

PART THREE

Experiences

The chapters that follow consider the place of *anthropoi* in the Anthropocene. In the face of unprecedented human-environment interactions, how will communities engage with the challenges of living in a bioengineered world? There is already a strong narrative among Anthropocene scientists that humanity should resist despair in the face of unprecedented challenges such as global climate change. Instead, the path lies open for us to imagine communities that not only survive but also thrive in this new epoch. The studies in part 3 offer examples of the resilience and adaptability of human societies, which, over the past 250 years, have responded creatively to the challenges of the Anthropocene. The “experiences” examined here interrogate the capability of human communities past and present to respond to moments of fracture and crisis.

In the late 1700s, at the dawn of the modern European Industrial Revolution, state mechanisms were relatively weak, requiring people to respond locally to specific problems. Using the example of a flood in eighteenth-century Newcastle, Berry’s chapter 9 shows how community self-organization anticipated the ways, if not the means, by which grassroots environmental activism would later organize to lobby for action in the face of political intransigence. By the twentieth century, state mechanisms became formalized, and new forms of artificial boundaries were raised between competing jurisdictions and commercial interests. Livelihoods that were sustained in traditional river cultures were replaced by industrial-scale exploitation of riverine resources by multinational corporations (consider the value of hydroelectric energy, fisheries, and river transportation). Likewise, communities in both industrial nations and the developing world faced new challenges from urbanization and population pressure. For a time, many rivers that are at the

heart of the world's major cities were forgotten, becoming open sewers that were too poisonous to harbor life.

While Berry's chapter considers a historical experience of environmental devastation—and how one community organized itself in response—the remaining chapters examine the contemporary context and how people live with their Anthropocene riverscapes. Kane focuses on how changing approaches to geoengineering in Singapore shape and reshape communities and cultural practices. Using the idea of “front- and backstage urban transformations” Kane shows how anthropology can uncover the constantly shifting interactions between society, culture, and environment. Miss and Carter provide a case study of environmental public art practice. Using several installations in Indianapolis, Indiana, they show the importance of artistic interventions in environmental consciousness. The book ends with a reflection by Matt Edgeworth on the Chicago River, a striking example of a river of the Anthropocene. Using a canoe to experience the river, Edgeworth takes the reader on a phenomenological journey to explore it as a “hyperobject.”

The chapters in this part offer some hope that human societies have the capacity to co-create a more sustainable future that acknowledges the finite quality of our natural resources but only if the idea of the “commons” prevails over narrower concerns of commercial profit and short-term gain. Flourishing communities of the future will have acknowledged that watersheds, floodplains, and confluences do not respect political boundaries. More than gross domestic product, biodiversity and human well-being are better measures of health in coupled human-environment systems, of which rivers are our prime examples.

The Great Tyne Flood of 1771

Community Responses to an Environmental Crisis in the Early Anthropocene

Helen Berry

The Anthropocene presents humanity with environmental challenges on an unprecedented scale that can seem unfathomable and daunting. Scientists have debated the big data that measure the impact of the “Great Acceleration” (Steffen 2015) on earth systems (such as rising pollution and sea levels, sinking deltas, and severe weather events linked to climate change). Social scientists and humanities researchers are examining the implications of these changes for societies across the globe, from economists who address growing inequalities in the distribution of wealth to political theorists and legal experts who question whether current mechanisms for national and international governance are fit for these radically altered times (unlike politicians and bureaucrats, hurricanes do not respect geopolitical boundaries; neither do river catchments under flood conditions).

Part of the process of trying to make sense of complex and deeply linked environmental, economic, and social change in the twenty-first century has been the attempt to find precedents and strategies for survival by looking backward as well as forward in time. The “microhistorical” approach is a widely used methodology in historical research and is an attempt to reconstruct a particular historical moment in context—often through the selection of a moment of disruptive change such as a riot, a show trial, or a transferral of power from one person or body to another (Lepore 2001). The microhistory offered in this chapter explores the ways in which the local population in the Tyne River valley in Northeast England responded to one of the most catastrophic natural disasters in its modern history—a flood that took place on the night of November 16–17, 1771. It is based on previously undiscovered archival evidence that came to light in the summer of 2013 in the archive held by the Society of Antiquaries of Newcastle—a previously uncataloged book

of documents and claims relating to the organization of compensation for flood relief victims (hereafter SANT/BEQ). The chapter starts with a brief account of this flood and the extent of the damage it caused, then turns to consider how a disaster relief committee was organized at very short notice as well as the methods that they devised for compensating flood victims. The inadequate mechanisms of local government coupled with an emerging nation-state without a national task force for dealing with environmental disasters required an innovative and swift response from people with the social rank, authority, experience, and resources to provide relief in the absence of alternative power structures. Some of the issues and challenges faced by those who were flood victims, and by those who tried to restore both transport infrastructure and economic and social stability—not to mention the safety and well-being of those affected—provide a case for comparison with social responses to other flood crises in different time periods and riparian cultures (e.g., Welky 2011). As such, it explores the opportunities and constraints faced by a proto-industrial society in the face of an environmental catastrophe. Finally, some general remarks are made by way of conclusion about the potential for historians' storytelling to engage wider audiences and motivate communities to engage with education, conservation, and policy formation by raising awareness of local river cultures.

The particular example of an eighteenth-century flood event in Northeast England merits consideration amid the uncertainties of our present circumstances. Some of the most influential contemporary thinkers whose work has transcended narrow disciplinary boundaries have embraced Churchill's formulation that "the farther back you can look, the farther forward you are likely to see" (Guldi and Armitage 2014). The historians Jo Guldi and David Armitage, responding to "big data" on climate change, argue that "renewing the connection between past and future, and using the past to think critically about what is to come, are the tools that we need now. Historians are those best able to supply them" (2014, 13). Yet, as these historians point out, it was scientists who first became embroiled in what was essentially "a controversy about history," a "major public battle" over the chronology and character of the Anthropocene, initiated by the Nobel Prize-winning chemist Paul J. Crutzen (Crutzen 2002; Crutzen and Steffen 2003), that became the primary task of the Anthropocene Working Group (Syvitski 2016). In the search for more effective and sustainable solutions to earth systems governance, scientists have looked to human history to provide models for government and market economies whose footprints (however defined) on ecosystems were light. Here historians could offer an as yet unrealized potential to contribute to the project of creating a sustainable future. Historians of different time periods and cultures have the knowledge of diverse precedents that scientists are seeking. We are also good at gathering and sifting evidence that can be transformed into meaningful narratives that help to make sense of big data not only for academic audiences, but the wider public. We know how to interrogate causality and address the impact of

continuity and change over time. Usually this is not the “deep time” of prehistoric geological eras but the relatively short time frame of human history recorded in language, for the sake of argument the past ten thousand years (Corfield 2007).

Unlike geologists, or indeed our closer colleagues in archaeology, most historians work within the much narrower prescriptions of one or two centuries of expertise, although how time frames are divided is mostly a culturally specific as well as discipline-specific determinant. Guldi and Armitage (2014) assert that historians must return to analyzing longer time frames because of the pressing need to consider “big data” and broader processes of change over time presented by environmental history. This has more often been the case in economic history, where researchers have mapped and quantified the transition from an organic preindustrial economy in the West (reliant on wood or charcoal for power generation) to one based on fossil fuels. A recent, innovative example is a highly influential book on energy in the Industrial Revolution by one of the most influential contemporary scholars on the subject, E. A. Wrigley. Wrigley reconceptualizes economic change through the long-term environmental shift from direct (organic) reliance on plant photosynthesis to new production horizons fueled by coal (Wrigley 2010, 14). Societies built on the organic economy, he observes, are consigned to what the classic economic historian W. S. Jevons called “laborious poverty,” whereas surplus wealth and the rise of tertiary sectors of the economy flow from the exploitation of fossil fuel (Jevons 1906). Some accounts of industrialization are embracing environmental history, yet it is still not uncommon to find analyses of the transition to modern society based on fossil fuels that paint a broadly positive picture of human progress. Economic histories of the English Industrial Revolution tend not to address the environmental impact of these processes and have yet to address their contribution to the Anthropocene directly. By contrast, elsewhere there are examples of histories that integrate the environmental consequences of mineral exploitation and river engineering (Scarpino 2014) and those that have charted the collapse of civilizations built on finite resources (Diamond 2005; Davies 2012).

Reevaluating the eighteenth and nineteenth centuries and Western European industrial history within the conceptual framework of the Anthropocene presents challenging, even revolutionary, possibilities for a totally new critical framework. The present chapter asserts the value of microhistory as a powerful vehicle for forensic analysis of disparate forms of evidence, as well as the creation of meaningful narratives around key issues that are commonly witnessed in the Anthropocene. Assuming, for the sake of argument, that we accept the original hypothesis propounded by Crutzen and Steffen that the Anthropocene began around 1800 (Crutzen and Steffen 2003, 254), the critical phase of the “early Anthropocene,” marked by the rise of fossil fuel exploitation and rapid urban development in the West, ought to merit detailed historical reevaluation. The conditions we are living with today—increasingly frequent flood events, changes to weather systems, rising sea levels, and the rapid disappearance of sea ice—are the accumulated



FIGURE 9.1. John Hilbert. Medieval Bridge, Newcastle upon Tyne, ca. 1727. Engraving. By permission, Newcastle City Library (accession no. 15399).

consequences of industrialization processes that began to develop rapidly in the late 1700s. The birthplace of the world's "first industrial nation," Northeast England offers a case study of how the processes of industrialization quickly diversified, replicated, and refined elsewhere in Europe and on the North American continent (Crosby [1986] 2004). In the nineteenth and twentieth centuries, industrial transformations based on fossil fuel exploitation were witnessed globally, from the Indian subcontinent to the Far East and China to Latin America (Osterhammel 2014). What happened in Newcastle during a sudden flood event under conditions of the early Anthropocene could provide clues about the long-term trajectory of the industrialized world.

...

The first days of November 1771 were marked by incessant rain and northeasterly winds. To the northwest, near the source of the Tyne past Corbridge, the Solway Moss bog became saturated and flooded the rich farmlands populated with livestock (Donald 1774). The harvest of oats, a local crop, and hay for overwintering

sheep and cattle was already gathered, but the water seeped into storage barns and ruined precious crops. To the south, the tributaries of the Tyne swelled into a raging torrent that by 11:00 P.M. on November 16 had raged down the valley, gathering speed and sweeping everything away—crops, cattle and people, even buildings. In Newcastle, the five-hundred-year-old medieval bridge (fig. 9.1), sorely in need of repair, began to creak and topple. A bottleneck was created between the piers of this ancient structure by silting—a problem exacerbated but not entirely caused by ships ballast-dumping sand that was not solved by the regular attempts to remove as much as 100,000 tons a year by dredging. Very little about the Tyne was “natural” in the eighteenth century; human intervention in river systems in Europe and across continents can be traced to prehistoric times (Edgeworth 2011). In England, there was an acceleration in the rate of river management during the medieval period (White 1962). From at least the fifteenth century, the Tyne was dammed, fished, and used as a source of water power and the site of industrial production. Its banks were farmed and agricultural waste and silt ran off into the river via tributaries from the Upper Tyne to the confluence with the North Sea (Wright 2014). The source of the Tyne in upland areas with sparse vegetation and rough terrain was lightly populated and rural in character. It gave rise to only one town of significant size, Newcastle, which had a population of thirty thousand people by 1700. In the 1600s, there was already significant lead mining activity in the Upper Tyne region. By the early 1700s, three quarters of a century before the period usually associated with the Industrial Revolution, the Tyne was already a working river, used to transport coal from open-cast mines via flat-bottomed boats (or keels) to the collier ships anchored off Tynemouth, ready for transportation to London.

Many schemes had been devised to solve the problem of silting on the Tyne, mainly a human-induced problem that hindered the commercial life of the river, but there existed ancient and conflicting interests that mitigated against a joined-up solution to the problem. The problem was made worse by structural engineering: the old Tyne bridge, situated about 8 miles from the mouth of the river, further encouraged silting. This bridge was on the approximate site of one dating back to Roman times, and it had a practical and political function. The only crossing point for human traffic and goods for several miles, its apex marked the point between two jurisdictions—on the Newcastle side, the rights of the incorporated Newcastle Council (whose powers were granted by Royal Charter) and the quasi-feudal jurisdiction of the bishop of Durham, whose rights extended over the Gateshead (southern) banks of the Tyne in County Durham and who had the power to levy charges for maintenance but preferred instead to divert money to the coffers of the church. Repairs were haphazard, and as figure 9.1 indicates, the people living, trading, and traveling on the bridge did so at their own peril. “Pontage”—an ancient tax on using the bridge by the local guildsmen, such as fullers, dyers, glaziers, goldsmiths, and weavers—was collected erratically, and royal grants were erratic. The famous engineer John Smeaton, who was known for building lighthouses in



FIGURE 9.2. Engraving showing postflood ruin of the Tyne Bridge. Illustration from John Brand, *History and Antiquities of the Town and Country of Newcastle upon Tyne*, 2 vols. (1789). By permission, Dr. Peter Wright (private collection).

the southwest of England, was called in to do a survey of the bridge, and estimated in the year before the flood, 1770, that £150–200 were needed for urgent repairs—but nothing was done (Garret [1818] 2010).

As the small hours of the morning of November 17, 1771, wore on, and the water surged from higher up the Tyne valley, people at the quayside in Newcastle began to evacuate their dwellings and flee for their lives. Houses began crashing into the river. A catastrophic sight greeted the townsfolk of Newcastle and Gateshead, north and south of the River Tyne on that morning (fig. 9.2). The river had risen eight feet above the high-water mark of an average spring tide. Dwellings in the Sandhill area just along the quayside were six feet underwater. Coal ships had been lifted onto the quay. Keel boats, debris, and timber littered the riverbanks. Two of the twelve low stone arches of the bridge were swept away. One distraught witness, a Mrs. Fiddas, witnessed one of the arches collapse and carry away her husband and a maid. There were other fatalities: Byerley the ironmonger and his son, Ann Tinkler, a draper, and an apprentice to James the cheesemonger. Many bodies were never recovered. In one account, the strange sight of one of the houses that had

been on the bridge belonging to Patten the draper, floated down the river, and the local newspaper reported that in it were an unharmed dog and cat. By 4:00 P.M., the floodwaters had subsided.

The fall of the Tyne bridge had social and economic ramifications of national and international importance. North and south were effectively cut off from road communication, and the maritime coal trade was disrupted by the flooding of wagonways that transported coal from mineheads to the loading points for the river “keels” that transferred their cargo to collier ships. The only other crossing point on the Tyne, farther upstream at Corbridge, was a seventeenth-century stone construction—a pack bridge for sheep dating back to 1674—and this survived. There were twenty-five recorded fatalities (Northumberland County Council 2010) and hundreds of families displaced from their homes. Formerly affluent households were said to be reduced “to the most abject misery and want,” with some of the poorest folk left with nothing but the clothes they were wearing when they abandoned their homes (*Narrative of the Great Flood 1772*, 2–3).

It is difficult to separate out the enlightened self-interest of the ruling elites in the eighteenth century from their philanthropic and charitable activities—but these, rather than strategic government initiatives, were the only source of solutions to the problems caused by this particular environmental catastrophe. It is here that the newly discovered archive of flood disaster-related documents provides invaluable information about what happened next. Opening a subscription book was a common method for raising donations for a cause in the Georgian era, and it was a familiar mode of organization for the ruling elites to adopt in response to a crisis. Money was raised in this way for one-off charitable causes, capital building projects, and charitable institutions such as hospitals (Butler 2012). Lists of donors were printed in the hierarchical order of social precedent in English society (fig. 9.3), usually starting with the nobility and ruling elite and proceeding through the ranks of professional men and local councillors. Within just a few weeks, churchmen, titled families, the Corporation of Newcastle, donors anonymous and named, from as far afield as Scotland and London, started to send donations to the relief fund. Newcastle had a precociously developed print media at this time—it was one of the earliest provincial towns to have a newspaper—and the pages of the *Newcastle Courant* kept readers updated about the consequences of the flood and how to donate to assist victims.

The subscription list bypassed the usual method for providing poor relief, which at this time was administered at the parish level, reflecting the fact that relief was provided by one-off charitable donation rather than a local levy. The flood, of course, did not respect parish boundaries; there were in fact at least fifteen historic parishes flanking the Tyne that had the potential to be affected by the floods (figs. 9.4, 9.5), although those in Newcastle and north of Newcastle were more badly affected; parishes downriver of Newcastle such as South and North Shields were protected by the presence of “Jarrow Slake”—a bend in the river

Northumberland

SANT/BEQ/1/14/46
46

A Subscription of the Nobility Gentry Clergy
and others for the immediate Relief of the unhappy
Sufferers within this County by the late dreadful and
destructive Inundation - -

Mr. Blackett - -	£	8	0
100	50	0	
Mr. Grimwick.	53	10	
Matthew Bidley - -	20		
Sir Matthew Bidley - -	10		
C. Agnoley - -	20		
Wm Carr	20		
L. Me good	30		
James	10	10	
Will ^m Bainbridge	5	5	0
S. Clarke	5	5	
10	10	0	
284	00	0	

FIGURE 9.3. "A Subscription of the Nobility Gentry Clergy and others." The start of the list of flood relief donors in the county of Northumberland, showing amounts donated (1771/2). SANT/BEQ/1/14/46. By permission, Newcastle Society of Antiquaries.

enhanced by a man-made culvert—which helped to direct water away from habitation and farmland. Other river systems were affected by the flooding from the same severe weather events, giving rise to simultaneous crises across neighboring counties to the south and west, specifically County Durham, north Yorkshire, and Westmoreland.

ORGANIZATION AND SOCIAL ACTION

The first meeting of what became the disaster relief committee was in the market town of Hexham on December 19, 1771. The committee's first resolution was

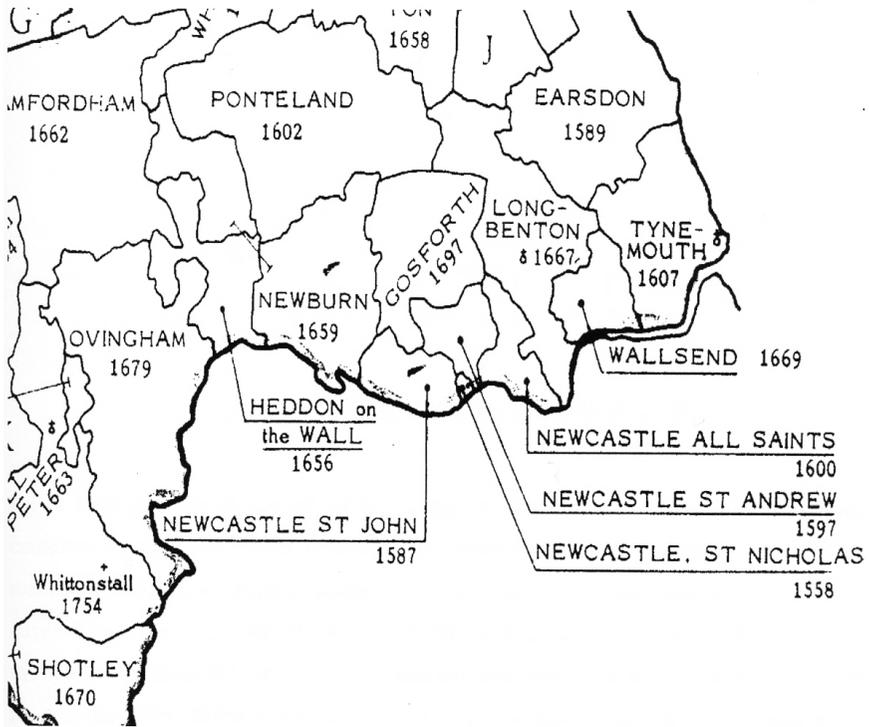


FIGURE 9.4. Historic parishes of the Tyne (a) North of the Tyne. By permission, Dr. Peter Wright.

that subscription books were to be opened for charitable donations in Newcastle, Hexham, (South and North) Shields, Morpeth, Alnwick, Belford, Rothbury, Wooler, Stamfordham, Bellingham, "Haltwezel" (Haltwhistle), and Berwick. The second resolution was that subscribers should pay their money upon subscription as humanitarian need was urgent ("the objects of this Charity are in Want of immediate Support"). The committee comprised male vested interests and the propertied elite—"33 Gentlemen and Clergymen residing near to the River Tyne where the principal damage occurred"—who were appointed "to distribute the money, assess individual loss suffered, their present condition and circumstance, and calculate the distribution of money accordingly" (SANT/BEQ/1/1/4/1-2). Women did not number among the committee, although they featured prominently among donors to the charitable relief of flood victims. The committee followed through with the decision to publicize their activities in the local press. At their ninth and final meeting (July 6, 1772), "The Committee having made a final Distribution of the Subscriptions it is Ordered that the Secretary do send to the

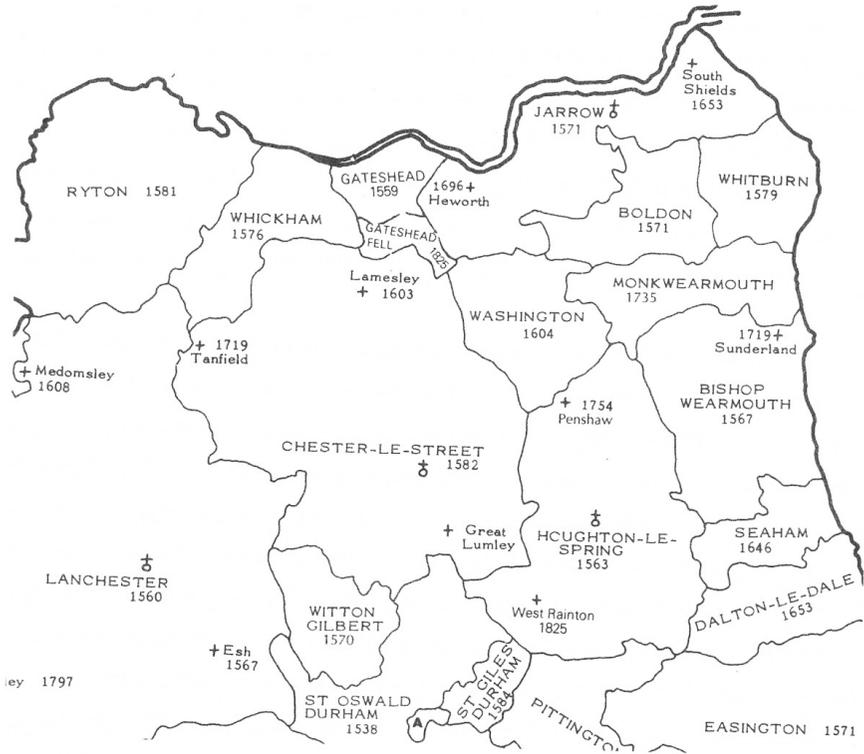


FIGURE 9.5. Historic parishes of the Tyne (b) South of the Tyne. By permission, Dr. Peter Wright.

printers of the Newcastle Newspapers a General State of the Account to be by them inserted in their Papers.”

The ninth resolution limited the time frame for the existence of this charity, setting finite goals for its operations: the subscription books were to be open until January 20, 1772, and no longer. The eleventh resolution was that once all money had been distributed, the committee resolved to publish in the Newcastle newspapers “an account of their Receipts and Disbursements.” The names of the thirty-three members of the committee were listed and published. Meticulous record keeping characterized the committee’s operation. What is remarkable is that in the context of England at this time the legal and bureaucratic mechanisms and infrastructure existed to organize relief with relative speed. Essential features were bureaucratic probity, account keeping, and respect for the exercise of trust on behalf of professionals charged with this responsibility, which helped to facilitate the allocation of resources. The press played a crucial role in raising money by

subscription and communicating the activities of the disaster relief committee, in effect making the process transparent and accountable. By contrast, the Common Council in Newcastle had entrenched and vested interests that made their response slow and (many felt) negligent to the urgent needs of the local people, not just in supplying the basic needs of the people who had lost homes and possessions, but also the traders whose supply routes had been interrupted. The Corporation of Newcastle was expected—and to some extent did—assume the initiative in organizing relief and repairs to the infrastructure. Within a year of the flood, a ferry service was quickly provided for the local mail, £2,400 were set aside to build a temporary bridge, and engineers were commissioned to consider options for rebuilding a permanent structure (Newcastle Common Council Minutes 1772). It would be anachronistic to expect the council to have acted as comprehensive providers of a coordinated humanitarian relief program at this time, although they did make a collective donation to the relief fund.

The need to ration relief donations became immediately apparent to those appointed to administer charitable donations. Their response reflected an increasingly entrenched class system in English society but proved an effective (if controversial) form of triage. At their fourth meeting (February 5, 1772) the administrators discussed distributing funds among “Sufferers” (flood victims): the “first Class of Sufferers” or “distressed Sufferers” were those deemed to be in most urgent need, without a roof over their heads in many cases and little or no means of subsistence; “Second Class of Sufferers” were the less urgent cases whose livelihoods had nevertheless been affected severely; “the third Class” were those whose nonurgent claims for compensation could be deferred to a later date (fig. 9.6). Although the charity’s main patrons were drawn from the most powerful ruling elites in the region, those who donated included both women and men from relatively humble backgrounds. Of the 495 individually named subscribers, only 10 are listed with their occupations. North Shields and Hexham recorded the occupation of some (male) subscribers: Hexham recorded 7 subscribers’ occupations (of its 122 entrants): “Barber, Blacksmith, Butcher, Clogger, Hardwareman, Tailor, Watchman”; North Shields recorded 3 subscribers’ occupations (of its 5 entrants): two attorneys and a surgeon. Some subscription lists include the titles of some entrants that denote status or rank: 2 “Sea Captains,” Stamfordham and Newburn; 12 clergy from the towns of Morpeth, Wooler, and Haltwhistle and another unspecified area; two physicians across Wooler and an unknown location. Higher up the social scale was a donor who was a baronet from Stamfordham (SANT/REQ/1/1/4/17–20, 22, 28–31, 34, 35–40, 43–44, 91). From the outset, there was a marked variation in levels of donation: those in the Dilston area who had suffered few direct effects of the flooding contributed nothing “tho’ rich,” while others in the Corbridge area, though they were also spared the worst flooding, “have given liberally” (SANT/REQ/1/1/4/60).

Another aspect of the social organization of capital that made relief efforts more effective in this context was the development of a local banking network

Ovingham Parish Sufferers 3 Lists

Class	Name	Amount	Calculation
1 st Class	John Carr, Nagg	50 8 1/2	$\div 8 = 6 10 1/2$
	John Johnson, Ovingham	20 9 10	
	John Johnson, Ovingham	9 - -	
	John Johnson, Ovingham	3 13 5 1/2	
	John Johnson, Ovingham	2 18 10	
2 nd Class	John Johnson, Ovingham	1 1 10	$\div 3 = 11 18 8 1/2$
	John Johnson, Ovingham	1 11 -	
	John Johnson, Ovingham	1 9 9	
	John Johnson, Ovingham	1 2 10	
	John Johnson, Ovingham	3 - -	
Ovingham Total		35 16 2	$\div 3 = 11 18 8 1/2$
3 rd Class	John Johnson, Nagg	2 - -	$\div 3 = 1 6 8$
	John Johnson, Ovingham	13 6 7 8	$\div 3 = 5 19 2 1/2$
	John Johnson, Ovingham	10 - -	$\div 3 = 3 10 0$
Ovingham Parish Total		59 9 9 1/2	
<i>Heddon on the Wall Parish Sufferers</i>			
2 nd Class	John Johnson, Ovingham	4 5 1/2	$\div 3 = 2 1 5 1/2$
	John Johnson, Ovingham	1 2 10	
	John Johnson, Ovingham	4 5 -	
Heddon Total		6 12 1/2	$\div 3 = 2 1 5 1/2$
Total of the two parishes		66 1 1/2	

S. I. have given Ovingham 1/2 of the 10 - - - - - I had no more nothing to do

FIGURE 9.6. Categories of recipients of relief in the parishes of Ovingham and Heddon-on-the-Wall, Northumberland (showing different “classes” of sufferers, left-hand column). SANT/BEQ/1/1/4/74. By permission, Newcastle Society of Antiquaries.

and the presence of professional men who were trusted citizens known for their probity and administrative skills. Deposits of donations for the relief operation were made in two Newcastle banks, with scrupulous recording of receipts by the committees for each county. Disbursements were made according to need, in line with the principles set out by the found Subscription Committee in Newcastle. Trusted professionals volunteered their administrative skills, specifically attorneys such as Ralph Heron, one of the most active and efficient administrators of the Northumberland County donations, and clergymen who were trusted to act as loss assessors across the region.

Loss assessors signed that they had delivered “regular and just” estimates to the Subscription Committees, detailing household by household the specific goods, livestock, and crops lost, damaged, or destroyed (fig. 9.7). Damage done to buildings, land, fences, and grain sown was not included in the estimates made by loss assessors. Compensation was then paid pro rata, according to the “class” of sufferer, as categorized by the Subscription Committee overseeing the disbursement of donations for each county (tables 9.1, 9.2).

234

We whose names are under written, do hereby Certify that we are well acquainted with y.^e Character & Circumstances of Mary Graham Widow ^{of Low Elswick} and know her to be an object worthy of y.^e Charity & Benevolence of well disposed persons, & are well satisfied, the under mentioned Estimate of the loss she has received by means of y.^e great Inundation of the River Tyne is just & true; and we do Sincerely recommend her to the notice of y.^e Committee appointed for the Distribution of y.^e charitable Collections made for such unhappy Sufferers **Low Elswick**
 March 3. 1772

To the	£ 13 6
Spinning Wheel	0 5 0
Damage Done to a Clock	0 2 6
Do to a Dresser	0 3 0
Do to Drawers	0 2 0
Do to Wearing Apparel	0 10 6
A Brass Cook	0 1 6
	2 0 0

John Brunton Curate of St Johns Parish.
 Tho: Simpson Factor Mar. 3. 1772
 John Atkinson
 Chris Atkinson
 Tho: Garret

FIGURE 9.7. Loss assessment for Mary Graham, widow, of Low Elswick. March 3, 1772. SANT/BEQ/1/1/4/f. 234. By permission, Newcastle Society of Antiquaries.

HUMAN CONSEQUENCES: CONFLICT

As noted, there was variation in the amounts donated across the region, with some areas displaying considerable generosity and others almost none. The committee appointed to oversee the process quickly ran into complications and conflict. One high-profile donor, Alderman William Fenwick of Bywell, demanded his money

TABLE 9.1. Amount of compensation paid for flood damage by category of “sufferers”

	£	s.	d.
First-Class Sufferers	989	6	7
Second-Class Sufferers	415	15	5
Third-Class Sufferers	354	11	1
Persons not in any particular class	139	9	7
Expenses attending the Committee	65	10	0
Total payments made	1,964	3	9

SOURCE: River Tyne Flood Papers (SANT/REQ/1/1/4/13).

TABLE 9.2. Subscriptions collected January–March 1772 by geographical location

Subscription Book Totals	£	s.	d.
Northumberland	92	11	0
Hexham	12	12	6
North Shields	3	8	0
Morpeth	44	13	6
Alnwick	56	14	0
Belford	51	5	0
Wooler	79	0	6
Bellingham	7	10	6
Stamfordham	26	5	0
Berwick	146	7	6
Haltwhistle	12	3	0
Whitley in Hexhamshire	13	4	0
Newburn	9	6	0
Corbridge	15	3	0
Haydon	9	1	3
Unknown location (coll. by Rev. Allan)	40	12	0
Total	619	16	9

SOURCE: River Tyne Flood Papers (SANT/REQ/1/1/4/17–45 and 53–91).

NOTE: These are not total figures for amounts raised (see table 9.1) but illustrates distribution by region: there is an additional Northumberland Subscription Book (SANT/REQ/1/1/4/46–52).

back so that he could donate to specific families (SANT/REQ/1/1/4/54). A suggestion was made that the subscription lists for donations should remain open for a longer time, given the logistical difficulties of receiving and distributing money to and from counties at a greater distance from Newcastle. More seriously, there was a dispute over whether sufferers in Newcastle or the surrounding counties were benefiting disproportionately from charitable donations, with a meeting advertised in the local press to agitate for a review of whether compensation was being fairly distributed. The authority of the founding Subscription Committee was challenged, as was the legitimacy of putting all donations into Newcastle banks rather than ensuring local people were compensated more immediately from

donations in their local area. At its worst, the fallout from the flood catastrophe of 1771 highlighted the preexisting tensions that existed within and between urban governance and the “handmaiden” status of its rural hinterlands in the English provinces. (SANT/BEQ/1/1/4/11–13). Though the River Tyne was already well on its way to becoming a fully human-engineered river system by the second half of the eighteenth century, the interconnectedness of cause and effect, of human action and a chain of consequences from source to sea, was not well understood in the era of proto-industrialization, characterized as it was by fragmentary governance, local and competing hierarchies of power, and divided political jurisdictions. As Jason M. Kelly highlights in the first chapter of this volume, social inequalities were reinscribed from early on in the Anthropocene, with varying degrees of suffering experienced at different levels of society in the same catastrophic flood event. Perhaps on these grounds, it is indeed valid to speak of more than one “Anthropocene”: at least one for the rich, one for the poor.

. . .

This is a case study in the action taken as a response to a flood disaster in the early Anthropocene situated amid the process of coal-powered industrialization, of which Newcastle and its hinterland were the major source in the English Industrial Revolution. The extreme flood event of November 1771 on the River Tyne was preceded by several other recorded floods in the eighteenth century on the Tyne and its neighboring river systems. It was also followed by subsequent flood events in the nineteenth century, although none matched the severity of the 1771 flood, measured in terms of fatalities, disruption to the transport infrastructure, or loss of assets in the form of property and livestock (Northumberland County Council 2010). The flood thus was partially a natural disaster caused by an extreme weather event, but its disastrous effects were also the result of human modification of the River Tyne catchment, evidenced in recurrent river silting caused by agricultural development along the riverbanks and ballast dumping, industrial processes such as mining, and alterations such as calverts to the flow and course of the Tyne and its tributaries.

Attempts on the part of local and national authorities to address the crisis that followed within existing political frameworks and traditional jurisdictions were fragmentary and largely ineffective. In the context of England at the end of the eighteenth century, it was patrician values, and a paternalistic concern for the welfare of parishioners, that drove relief efforts at the local level. The Corporation of Newcastle, made up largely of coal-owning local magnates, intervened to rebuild the transport infrastructure so as to allow the resumption of the coal trade, and the road connection between north and south of the city, as quickly as possible. The rural catastrophe wrought by this flood is thrown into particularly sharp relief if we consider France in the 1770s, and the starvation and food riots that precipitated the Revolution of 1789. The River Tyne flood disaster of 1771 could have had serious national and even international political ramifications if no compensation

had been forthcoming to agricultural workers and their families. The balance of economic drivers, social and political stability, remains in constant jeopardy today in the face of severe weather events, climate change, and river flooding around the world. The rhetorical gloss put upon charitable responses to environmental disaster must be regarded now, as then, with some skepticism:

How much so ever we may unhappily be divided amongst one another in religious or political sentiments, all seemed to unite in that spirit of charity and benevolence which so remarkably characterises the English nation. (*Narrative of the Great Flood*, 1772)

Public anger in response to on-the-ground difficulties in providing timely and adequate relief was present in the early Anthropocene, and was a forewarning of the inability of modern governments to respond adequately to environmental crises of much greater magnitude.

Looking at this English environmental disaster before the rise of the modern nation-state reminds us of the importance of local responses to catastrophes with potentially global ramifications. If the nation-state fails to provide adequate solutions to these catastrophes, and patrician responses by the local ruling elites are an anachronism, then on what do we rely? Questions of scale are critical. Thinking beyond local politics and statutory agencies, going where the floodwaters go, considering the ways in which rivers transcend the artificial boundaries imposed by human interaction, must be one response. This is an approach seen already in the establishment of River Trusts in England, which is a network of not-for-profit organizations formed by volunteers and environmental specialists over the past thirty years to work with local communities to improve habitats, educate schoolchildren, lobby policy makers, and take a holistic long-term view as guardians of river catchments who oversee ongoing regeneration. Like the donors of small amounts to the flood disaster of 1771, local peoples in the future must feel invested in the solutions that are brought to their door—sometimes literally and sometimes via the media and the imagined community of mutual interests in a riverine culture that flows so often unnoticed, until disaster strikes. This chapter has proposed that historians are useful, even essential, to interpreting large and complex data and archival evidence for outward-facing public engagement purposes; for our skills are at providing interpretation and making sense of narrative. It is essential that we work toward developing a common language and framework for the environmental challenges that lie ahead.

ACKNOWLEDGMENTS

I am extremely grateful to Lindsay Allason Jones, OBE, president of the Society of Antiquaries, for bringing this remarkable archive to my attention; to Scott Ashley, Caron Newman, Philip Scarpino, and James Syvitski for additional references; and to Ria Snowdon and Peter Wright for assistance in preparing data for this chapter.