stars. From there the process was the same as the chronometer technique. Both of these approaches had been developed for use by mariners, but they were easily adopted by inland geographic explorers, who used both when they could, the better to specify, as exactly as possible, the longitude and latitude coordinates of a few points along their routes.²

Fixing plenty of such points was essential to best-practice traverse surveying by the beginning of the nineteenth century, for it was these fixed points that

made overlapping surveys comparable and transformed the work of a given explorer into a testable proposition, since those who followed could take their own observations at those same locations and compare results. Of course, all of this only worked if the actual points on the ground from which the original observations had been made were obvious to later travelers, and this led to a preoccupation with landmarks and landmarking among traverse surveyors, who spent much of their time carving inscriptions, erecting cairns, burying markers, sketching promontories, and otherwise investing their key locales with legible meaning—the better to anchor their coordinate points to the turf.³

With all that said, it is now worth taking a closer look at “Schomburgk’s” map (which, as the title indicates, was actually prepared by the prolific geographer-publisher John Arrowsmith on the basis of Schomburgk’s surveys). I mentioned at the outset that this map originally appeared in an illustrated book, *Twelve Views in the Interior of Guiana*. Knowing what we have reviewed above about the challenges of traverse surveying, we are much better able to appreciate both this map and the volume of which it was a part. A book like *Twelve Views* offers an instructive example of the sort of work that had to be done to establish the landmark points in a region remote from the colonial metropolis. After all, it amounted to an elaborate picture book depicting, and telling stories about, the most important landmark sites of Schomburgk’s expeditions. Each image of a mountain or campsite or village is accompanied by geographic coordinates, and the map at the front of the book locates each of these fixed points cartographically (look carefully at the map and you will see that some place-names have been underlined in color, which means that illustrations of those sites are included in the pages that follow). The book thus epitomizes the central labor of traverse surveying (fix lots of points and link them to landmarks!) and exemplifies how survey maps worked in a larger representational project that served to make remote colonial spaces visible and coherent to metropolitan audiences.

This last point takes us to a consideration of the uses of these sorts of maps. Schomburgk, like many explorers of his day, undertook his initial expeditions in South America in the service of a geographic society, in this case the Royal Geographical Society (RGS) in London. While not everyone was as fortunate as he in receiving

actual remuneration for his labor from the RGS (many such surveys that found their way into print were the work of enterprising young men with funding from other employments in the hinterlands of empire, or of those with personal wealth and a taste for adventure), the great majority of traverse surveyors corresponded with such organizations, which served to collate and distribute geographic knowledge while also serving as the hubs of the social networks linking government officials, commercial prospectors, and those with local expertise in distant parts of the globe (see chap. 25). The subscription list of the *Twelve Views* (itself a commercial undertaking) offers a who’s who of these different kinds of imperial agents: colonial governors, magistrates, landed gentry with sugar interests in the Caribbean, members of the London scientific community, military officers, ranking officials in the Colonial Office, and so on.⁴ By recovering the links among Schomburgk’s surveys, his book, its map, its images, and its readers, we recover, in a significant way, how “British Guiana” came to be conceived as a coherent geographic entity—and, even more importantly, how it came to be conceived as British.

There is more to say, since British Guiana is no longer British, even though the region defined by Schomburgk’s labors has endured in the postcolonial state known as Guyana. This is a messy business, one that has entangled Schomburgk’s work (particularly his later surveys as a crown-commissioned boundary surveyor) in fractious international politics. For our purposes it is interesting to consider the extent to which these disputes can be traced back to the very kind of survey work we have been discussing here: the traverse. Traverse surveying, as we have seen, was based on the routes of explorers making their way through difficult terrain, and forever trying to reach deeper into terra incognita. The men who spent years of their life in such work were, in the end, obsessed with “going beyond,” with the *plus ultra* of exploration—they crossed boundaries for a living. By contrast, the colonial administrator’s fantasy of a nice, even, accessible territory, laid out on a tidy map edged with clean lines, had little to do with their experience of the land. Both the explorers and their paymasters traded in cartography, but it is important to remain sensitive to the very different ways that they understood and used these charged pieces of paper: explorers inscribed them with their lives, and government officials

spread them on tables in London and Paris to divvy up the realm. At times these differences made trouble: when traverse surveyors were charged (as many were) with the state-simplifying work of defining boundaries, they had a tendency to overstep the very lines they drew, leaving an ambiguous legacy to those who followed. This was very much the case with Schomburgk, whose boundary surveys on several occasions surpassed themselves in ways that proved disastrous for subsequent negotiators, and for the people who inherited both his maps and the lands through which he wandered. Much the same story can be told for other parts of the world, departing from other such maps.



Notes

1. Needless to say, many outside the British Empire dissented on the use of Greenwich; see chaps. 21 and 35.
2. For more on the history of these techniques, see: William J. H. Andrewes, *The Quest for the Longitude: The Proceedings of the Longitude Symposium, Harvard University, Cambridge, Massachusetts, November 4–6, 1993* (Cambridge, MA: Harvard University Collection of Historical Scientific Instruments, 1996).
3. It is instructive to consider this form of surveying in contrast to the more elaborate and synoptic contemporary technique of systematic “trigonometric” surveying. Administratively demanding and labor intensive, trigonometric surveys were difficult to mount and complete, but they did

set new standards for cartographic rigor in the period. For more on all this, see Matthey Edney, *Mapping an Empire: The Geographical Construction of British India, 1765–1843* (Chicago: University of Chicago Press, 1987). And compare my own book, D. Graham Burnett, *Masters of All They Surveyed: Exploration, Geography, and a British El Dorado* (Chicago: University of Chicago Press, 2000).

4. This sort of “subscription list” is now mostly a thing of the past, but in the nineteenth century it was not uncommon for expensive books to be presold as a way to offset production costs. The names of this initial slate of prominent patron-buyers were then (sometimes) listed in the final product, both as a thank-you and as advertising to potential purchasers.

Additional Readings

- Bell, Morag, Robin A. Butlin, and Michael Heffernan, eds. *Geography and Imperialism, 1820–1940*. Manchester: Manchester University Press, 1995.
- Braveboy-Wagner, Jacqueline. *The Venezuela-Guyana Boundary Dispute: Britain's Colonial Legacy in Latin America*. Boulder, CO: Westview Press, 1984.
- Burnett, D. Graham. *Masters of All They Surveyed: Exploration, Geography, and a British El Dorado*. Chicago: University of Chicago Press, 2000.
- Godlewska, Anne Marie Claire, and Neil Smith, eds. *Geography and Empire*. Cambridge, MA: Blackwell, 1994.
- Stone, Jeffrey C. “Imperialism, Colonialism and Cartography.” *Transactions of the Institute of British Geographers*, n.s., 13 (1988): 57–64.