

Age of Revolution

Theme Summaries & Key Messages (Ben Marsh)

This provides an overview of the major historical developments warranting coverage within each sub-theme for the project, though some areas will be more fertile (and therefore receive more coverage) than others, as discussed at the October 2017 meeting of the Education Committee. The intention is to provide a precis and some concise context for key features, and to demonstrate linkages within and across themes. The overviews are concluded by a set of bullet points indicating “Key Messages” to push in each sub-theme, usually in response to our over-arching questions: what transformations were occurring, where were they most visible, and who did they impact upon?

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Key Messages

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Political Revolution

Revolutionary Ideas

The Age of Revolution was foreshadowed by (and overlapped with) an Age of Enlightenment. This involved the spread of new ideas through intellectual exchange, the expanding printing press, and a loosening of religious controls which allowed men, and later women across many countries, to begin questioning and evaluating their positions and societies. Changing ideas about education, and a desire for improvement and reform, did not necessarily bring radical change, but the culture of questioning soon heralded larger challenges to the political status quo around the world. Criticism threatened to undermine long-established structures of power, including the monarchy and the aristocracy, and to destabilise the legitimacy of empires and the Church. The printing press allowed radical thinkers across the world to influence, support, and engage with one another, precipitating monumental events and forcing new thinking about power, citizenship, and international relations.

Most historians accept that ingrained ideas about liberty were a key force in driving Americans to declare independence from Britain in 1776. Key thinkers helped to justify the drastic step of revolution, among them Thomas Paine, whose urgent arguments were so influential that John Adams stated “without the pen of the author of *Common Sense*, the sword of [George] Washington would have been raised in vain.” Paine’s words, and others’ viewpoints about the risky republican experiments in the new United States, were to incite and directly influence the outbreak of the French Revolution in 1789. As each revolution unfolded, they brought in their wake a new suite of voices and publications, all connected back to core ideas about rights, civil liberties, and social values. These then took meaningful form in the state innovations that arose from revolutionary contests, such as the Napoleonic Code (1804) that replaced the eclectic mixture of former feudal and customary laws across much of Europe.

In Britain, Mary Wollstonecraft extended the arguments to consider the place of women, while Olaudah Equiano and other black writers epitomised a newfound willingness to challenge the institution of slavery (abolished in Britain in 1807). In turn, conservative authors and intellectuals such as Edmund Burke sought to justify existing structures, or proposed gradual reform and organic change, often warning of the social consequences and upheaval prompted by radicalism. By the 1830s, counter-revolutionary thinkers and moderates had plenty of examples to look back on. The vortex of ideas and reforms set in motion during the Age of Revolution culminated in *The Communist Manifesto*, published in 1848 by Marx and Engels, whose explanation of historic class conflict and whose vision of a classless future (in which workers could unite) became enormously influential in global politics in the twentieth century. Without the ideas to underpin, guide and justify change, the Age of Revolution would never have begun. And we still live with its terms of engagement, though their meanings have changed: the language of “right wing” and “left wing” harks back to the chamber of the National Convention during the French Revolution. To understand the importance of words is to understand the power they have and the responsibility that all authors must bear.

Key Messages: Revolutionary Ideas

New ideas emerged about equality, rights, and freedom that were then contested:

- Things didn't have to be the way they always had been!
- Individual liberty (self-fulfilment) was not just for the privileged few but was intrinsic to being human. Equality was framed as a natural right of all people – including the poor, women, and racial or ethnic minorities
- Political systems needed not be “top down” and should involve the people
- The Church should not limit people's life chances, or get political privileges
- Colonies could become independent from empires
- Oppressive institutions ought to be questioned and confronted, with an emphasis on freedom to speak, think, and expose inequalities.

American Revolution

When thirteen of America's colonies declared themselves independent from Britain in 1776 the question was whether this was an unjustified rebellion driven by a handful of petulant colonial troublemakers, or a legitimate movement rooted in King George III and his ministers' unacceptable demands and repressions. The American Revolution began with arguments about taxes and representation within the empire, but spiralled into an all-out global war and the birth of a new sprawling republican nation still professing adherence to “English” liberty and still wedded to racial slavery.

The Americans first revolted and then found a justification for their actions. Though the “story” of the revolution is often told as a natural and shared patriotic endeavour, the reality was much more divided and messy, and its success was only possible with the aid of foreign powers. Between 1765 and 1789, Americans argued with one another, fought internal wars among classes, races, and regions, and only tentatively and haphazardly built the constitutional structures that would endure as the United States of America. They reluctantly became a global beacon for self-determination and independence and provided a blueprint for creating and protecting freedoms – with a Constitution and Bill of Rights that are still held up as a model and an epitome of freedom and liberalism.

For all of its limitations, the American Revolution proved that it was possible to defy one of the mightiest powers on earth, to use popular mobilisation and ordinary citizens to fight ideological and military battles, and to give practical shape to theoretical ideas about the conduct of politics. It opened

up the continent of North America to westward settlement, seriously compromising the prospects of many indigenous peoples. It prompted a reconfiguration of power within the British Empire, forcing Britain to turn to India and Africa to pursue imperial enlargement. It set off a train of decolonisation movements in the Americas that would leave the hemisphere virtually independent. And it rebounded on Europe in a range of ways that left deep impressions in the decades and centuries to come – offering a home for European immigrants, a market for European industry, and a model for European

Key Messages: American Revolution

The British Empire was split asunder by a great movement for liberty:

- The first major New World power decolonizes (setting a model for others)
- Thirteen colonies launch an experiment in republican federalism on a larger scale than ever before
- Universal rights are the justification for a formal written constitution, placing emphasis on liberty, equality, and the pursuit of happiness
- More ordinary people gain access to a political voice in new constitutions
- Monarchy is defeated, and religious matters minimized in formal politics
- The institutions of slavery and patriarchy are challenged but not dislodged

revolutionaries.

French Revolution

The French were key allies for the American revolutionaries and spent large sums on supporting their rebellion – providing munitions, manpower, and ships. In return, they gained the chance to pressurise their longstanding enemy, the British Empire, and inadvertently imported radical ideals from across the Atlantic. The French Revolution that followed had its roots in the issue of taxation, like the American. But France's revolutionary upheaval began not across the sea but in the very heart of the nation, ripping apart longstanding assumptions about the nature of authority, sovereignty, and rights.

The concentration of power in France under the old system ("*Ancien Regime*") had always lain with the monarchy, aristocracy, and dominant Catholic Church – far more flamboyantly than in many other northern European countries. Enlightenment writers and cartoonists had long highlighted how unfair it was that the Catholic Church owned ten percent of French land, was exempt from government taxes,

and inflicted its own tithes (a kind of tax) on the large and disenfranchised French populace, but bad harvests exacerbated tensions. Resentment was fanned and began to focus on the absolute control of the monarchy and feudal privileges. A fearful Louis XVI first called and then attempted to silence his Estates-General (Parliament) when they outlined a list of grievances and proposed reforms in May 1789, but this action sparked riots, rebellion and the storming of the symbolic Bastille. In fairly short time, the monarchy was shackled and eventually overthrown as constitutional delegates first abolished feudalism, then disestablished the Church, and finally spectacularly declared France a republic in 1792, sending Louis XVI and his despised Queen Marie Antoinette to the guillotine the following January.

The period from 1792 witnessed an unprecedented sweep of political, social, and economic reforms, bringing war in their wake as France mobilised vast armies to protect its borders and secure – perhaps export – its revolution in the face of European hostility. Just as real a threat emerged from within France, not so much from the banished aristocracy, but as radicalised factions competed for power – the revolution itself becoming an excuse for all manner of civil wars, brutalities, and power struggles that often had class and regional dimensions. With wars on France's borders, its colonies in chaos and confusion, and the nation gripped by the "Terror" (ideological witch hunts for traitors) and suffering continued economic distress, stability would only be secured by the emergence of a new powerbase at the centre.

Leadership arrived in the form of Corsican-born Napoleon Bonaparte, whose rise through the army and opportunistic assumption of powers from 1799 soon catapulted him into a new position. At once the saviour and subverter of the Revolution, in the years to follow he built an empire from its wreckage, and drove new armies and new innovations across neighbouring European states until he was stopped at Leipzig in 1813 and then Waterloo in 1815. Notwithstanding Europe's long scramble to halt Napoleon, the revolutionary ideas unleashed by the French Revolution – among them *liberté*, *égalité*, and *fraternité* – proved even harder to contain. They would influence countries and peoples far and wide, as well as perennially returning to drive new French upheavals. The French Revolution set up a new model – perhaps the definitive model – for what revolution looked like, and the powerful effects it could achieve. Whether the investment in radical change and in social and political justice was worth its cost in blood and trauma depended on one's perspective, as it would again and again in centuries to come.

Key Messages: French Revolution

Old systems were torn apart and popular mobilization transformed the face of Europe:

- Internal dissent brought down absolute monarchy
- Transformation and redistribution of wealth and power in the name of “liberty, equality, fraternity”
- Citizens were mobilized to fight in new ways, and to fight one another
- Removing longstanding institutions created huge upheavals and opportunities – feudalism and slavery were largely abolished
- The message of revolution threatened the geopolitical status quo in Europe
- Once unleashed, revolutionary forces were hard to contain, involving much bloodshed
- Revolutions gave rise to new heroes and tyrants, such as Napoleon Bonaparte

British Politics in the Age of Revolution

Britain opposed both the American and French Revolutions, for they posed severe threats to Britain’s territorial empire, naval and commercial strength, and diplomatic and political security – bringing war, boycotts, and invasion scares. But the revolutions and questions of how best to respond to them naturally prompted much self-searching, introspection, and division within domestic politics and society. In some senses, Britain had already experienced its own grand revolution a century earlier: its balanced constitutional status had been established in the wake of the Glorious Revolution in 1688 and cemented in 1707 (the date of union with Scotland), following a period of seventeenth-century civil and religious wars in which an English king had once been decapitated and republican structures embraced. The arrival of the Hanoverians in the eighteenth century may not have been universally popular or harmonious, but the soft constitutional monarchy did not fundamentally challenge the notion of parliamentary sovereignty so celebrated by the dominant political forces (the Whigs).

Calls for continued reform of British politics and for removing barriers to those who were marginalised (usually because of their class, region, or faith) became more shrill and more frightening in the context of unfolding revolutions in America and France from the 1760s to 1790s. Corruption, electoral injustice, and privilege were decried, especially at moments when economic distress drove frustrations or when wartime measures and industrial tensions came to the boil. Perhaps Britain had less need or

stomach for revolution because of its peculiar politics, geographical position, or imperial capacity. But many contemporaries and some historians have argued that a British Revolution was only narrowly averted at crunch points in the 1790s, in 1832, and again in 1848. It was no coincidence that British parliamentary politics were dominated between 1783 and 1830 by new alignments (“Tories”) whose unifying feature was their willingness to repress social discontent and rally behind institutions of church and state.

Fearful of calls for parliamentary change, of the fragility of successive ministries, and of where radicals’ demands would end, the British government and its agents worked hard to restrict and suppress the free expression of new or subversive ideas – particularly at points of imminent threat from Ireland or France. Unprecedented acts passed in the 1790s brought infamous sedition and “treason trials” that targeted reformers and political radicals, though many of them would be freed to great acclaim through trial by jury. Battles in the press and the courtrooms were only one site of political contest, and conspiracy and rebellion exploded in Ireland in 1798 and again in 1803 against a backdrop of seething resentment and religious division. The excesses of the French Revolution and the Napoleonic Wars largely served to unite British people who were encouraged to respond with patriotic fervour and obedient mobilisation. However, the wars’ lengths dampened consensus and their end brought new economic conditions that exposed socio-economic as well as political divisions.

Problems and resentment hardened in northern industrial cities whose people lacked representation, leading to increased calls for parliamentary reform. When people gathered at St Peter’s field in central Manchester in 1819, the authorities’ fear of revolution brought an overreaction, the deployment of troops, and many deaths and injuries. “Peterloo” was one of several waypoints in a series of protests and calls for reform, resisted at the centre (especially by the House of Lords) but eventually bringing a halfway measure in the 1832 Reform Act (which enfranchised more than a quarter of a million male voters on the British mainland). This reflected the growing wealth and influence of industrialists and a burgeoning middle class, but offered little meaningful improvement or representation for the interests of the working classes. They would go on to seek a national hearing, or threaten a revolution, through the Chartist movement that blossomed after 1838, and seemed to chime with powerful sounds of revolution reverberating around Europe a decade later. Haunted by the spectre of foreign revolutions, British authorities liked to imagine their own system as robust and impervious, all the while making limited concessions to, or trying to silence, the angry voices within.

Key Messages: British Politics in the Age of Revolution

Continuity was hard to maintain in the face of world challenges:

- Britain's identity was both broken and reconstructed in this era: separated from its American empire, but revitalized by its opposition to Revolutionary France
- British politicians had to cope with unprecedented circumstances: wars, unrest, new kinds of global commerce, and new configurations in the domestic economy
- Radicals tried to push Britain to change rapidly, like other regions
- Conservative forces rallied and developed new cultural emphases and practices to try to keep Britain united
- Some concessions were granted but others avoided in a gradual process of democratization

1848: Redesigning Europe

The upheaval in Europe generated by waves of revolution and recurrent wars, and the opportunities arriving through imperialism and industrialisation in some countries, fostered new patterns in diplomacy, international politics, and commercial relations. A vital expression of this was the Congress of Vienna in 1814-15, when European powers brokered a set of agreements designed to restore order in the aftermath of the Napoleonic conflicts. This restructured national boundaries and alliance systems in order to prevent recurrences in the future, and in some respects can be seen as successful in its aims, being followed by a prolonged period of peaceful foreign relations. The restored map was a Europe of national kingdoms – with France, Spain, the Netherlands, and Italian territories restored or reinvented as monarchies – and conservative neighbours enlarged and balanced around them, dominated by Britain, Prussia, Austria and Russia. The diplomacy reflected a new framework and a quiet revolution in international relations, as a recognition of mutualised legalism came to trump dynastic whims in matters of state sovereignty. The dismantling of the Holy Roman Empire under Napoleon was not reversed. In other ways, the political consensus and concessions implicit in the redrawn map represented a very clear step back from the republicanism and liberalism of recent years, as many ruling elites became more vigilant about combating perceived excesses – instituting what they viewed as a benign authoritarianism. Inside their new states they tended to clamp down on freedom of the press and freedom of association, as well as secularism (in places), which were commonly blamed for the erosion of political control.

But just as great earthquakes are followed by aftershocks, so these re-established European systems of government experienced intermittent but alarming and often violent jolts in the early 1820s, 1830s and 1840s. These proved that the hopes, dreams, symbols, and methods of earlier revolutionaries had not been forgotten, and that the cultural power of challenges to the state could be easily reenergised under the right conditions. In 1830, the July Revolution in France saw the overthrow of the unpopular Bourbon dynasty in a violent coup in Paris – after Charles X dissolved his elected representatives and suspended freedom of the press. In three days of fighting, crowds overwhelmed troops loyal to the Bourbons, and a new provisional government established a constitutional monarchy in France under a different dynastic branch. In the Belgian Revolution the next month, riots in Brussels precipitated the secession of the southern provinces of the Kingdom of the Netherlands, which held grievances on the grounds of religious faith, political under-representation, and linguistic and economic constraints. The new nation of Belgium under King Leopold I was recognised by the Great Powers despite continued campaigns and anger from the Dutch.

In this way, new contests emerged in this new Europe, especially in the boisterous cities, as frustrated peoples – bridleing at denials of their political and civil rights – defiantly faced up to watchful and often ruthless rulers. The aftershocks often occurred because of local issues, and seldom broke into larger chains of reaction, being confined or repressed because of a lack of international sensibility – or simply because small reforms or concessions on the part of ruling bodies did enough to divide and isolate factions among the revolutionaries.

But the single greatest unifying factor, and one that grew in force, was the result of changes to the ways that working classes laboured and organised across Europe. In the 1840s reformers and republicans found powerful new theorists and mouthpieces, among them Karl Marx and Friedrich Engels, whose work and whose model called for transnational radical mobilisation, based on the shared interests of industrial workers. Packed increasingly closely together and working in desperate conditions, the urban proletariat of the mid-century in major cities were more self-aware and more quickly mustered than their forebears. In the countryside, where large peasantries remained the bulk of the labour force across most of Europe, quite different grievances boiled over, relating to land, labour obligations, and status oppression.

In 1848, local and structural forces came together to provoke perhaps the final high watermark of the Age of Revolution. Beginning in Sicily and Paris, and fomented by global recession and poor harvests, region after region was paralysed by crowd action, and cities thrown into chaos as police forces, armies, and rulers grappled with radical forces and demands. A Second Republic was declared in France, serfdom abolished in central Europe, and other major moves taken away from absolute monarchies and towards more open parliamentary democracies – with dozens and dozens of nations affected by uprisings, and many thousands of people killed and displaced. And yet, most of the revolutions that flared across Europe in 1848 were eventually watered down, suppressed, or failed. They accomplished far less than their proponents had hoped, largely because these proponents included many conflicting elements. Middle class liberal reformers only partly agreed with working class radicals, which proved a major problem in German states. Waves of universalism (often celebrated by young intellectuals) frequently broke on rocks of nationalism or fierce ethnic and

religious identity embraced by other angry groups. But if the European upheavals of 1848 had a disappointing end for many of its revolutionaries, they also proved to be a beginning. From this point on, industrialisation and Marxism were to march forwards hand in hand, and both would profoundly alter and shape the future of Europe and the world.

Key Messages: 1848: Redesigning Europe

Europe was fairly stable from the outside after 1815 but instable on the inside:

- Political elites created a revolutionary settlement in 1815 that brought decades of international stability
- There were many moves away from revolution in how states were designed
- Memories of revolution and the celebration of universal rights remain inspirational – especially to industrial working classes
- Episodes of rebellion insist on reforms and change internal politics
- “The People” are increasingly a force – pushing for suffrage and civil rights
- 1848 is a year of unprecedented rolling revolutions, but they largely fail, and reflect a new balance of power held by the middle orders

War and the International Order

American War of Independence, 1775-1783

Begun accidentally in a series of encounters near Boston between garrison redcoats and American colonists, the American war became an epic struggle for independence that pitted the world's greatest amphibious force against a mixed group of colonists who had no premeditated plan or unified goal when war broke out. As time went on, however, and the British failed to deliver significant victories or to pacify the colonies, American "Patriots" gained in motivation, determination, and organisation – forming a Continental Army and defending a newly self-governing country. Led by George Washington who fought a string of rear-guard actions, the Americans initially avoided full confrontations and sustained their position by taking advantage of their dispersed geography and securing enough support in the countryside.

The British began by trying to subdue New England, the most rebellious region, before changing their target to occupy the key port cities (Britain controlled most American strongholds at various points in the war, and New York for nearly all of it), and finally switching to a "Southern Strategy" in 1779-1781 that concentrated forces on the southern colonies which were perceived as weakest and most loyal. But British ambitions were compromised by the paradox of seeking to inflict damage while pacifying and conciliating the colonial population – the two men initially in charge of prosecuting the war (brothers William and Richard Howe) were also responsible for securing peace and reconciliation, making them tentative on both scores.

Other complicating factors involved the mobilisation of auxiliary forces fighting for the British: professional Hessian mercenaries, Native American allies, and at various points, significant numbers of slaves of African origin were deployed against the Americans, leading to cultural angst and outrage among colonists who often saw these as signs of weakness and savagery. Longstanding communities and networks were shattered as some groups of Americans – perhaps between a quarter and a third in total – opted to remain loyal to the Crown, and worked to assist the invading armies, though this presented major headaches for British officers because the loyalists could be unpredictable and wilful, and were widely dispersed.

The American war was no less of a challenge for the Patriot movement, on several occasions exposing the fragility of American ideological and economic resources. The war raised critical questions about loyalty, sacrifice, communication, and mutual dependency, and empowered sections of society who had been until then controlled by elites. Militias inspired by the messages of revolution naturally wanted to elect their own officers; communities to choose their own soldiers; veterans to secure just rewards and pensions for their efforts. The conflict was thus memorably described by historian Carl Becker as raising the question not just of "Home Rule" but also "Who Should Rule at Home?"

The determining factor in the conflict proved to be the willingness of the French to support and – after the battle of Saratoga in 1778 – to formally ally with the Americans, transforming what had been an internal imperial matter into a fully-fledged global war. Persuaded in part by Benjamin Franklin's

judicious diplomacy, France (and later Spain and the Netherlands) committed significant resources that forced the British to reprioritise targets and, ultimately, to accept peace terms in the aftermath of a devastating defeat at Yorktown in 1781 when Charles Cornwallis's army was trapped on a Virginian peninsula. The event brought the fall of Prime Minister Lord North and his government in London, and culminated in the Peace of Paris in 1783 whereby Britain finally acknowledged the fact of American independence and the birth of the United States. In the process, British politicians signed away vast tracts of territories belonging to Native American tribes, while reconciling themselves to the need to protect and develop Canada and a new kind of empire that looked especially to the East.

Key Messages: American War of Independence, 1775-1783

Distance, size, and French help means that Britain cannot hold onto mainland American colonies:

- British commanders face enormous logistical and strategic dilemmas when trying to subdue an armed rebellion without making it worse
- Hessian mercenaries, Indian allies, and African-American troops prove controversial assets for the British
- In many places, Americans are bitterly divided by the war
- The embattled leadership of Congress and of George Washington begins to shape an American identity and ambition
- The Peace of Paris determines the future political shape of North America

Slavery and the Haitian Revolution, 1791-1804

The American and French revolutions were not merely internal affairs, affecting only the governance of their own countries, but because of the nature of global connections and empires by the late eighteenth century, they seriously disrupted stability, commercial relations and longstanding social orders across the Atlantic world. Nowhere was the full force of this felt more keenly than in Saint Domingue, the wealthy French colony (forming half of the island of Hispaniola – modern day Haiti and the Dominican Republic), that for decades had been a jewel in the crown of the sugar-producing Caribbean. The African slave trade and racial exploitation had been the cornerstone of profit

throughout the Caribbean, and showed little sign of stagnation before the Age of Revolution, in spite of the frequent efforts of people of colour to escape or contest their status and the brutal conditions slavery imposed on them. But when metropolitan power and governing institutions were disrupted by the rapid events and new ideals set in motion by the French Revolution, the delicate balance that had held between wealthy white planters, free people of colour, and the larger enslaved population was upset.

Slaves seized their opportunity in 1791, rising up against masters and precipitating a chaotic and complicated set of conflicts that were as much about raw opportunity and the fight for life as they were about ideas, colonialism, or democracy. Although often caricatured as a black and white affair, the bloody eruptions in Saint Domingue involved a set of competing interests and factions that reflected local power struggles on the island, as well as the changing global picture of the Revolutionary and then Napoleonic Wars. Invading armies from Spain and Britain sought to capture the colony, but the European bodies fell victim in their thousands to tropical diseases such as Yellow Fever and malaria. French whites were divided among royalists (often the great planters) and republicans (often immigrants, and artisans and urban workers). Free people of colour – many of them former slaveholders and landholders – sought political and civil rights and economic opportunities that had been denied them under the *ancien regime*, but found their ambitions thwarted by those above and below them in the pecking order. The mass of slaves, more powerful in some places than others because of the geography of cash crop production, rallied to whichever cause or interest seemed most likely to procure them freedom, often following charismatic leaders such as Toussaint Louverture who fought for the Spanish, then French, and proclaimed himself governor-general for life in a new constitution in 1801.

Amidst the violence, disruption, and displacement, and all of these local and international armies competing for dominance, the French state had little choice but to make concessions to try to secure or restore the territory, but these weakened its hold, to the point that even Napoleon's ambitions could not be seen through. When he had Louverture captured in 1802 and removed, and fears spread that restoration would roll back the abolition of slavery that Saint Domingue's commissioners had passed in 1793, carnage broke out again, now of a ferociously racial character. The insurrection therefore became not only a successful anti-colonial movement, like the American Revolution, but also a successful anti-slavery movement, whose final victory was secured with the declaration of independence of the sovereign nation of Haiti in 1804. The slaves, in a defining episode in the history of race and the Atlantic world, had risen up, secured their liberty, and now ruled their own polity that banned whites – radicalising the Age of Revolution beyond almost any contemporary expectation.

The Haitian Revolution was a dramatic, bloody, and exciting prospect that offered mixed lessons to observers, depending on their outlooks. Naturally, it shocked and frightened any states or groups dependent upon the institution of racial slavery and the Atlantic slave trade, for it showed what blacks could achieve if liberation and arms or support were within reach. Haiti would be ostracised and impoverished by such paranoid international interests in years to come, as well as suffering from its own internal divisions and the lack of capital. But events on Saint Domingue were also a source of inspiration, a black beacon for oppressed peoples, races, and radicals around the Atlantic basin. They demonstrated that with tenacity, organisation, and faith, the starkest forms of inequality could be

overturned, property redistributed, and new nations given birth. The Napoleonic failure to wrest back control of Saint Domingue was a determining factor in prompting the French to cede the vast acreage of the Louisiana Purchase – the heart of the North American continent – to the USA. And either as a nightmare or a dream, the Haitian Revolution lent added weight to the growing notion that African slavery was no longer a practicable or desirable pursuit in the nineteenth century.

Key Messages: Slavery & the Haitian Revolution, 1791-1804

The first slave uprising to establish a new state against all the odds:

- Emphasised the importance of sugar and slavery to world commerce
- The only successful slave uprising in Atlantic or modern history
- Exposed the limitations of both American and French radicalism
- Threw up new inspirational black leaders, including Toussaint Louverture and Jean-Jacques Dessalines
- Gave rise to unprecedented carnage and atrocity
- Sent waves of diasporic whites and blacks throughout the Atlantic world

Ireland's Rebellion, 1798

Many in Ireland drew inspiration from the libertarian protests and movements that were coalescing in British America in the 1760s and 1770s, sharing as they did the frustrations of colonial status, limited representation in Parliament, and a perception of commercial victimhood within empire. The common grievances recognised by the Protestant Irish, who increasingly expressed a desire for greater self-government, were dwarfed by the frustrations felt by the larger Catholic majority who were more completely disenfranchised, and naturally energised by the hostility of Catholic powers (such as France and Spain) to Britain. Nearer at hand than Saint Domingue, Ireland's vexed status and allegiances were no less open to exploitation and invasion. The arrival of revolutionary wars prompted European Catholics and Irish rebels to hatch plans to overturn the status quo – often inspired by the rhetoric of revolution around them – while British troops and authorities navigated an awkward line between outright repressions and constitutional concessions.

Between May and September 1798, one such group strongly influenced by republican libertarianism and labelled “The United Irishmen” (describing its mixed Catholic and Protestant radical dimensions) made a concerted effort to drive through a fully-fledged anti-colonial movement. Established in Belfast in 1791 in the wake of celebrations of the anniversary of the French storming of the Bastille, the “Society of United Irishmen” was soon recruiting converts in both Presbyterian textile and Catholic agrarian regions of Ireland, taking advantage of print culture to spread ideas of radical reform, and thriving in spite of proscriptions by authorities who banned the organisation in 1793 and suppressed its leading newspaper, *The Northern Star*, cracking down in 1797 when French invasion became a real prospect. Internal divisions – especially between Dublin and Belfast branches – had hindered the organisation’s effectiveness to some degree, as had a handful of limited concessions granted to Irish Catholics, who were culturally wary of revolutionary France’s dismantling of its state church. But thousands of adherents remained primed for action, and though without the momentum or coherence of their earlier American counterparts, they rose up in armed rebellion in the spring of 1798.

The Irish Rebellion was fatally compromised by the brutality of British tactics (intimidating civilian populations and arresting leaders), by informants, and by the failure of meaningful foreign assistance. A longstanding figurehead, Wolfe Tone, was captured when a French force of a few thousand capitulated to the Royal Navy in the Battle of Tory Island off the northwest coast of Ulster in October. Like other leaders, he was tried and convicted for treason, but preferred to take his own life in Dublin prison the next month.

Charles Cornwallis, the self-same general who had presided over British defeat at Yorktown in the American war, was appointed Lord Lieutenant of Ireland, and proved instrumental in both the suppression of the rising and the subsequent political attempts to address its origins. Though many of the wounds ran deep, and the movement and its ambitions would persist in various forms in the years and decades to come, amnesty and constitutional reform helped to pacify unrest and to foreclose future French invasions. In 1800, as had happened almost a century before with Scotland, the Crown presided over a landmark union of the British and Irish Parliaments to create the United Kingdom of Great Britain and Ireland – a move which drew on sectarian impulses and buried resentments not far below the surface, arguably bringing Protestants closer to the heart of government and consigning Catholics to a continued lesser status and, by extension, driving them closer to republicanism. The Irish Rebellion and its swirling hopes of non-sectarianism and separatism served both to expose contemporary troubles in the 1790s, and in its course and consequences, to signpost future troubles to come – troubles with which the United Kingdom, Ireland, and Europe still contend.

Key Messages: Ireland's Rebellion, 1798

United Irishmen rise but fail to secure dreams of separatism and republicanism:

- Exposed the particular religious and regional challenges within Ireland
- Drew deeply on currents of radical thought in America and France
- Demonstrated the power of terrorist tactics in intimidating civilians
- Highlighted the damaging impact of the pace of French Revolutionary change
- Offered a new model for how loyalists and military troops could be mobilised
- Precipitated a new constitutional settlement in the British and Irish lands

Napoleonic Wars and Waterloo

Between 1792 and 1815 the remarkable exploits of the French Republic and later (from 1804) French Empire precipitated a series of wars that reconfigured the face of nations and societies within Europe, across the Atlantic, and far beyond. Wars, provoked either directly or indirectly by developments in France, meant that an unprecedented number of people's lives were affected, from those in the raging path of armies to those living in peripheral zones a long way from the main theatres of conflict. Because of their prolonged length and unmatched scale, the Revolutionary and Napoleonic Wars wrought extensive destruction upon populations and landscapes. They also generated remarkable innovations in tactics and technology, and energised new initiatives as states desperately competed to control and mobilise adequate manpower and resources – putting enormous pressure on production, manufacturing, taxation, trade, and transport. In one view, the wars were the last in a series of contests dating back to the late seventeenth century between the dominant powers of Britain and France. But such was the challenge of French expansionism that it required seven attempts at coalition with diverse allies such as Austria, Prussia, and Russia before Napoleon was finally stopped. For over two decades then, with only a brief hiatus in the Peace of Amiens (1802-3), governments, merchants, manufacturers and farmers struggled to operate in an uncertain world dominated by wars, boycotts, invasions, and shortages – though none of them were without opportunity.

The Revolutionary and Napoleonic Wars unquestionably accelerated the slowly occurring transition from early modern forms of warfare (which tended to be localised, episodic, and fought by professional troops led by those entitled by birth) towards industrial warfare. A key development was the introduction of mass conscription, the compulsory enrolment of civilians into military service, which allowed France to draw on its large population pools with a *levée en masse* in 1793. The announcement of this measure made unequivocally clear the new link being forged between the revolution, the people, and the army: “The young men will go to battle, married men will forge arms and transport provisions; women will make tents and clothing and serve in the hospitals; children will shred old linen; old men will have themselves carried to public places to arouse the courage of warriors and preach the hatred of kings and the unity of the Republic.” Once streamlined by advanced training and better equipment, French conscripted units coalesced into *La Grande Armée* that repeatedly proved capable of outperforming professional European opponents, perhaps most spectacularly at Austerlitz (1805) where Napoleon used their dependability and mobility to outmanoeuvre a larger combined force of Austrians and Russians.

The huge size of many armies alongside rapid advances in artillery (often essential to French success), cartography, and organisation also changed the nature of command. Though Napoleon’s rise was clearly exceptional, as reflected in the fervent devotion he inspired in his officers and especially the rank-and-file, the French armies abounded with young and dynamic officers – and talent, experience, and merit became more identifiable and applicable assets as the wars ground on. Other key developments on land were the deployment of skirmishers, shock assaults, and columnar formations, allowing French offensive manoeuvres to place great pressure on allied opponents to match them in defence. This was reflected in Britain’s long-term strategic preoccupation with ensuring the Royal Navy’s dominance on the seas (critically preserved at Trafalgar in 1805), and the measures taken to improve recruitment, drilling, discipline, engineering, and the selection of ground, which proved a vital strength of Arthur Wellesley’s (later Duke of Wellington), who took command of Britain’s European beachhead in Portugal in the Peninsular War from 1808.

The British home front during the Revolutionary and Napoleonic Wars slowly adapted methods and means to mobilise effectively, in spite of the constraints imposed by Napoleon’s “Continental System” launched in 1806, which was intended to lockout commercial traffic (on which Britain depended to finance its allies and armies). It was a long journey: the British regular army grew from a matter of tens of thousands at the wars’ start to some quarter of a million men by 1813 divided into 104 regiments, albeit still only about a tenth the size of the French army in its prime, and without enforcing conscription. The command structure was virtually non-existent in 1793, but necessity prompted rapid improvements and reforms, especially to training (particular British strengths lay in musketry and line formation), provisioning, and the commissioning of suitable officers. The campaigning soldiers and sailors, and the sacrifices made to support them, became central planks in contemporary culture, although communities across Scotland, Ireland, Wales and England varied in the tenor of their patriotism and appetite for involvement.

At the height of its geographic extent in 1812, and in spite of British economic and maritime tenacity, Napoleon's wartime success brought virtually the entirety of Western and much of Central Europe under French control – either through direct rule or client states – ranging from the Spanish Atlantic coast to the Baltic Sea, and bordering the Ottoman and Russian Empires to the east. Often benefiting from rapid offensives and political coups to help secure momentum and domestic support, Bonaparte inevitably left problems and resistance in his wake – epitomised by uprisings of Spanish guerrillas and other malcontents within new dynasties, or loyalists who sought restoration through national insurrections. When Napoleon made the bold but enormously costly decision to invade Russia in June 1812, a campaign that dragged into a relentless winter retreat, the combination of the toll on his forces and emboldened and revitalised enemies saw the French Empire and its borders recoil.

After he was eventually forced to capitulate at his palace in Fontainebleau in April 1814, few anticipated the need for a seventh coalition to form and take the field against Napoleon. But the exiled emperor returned from Elba for a final campaign (known as “the Hundred Days” in 1815), throwing the dice one last time at Waterloo, where his loyal army could not dislodge Wellesley's combined British and allied force in time before Prussian reinforcements tilted the odds and ensured defeat. One Prussian officer involved in the Waterloo campaign, Carl von Clausewitz, had witnessed first-hand a string of engagements in these wars dating all the way back to 1793. Transforming these reflections into a manual that was part philosophical and part technical, his unfinished work “On War” was posthumously published by his wife (as *Vom Kriege*, 1832) and became a foundational text in modern warfare, highlighting how the Age of Revolution had brought the politicisation of the soldiery, and transformed the art of war into deadly new guises – linking realpolitik, passion, and technology.

Key Messages: Napoleonic Wars & Waterloo

New methods and unprecedented scale makes war a transforming feature of revolution:

- Confrontation of larger armies than have taken the field for centuries
- Regime change, bloodshed, and economic malaise feed off one another
- Mass conscription and participation brings new styles to global warfare
- Advances made in technology, recruitment, training, and organisation
- French pioneer artillery and new infantry formations to great effect
- British and allies struggle to contain Napoleon but avoid knockout until 1812
- Von Clausewitz constructs new theory of war on basis of experiences

Spanish American Wars of Independence, 1808-1833

At the beginning of the nineteenth century, almost all of South and Central America and significant territories in the Caribbean and North America remained under the sovereignty of the Spanish and Portuguese Crowns. While it remained extensive in geographical terms, the Spanish Empire was no longer as extensive in resources and control as it had been in earlier generations, and a number of challenges had arisen in the late eighteenth century – such as the failed uprising of indigenous Andean peoples under Túpac Amaru II which sought to overthrow Spanish power in Peru in 1780. But although disrupted by attempts at reform and by internal discord, the fundamental balance of power had remained similar within many Spanish American viceroalties and captaincies until the arrival of the Napoleonic Wars. It consisted of firstly a mixture of Spanish-born officials and administrators (*peninsulares*) who retained many privileges, secondly a large proportion of local elites of Iberian descent but born in the Americas (*criollos*), and finally high populations of groups who comprised the bulk of the labour force and were deemed to be subordinate in different ways – including those of mixed race, those of indigenous origin, and significant numbers of slaves or free people of African origin.

When the legitimacy and reach of Spanish domestic power was thrown into disarray by Napoleon's decision to impose his brother Joseph on the Spanish throne in 1808, Spanish authorities across the empire had to determine how to respond. With the common rallying point of the Bourbon monarchy removed, political authority fragmented, as populations who opposed French occupation formed local ruling bodies (*juntas*) in Spain, falling back on longstanding traditions and localism. The overseas provinces initially followed suit, sending delegates to the "Supreme Central and Governmental Junta of Spain and the Indies" (established in September) which for a time commanded respect. In 1810, a concerted attempt was made to reconstitute Spanish government through the *Cádiz Cortes* – a confederated national assembly that was literally besieged (by a French army) from the moment of its first meeting. But for many, the *Cortes's* liberal orientation and its reformism (including universal male suffrage) was too much, and they preferred a more conservative loyalism to the deposed and captive monarch, Ferdinand VII.

As the political crisis in Spain deepened, accompanied by fully-fledged war, the vexing issues of legitimacy, representation, and economic support began to cut through the assumptions that had long connected Spain's European core to its American empire. Especially from 1810, the process of forming local *juntas* and the possibilities of declaring loyalty to one cause or another opened up opportunities for Spanish American peoples to press for more dramatic changes to their status and sovereignty, epitomised in the framing of new movements and constitutions in places such as Mexico, Chile, Río de la Plata (later Argentina), and New Granada (later Colombia). The need to preserve independence from the French would become a chance to secure independence from Spanish officials or from Spain itself, as well as from slavery or oppression for many groups.

Because of the fragmented populations and territorial expanse involved, the conflicts over local power and legitimacy in Spanish America between 1810 and 1823 occurred in waves that were bloody and messy. In many cases, initial steps were taken by pro-independence *criollos* during the final stages of the Napoleonic Wars. In Mexico, for example, a Catholic priest Miguel Hidalgo inspired and led (until his execution in 1811) a rural rebellion that brought peasants and Indians together behind an independence movement that challenged state power. But these and other movements were followed by retrenchment because at the wars' end, Spanish royalists (under the restored absolutist Ferdinand VII who returned to the throne in 1814) were again able to reinvest and dispatch armies to secure sovereignty over American territories, and could do so confidently because of the wider appetite in Europe for a restoral of the status quo.

The key to the more successful or persistent anticolonial uprisings – and therefore to the founding of new nations in Central and South America – often lay in forming coalitions across sub-sections of the population, which were typically spearheaded by prominent *criollo* factions who stood to benefit by removing Spanish oversight. Because these coalitions were often poorly resourced and chaotic, they had to make concessions and adopt radical measures to ensure survival or retain momentum – turning to the support of slaves, or the church, or international volunteers in order to press their case, and turning to guerrilla warfare and brutal and violent tactics at times, as occurred famously in Simón Bolívar's policy of so-called "War to the Death" with royalists in Venezuela. What Hidalgo, Bolívar, and other leaders shared in common was their appeal to the residents of Central and South America to conceive of themselves not as Spanish but as Americans – to construct and defend a new identity that was cultural, geographic, and progressive, and depended on ideological values as much as religious customs or bloodlines. They drew heavily on the revolutionary ideas and models around them: the United States of America, France, and Haiti.

The difficulty they faced was that frequently their constituents nevertheless held strong associations to the local: to communities, cities, or sub-regions that made communication and collaboration hard to effect, with the result that warfare was often irregular and rivalries never far from the surface, often spilling over into civil wars, banditry, and social and economic upheaval. Slaves and indigenous peoples willingly offered their allegiance to those who promised to advance their agendas, whether on the royalist or patriot (i.e. pro-independence) sides. Nonetheless, when Ferdinand VII was bridled in Spain itself in 1820 with the imposition by liberals of a constitutional monarchy (restoring the constitution of 1812), proponents of independence in the Americas seized their chance – much aided by support from international powers (such as Britain) who had a vested interest in opening up Latin American markets. Broadly the same pattern – with political change in the Iberian Peninsula provoking American constitutional change – followed in Portuguese Brazil, where a dynastic prince (Dom Pedro) led opposition against Portugal, and spearheaded a movement for independence, culminating in the founding of Brazil as a parliamentary constitutional monarchy in 1822. By 1830, Spain's last attempt to reconquer its former colonies had failed, and in 1836 the Congress of Spain renounced its sovereignty over the Americas and initiated treaties to recognise over a dozen new nations – from Mexico down to Chile. The liberated nations shared a new constitutionalism, but were quite distinctive in their outlook

and makeup, and ultimately resisted confederation, on account of the divisive regional and international influences that had helped to shape their revolutionary birth.

Key Messages: Spanish American Wars of Independence

European upheaval and revolutionary ideas create new nations in Central and South America:

- European capacity to hang onto empires diminished by revolutions and wars
- Bloody wars precipitated between royalists, patriots, and socially oppressed groups that throws into question issues of slavery, suffrage, and rights of people of indigenous origin
- Founding of Mexico, Peru, Uruguay, Paraguay, Columbia, Venezuela, Argentina, Bolivia, Chile, Brazil, states of Central America, and other new nations
- Push for new constitutions is led by *criollos*, people born in the Americas who argue for a new sense of cultural and political identity
- New continent opened up to republicanism, but exposed to internal instability

Social and Cultural Revolution

Challenging Slavery: Abolition and Persistence

One of the signal developments during the Age of Revolution that marked a dramatic break with the past was the virtual elimination of the transatlantic slave trade. The slave trade had survived and prospered in spite of any number of wars and upheavals in earlier centuries. This tortuous experience of systematic dehumanisation had involved the shipment in chains of millions of Africans to brutal lives and deaths in the plantation-dominated colonies of the Americas. Slave labour and racial exploitation were not exclusively European phenomena, historically speaking, but they had become a defining feature of the expansion of the Atlantic world and a driving force in the colonial productivity of Portugal, Spain, Britain, France, and others. Between 1775 and 1848, the institution of slavery began to collapse in many regions, an achievement owing to multiple sources: the agency and resistance of its black victims, a growing sentimental and intellectual discomfort among many whites, and a reordering of economic and imperial priorities which diminished arguments that had long underwritten slavery's sustainability. With important exceptions, including notoriously the southern states of the United States, the lobbying force of great slaving interests – such as the West Indian sugar planters – became increasingly drowned out by the clamour of abolitionists, new imperialists and political economists, and perhaps indirectly, industrial machinery.

Like other moral campaigns, abolitionism drew strength from the Enlightenment emphasis on rights, reason, and virtue, and the widening public reach of print culture. The weakest initial target proved to be British involvement in the African slave trade (as distinct from slavery), for Britain and its empire hosted a large number of minority religious denominations – particularly Quakers and evangelicals – whose own emphasis on individual conscience and whose interests in social justice increasingly impelled them to speak out against the act of enslavement as a personal and national sin. The English (1772) and Scottish legal systems (1777) both offered judgements that cast doubt on the legality of slavery on British soil, encouraging the formation of an increasingly vocal and internationalist group of abolitionists (beginning with the “Society for Effecting the Abolition of the Slave Trade” in London in 1787, which included Anglicans who could push for changes through Parliament, and the “Amis des Noirs” in Paris in 1788). In subsequent decades, after the American Revolution severed links with thirteen slaveholding colonies and as the British economy proved capable of moving in new directions – towards manufacturing and Asian markets – the slave trade came to be viewed by many as a moral and reputational blemish for a nation that celebrated constitutional liberties.

Measures to abolish the slave trade were fitful in the 1790s, reflecting both its topicality and the lack of consensus: the new U.S. Constitution permitted continued imports (delaying the matter in America), a British Parliamentary bill introduced by William Wilberforce was defeated in 1791 by a margin of 2:1, and the French Revolutionary “Emancipation Declaration” in 1794 was reversed by Napoleon in 1802. At the forefront of all efforts to seal concrete governmental action were people of African descent, who made a perceptible impact on the eventual outcomes. The legal pleadings of Joseph Knight, the literary works by Olaudah Equiano and Phillis Wheatley, the wartime contributions of black soldiers

from Rhode Island (for the Continental Army) and South Carolina (for the British Army), and the innumerable acts of correspondence, fugitivity, resettlement and manumission on behalf of many thousands of bondpeople all helped to destabilise the institution and to bring into question longstanding assumptions about black capabilities, natural rights, and citizenship. Perhaps the biggest revolutionary breakthrough arrived in the declaration of independence of Haiti in 1804, the culmination of a violent liberation and abolition movement on the island of Hispaniola, a keystone of the Caribbean slave and sugar system.

In 1807, Parliament ended formal British involvement in the international slave trade, a move in step with the official American withdrawal from importing Africans (which took effect from 1808). Although much of the pressure had welled up from civil society – through petitions and economic boycotts of slave-produced goods – it was nevertheless a good time for the British poacher to turn gamekeeper, for maritime hegemony had been secured by the Royal Navy during the Napoleonic Wars, and hamstringing French slave shipments allowed Britain to reap geopolitical and commercial advantage. It was no coincidence that Britain pushed at the end of the wars for collective diplomatic attention, foisting upon the Congress of Vienna a reaffirmation in February 1815 that the new European order (comprising Austria, Britain, Portugal, Prussia, Russia, Spain, Sweden, and defeated France) declared the slave trade to be “repugnant to the principles of humanity and universal morality.” In the decades to come, some 80,000 recaptured slaves were liberated by the British navy, in processes adjudicated by ground-breaking international tribunals in cities such as Freetown (Sierra Leone). Thanks to a web of bilateral treaties and the growing number of converts to “free trade”, more and more nations committed to measures that shut down the main routes of the slave trade, and larger dominoes continued to fall: Pope Gregory XVI condemned the slave trade unequivocally in 1839, and two years later five great powers in Europe agreed the right to stop and search vessels to enforce compliance, adding to pressure which finally forced Brazil to abstain from the trade in 1851.

By that time, the institution of slavery itself had largely cracked or was creaking, though not without remarkable trauma as slaveholders desperately sought to cling onto or wring out their human capital. In the British case when emancipation was finally approved in 1837, former slaves were left facing poverty and hardship in huge numbers in the Caribbean, while their owners won vast quantities of financial compensation, much of which was poured into industrial investment or ploughed into new imperial zones. In France, it took another revolution – that of 1848 – to definitively permit an emancipation process that also offered some 90 million francs of indemnities to slaveholders for their sacrifice. In the case of the United States and Brazil, where slavery and capitalism intermixed more deeply because of commodity and demographic particularities, the institution defied the wider pattern to survive until 1865 and 1888 respectively. A parallel could be found in the decline of serfdom among European peasantries, for this subordinate legal status and labour system was largely abolished in Western Europe between the 1770s and 1820s, but persisted for longer to the East. As this indicates, there were important exceptions, limitations, and consequences, to the abolitionism which characterised the period: European investment was rechannelled into different forms of labour exploitation and imperial malfeasance, Africa’s place in the world trade system was reconfigured, while racial oppressions and prejudices remained deeply held, even where gradual abolition (as in the northern U.S. states and Peru), black colonies (as in Sierra Leone and Liberia), and paternalistic

missionary activity grew. Nonetheless, by the mid nineteenth century, even as the industrial proletariat began to recognise and protest its own kind of enslavement, older forms of legal unfreedom had been definitively restyled.

Key Messages: Challenging Slavery: Abolition and Persistence

The African slave trade, thanks to wide mobilisation, is gradually but definitively shut down:

- Enlightenment ideas underpin new disdain for the slave trade and slavery
- Abolitionist groups take advantage of revolutions to advance their campaigns
- Revolutions destabilise the institution of slavery, especially as naval conflict and black involvement in wars opens up new possibilities
- People of African origin are at the forefront of movements to extend freedom – taking up the pen, the sword, and (in Haiti) the reins of government
- Britain leads the way, motivated by both moral and commercial ambitions
- Abolition of the slave trade precedes wider emancipation, though both come with extensive costs, sacrifices, and consequences

The Arts in the Age of Revolution

The seismic political and economic shifts between the 1770s and 1820s found fulsome expression in the creative arts, as artists and academies, composers, and writers and poets all reflected on and engaged with the new worlds emerging around them. At different times, art was a tool of revolution, a victim of revolution, and a record of revolution – at once giving meaning to revolutionary impulses and being reconfigured by them. The intersections between revolution and the arts worked in at least three ways: firstly, by offering new content (figures, symbols, ideas and events) with which to engage; secondly, by changing the ways that works of art, music and literature were commissioned and circulated (patronage, production, accessibility, and the market); and thirdly by helping encourage the emergence of new forms, materials, and styles that responded to structural changes within regional cultures and economies. Artistic taste, aesthetics, and fashion – almost by definition – are never stationary, but the revolutions helped to draw lines between the old and the new, and introduced greater competition and range in areas that had been constrained by privilege.

The period witnessed a major shift in the complexion of the art world, as artists and centres of production moved with the times. For example, in Paris, the Salon (which was the crucial institution for exhibiting art), was opened up to all artists during the revolution with the abolition of the Royal Academy. Attempts were made to use grand art to extol the primacy of the people and to improve public morality and loyalty. The National Assembly decreed in 1791 that the Louvre Palace (which hosted the royal collection) ought to be repurposed as a public museum, and the initial holdings when it opened in 1793 were soon swelled, firstly by the addition of works confiscated from *émigrés* or church property, and then works plundered or ceded in the aftermath of Napoleon's successful forays to foreign capitals (a high proportion of the artistic and heritage loot being Italian). When Napoleon's empire crumbled, the negotiated repatriation and dubious disappearance of many of these objects and artworks meant that it was a time of high exposure and exchange. This was by no means limited to the French capital: an enormous number of paintings and sculptures were pilfered, auctioned, or smuggled to new locations – representing a great international redistribution of cultural capital. Shifts also took place within centres of production: maritime painting shifted from the Netherlands to Britain; orientalism and eastern motifs featured more prominently in step with European trading interests in Asia; Americans created academies that reflected their newfound political independence. The growing bourgeoisie or middling classes in many countries, and later even poorer sections of society, were able to access forms of art thanks to specialisation and printing technology adapted to wider clienteles. Portraiture became more accessible and commercial, even if it remained the poorer sibling of highbrow “history” painting; prints (copies) likewise became a mechanism for the popular diffusion of recognised works, as did drawings and miniatures.

The energy, vigour, and sweep of revolutionary action – the vitality of contemporary *people* in the face of oppression – presented a new force that reverberated in the outpourings of painters, poets and novelists. A tendency to reach back to classical models to provide grandeur for portraiture or history paintings, for example, was supplemented by a willingness to draw on the here and now. Wars, boycotts, protests, massacres, executions, and the growing contrast between quiet agrarian idylls and noisy industrial scenes were all starkly captured in any number of great works that reflected a fresh cosmopolitanism and a global traffic in ideas and objects. The Spanish court painter Francisco Goya compiled a harrowing sequence of etchings, paintings and murals (c.1808-23) that documented the sufferings of the Spanish people in the face of French occupation and civil war, in acts of visual protest linking his own personal demons to the universal chaos unleashed during the war. Major contributions in text included the English romantic poetry of the radical and atheist Percy Bysshe Shelley and the sensational Lord Byron (who died having joined the Greek independence movement) in the 1820s. Shelley's wife, Mary Wollstonecraft Godwin, who never knew her feminist mother, authored an iconic novel of the period that played with the condition of man, science, morality, and the destructive obsession of ideals gone wrong (*Frankenstein: or, The Modern Prometheus*, 1818). Becoming a professional writer – like many, producing works in shorter formats where there was growing market demand – she consistently espoused a radical romanticism that differed from her philosopher father's and poet husband's, stressing the need for empathetic cooperation not fundamentalism as a vehicle of social improvement. New poetry, literature, and art embraced a wider panorama – pursuing vision more than precision, and adopting nationalistic strains that often invoked the environment, emotion, history and folklore (as in the works of Scottish poet-novelist Walter Scott). Perhaps the most famed

painting imbued with this revolutionary romanticism was Eugène Delacroix's "Liberty Leading the People" (1830). Expressive, mobile, colourful, dramatic, showing a preoccupation with the violent, the sublime, and the exotic, it was bought by the French government and promptly removed from public view!

The explosion of portraiture in the early nineteenth century brought with it a wider range of landscape settings – showing how artists (including many female portraitists) and sitters were thinking differently and more expansively about what their backgrounds signified in different cultural contexts. The relationship between subjects and their societies had become more important to allude to, and signs of everyday life appeared in a way that broke with older conventions that emphasised social rank. Perhaps also evident was a greater degree of realism and candour (in terms of postures, personalities, and possessions), as opposed to the allegorical and fictionalising tendencies of the eighteenth century. This came through in the work of the English portrait artist of international renown, Thomas Lawrence, who was commissioned by the Prince Regent to paint portraits of the key allies involved at Waterloo and the Congress of Vienna. The exploration of the details of individual lives and personal journeys through ambition, passion, morality, and social education, also came through powerfully in the popular fiction of Jane Austen, Johann Wolfgang von Goethe, and Marie-Henri Beyle.

Though necessarily vast simplifications, we might helpfully describe the development of the arts in the Age of Revolution as demonstrating two types of transition. Firstly, a shift from singularity to variety – as elite understandings of what constituted good art and who it was for became diluted by new explorations, experimentalism, and wider audiences who were looking for inspiration and diversion. Secondly, an overlaying of Neoclassicism (with its often precise, orderly references to a shared European heritage) by Romanticism (with its messy, emotional depth and celebration of wild forces). The architecture and sculpture of the period perhaps exulted most visibly in classical models: republican symbolism or martial glory were invoked by copying the greatness and virtue of Roman and Greek precursors – and it helped that radicals could turn to republican icons (liberty caps, trees, columns, eagles, togas) and conservatives to expressions of power and order (triumphal arches, wreaths), as when Napoleon encouraged others to liken himself to Caesar (famously exhibited in his coronation and several imperial portraits). Other art forms, such as orchestral music, showed an early propensity to embrace Romanticism – shown in the lavish and expressive new symphonies composed by Beethoven (German), Schubert (Austrian), and Berlioz (French), or the nuanced emotionalism of Chopin (Polish). The changes to style and instrumentation reflected that concerts and operas were increasingly performed for the entertainment of urban middle classes in larger venues, not just the traditional aristocracy. Grand opera, which revelled in size, spectacle, and new technology (such as gas lighting) was launched in Paris in 1828, with a production about revolution (*La Muette de Portici*) that two years later itself sparked an uprising in Brussels! Political events and the shift away from dynastic patronage also encouraged composers to contemplate nation and identity in Romanticist works, often seeking out folk references and natural features for inspiration. In all of this, there was a willingness to bring ordinary citizens – the unnamed actors of political revolution, or the victims of industrial revolution – to the foreground.

Key Messages: The Arts in the Age of Revolution

The character of European and American art is transformed in step with revolutions:

- Iconic moments in the history of revolutions and wars are commemorated
- Poets, artists, composers and writers draw inspiration from revolutionary impulses
- The production and circulation of art is democratised and popularised
- New elites seek to express their opulence through patronage and commissioning
- Slippery concepts such as nationalism are reinforced through artistic elaboration (in anthems, dress, symbolism), as Euro-American style morphs from neoclassicism to romanticism
- Industrialisation and urbanisation allows mass production and exposure

Challenging Religion: Worship and Freedom

The Age of Revolution presented a far-reaching challenge to the institutional power and social reach of established churches across the Christian world. When the rising tide of Enlightenment rationalism joined with ideologies of equality and individual rights, they rendered long-held views and practices vulnerable. When communities and societies were disordered by political conflict and warfare, they often warmed to the prospect of redressing disparities in the properties and privileges held by local religious authorities. And when instability prevailed at a national or international level, state actors demonstrated a willingness to interfere in church affairs and to reconceptualise the relationship between the spiritual and the political, ranging from gentle tinkering in some regions to all out dissolutions and confiscations in others, on a scale unknown since the Protestant Reformation.

The intellectual challenge to Christian belief throughout the eighteenth century had been led by bold thinkers in Britain, France, and Germany who critiqued the notion of divine revelation, disparaged ritualism, mocked the behaviour and hypocrisy of religious orders, and argued for looser forms of belief that allowed space for the primacy of man's reason, such as Deism – famously propounded by Thomas Paine in *The Age of Reason* (1794). By this date, developments in France had demonstrated how radical the societal implications could be for the extension of these ideas into policies and reforms. Early measures during the French Revolution had targeted the Catholic clergy and the oppressive exactions of the Church – especially in times of want: tithes had early been abolished, and the Declaration of the Rights of Man and Citizen assured freedom of religious opinions “provided that

their manifestation does not trouble the public order.” The National Assembly confiscated and sold extensive church properties, finding a soft target for capitalisation, and passed a ruling in 1790 that critically undermined the institutional authority of the Catholic clergy: monastic orders were stripped, dioceses reorganised, popular elections introduced for priests and bishops, and the Papacy’s authority bypassed altogether. In the absence of the Pope’s (or the king’s) approval, clergymen were individually forced to take a humiliating oath acknowledging the supremacy of the new political nation over the church – a process that marked out divided loyalties and would prove an indicator (to a large degree) of those areas which rebelled against the Paris-centred revolutionary initiatives. In short time, the collapse of Catholicism’s formal sway degenerated into brutal violence in the September Massacres of 1792 when the clergy were ostentatiously targeted. The final coup – and perhaps the high watermark of the Age of Revolution’s intellectual and economic challenge to the church – arrived in 1793, when the National Convention passed a set of acts amounting to complete dechristianisation in France. Lifecycle events, working weeks, festivals, streets, calendars, crosses, and names were notionally wiped and replaced with secular equivalents or innovations – with some adopting cults of “Reason” or of the “Supreme Being” in Catholicism’s stead. Part of the journey back from revolutionary radicalism and towards centralisation, charted by Napoleon, involved an agreement reached with a new pope (Pius VII) in the Concordat of 1801. This restored a balance in church-state relations, albeit one which now heavily favoured the primacy of the state and left religious holdings substantially reduced, and would become a model replicated in other parts of continental Europe.

More subtle, but no less fundamental, had been the accord reached across most of the new United States by 1789 to clearly separate church and state. In America, the need to frame new constitutions, and later to consolidate a Federal Constitution in the late 1780s, generated much internal dispute over if, how, and where to incorporate religion into the rights of citizens and the powers of government. But given the unrivalled diversity of religious denominations within American states, which had contained large numbers of dissenters from the earliest days of colonisation, and because of the emphasis on liberty during the revolution – when decline in faith in the king naturally hamstrung the official Anglican Church – there was a strong direction of travel towards toleration and libertarianism. State after state followed Virginia’s lead in disestablishing churches and erecting clear barriers separating government from church influence – privatising questions of conscience, even if some privileges were still confined to worshippers of the Bible. The approach was given its fullest form in the First Amendment to the United States Constitution, in the opening salvo of the Bill of Rights adopted in 1791, which prevented Congress from establishing a state church or making any laws that prohibited the “free exercise of religion”.

Where sweeping constitutional reforms did not occur as a result of revolution or invasion, as in Britain, change was more gradual, but still in evidence. It was driven forwards by three elements: secular and liberal ideas in philosophical and economic thinking, the broadening of the political classes, and a growing recognition of the way that a degree of religious inclusiveness helped to diffuse social tensions among religiously divided populations. As an example, the British Test Acts (which had officially imposed civil and political disabilities on dissenters and Catholics since the seventeenth

century) were finally repealed in 1828, by which time they had virtually fallen into disuse. The next year a Roman Catholic Relief Act confirmed a victory in the long-fought campaign for Catholic Emancipation, led by Irishman Daniel O’Connell in the face of concerted opposition, including that of King George IV. The timing of this and the Catholic relief acts that preceded it in 1778 and 1791 pointed clearly to the impact of international revolutions on British sensibilities about loosening religious restraints. The expansion of industry also encouraged spiritual revivalism, as faiths adapted to fit to larger urban populations and their changing social and economic circumstances – with Methodism a particular beneficiary.

By the mid nineteenth century, it was clear that the nature of organised worship in the Western world – if not its form and extent – had substantially changed. Secularism had not perhaps triumphed in the way that some of its most earnest proponents had expected: the waves of evangelicalism that generated huge numbers of global converts in the early nineteenth century, and the arrival of emotionalist and individualist cultural movements across the arts (often clustered as “Romanticism”), showed rationalism’s impact to be more of a constitutional than a social phenomenon. But even beyond revolutionary hotspots, and even in the aftermath of counterrevolutionary and conservative backlashes, the church had been substantially disentangled from the state. It was separated by new constitutions, new legislation, and a newfound attentiveness to the inadvisability of generating political aggravation in the shadow of revolutions. God may have commanded as much cultural and social authority as ever, but became a somewhat more remote political and historical force than in earlier eras.

Key Messages: Challenging Religion: Worship and Freedom

Revolutions help to disentangle church and state – moving faith away from formal politics:

- Anti-clericalism targets priests and ministers, especially where associated with established powers or unfair tithes
- Church properties and privileges are lessened and redistributed – including the confiscation of enormous wealth (in artworks, silver, and estates)
- Constitutions address the right to freedom of conscience, often via Bills of Rights
- The Papacy becomes less powerful in Europe, increasingly treated as beneath the power of states, and as a consequence becomes more reactionary
- New forms of faith emerge that cater to the spiritual and educational needs of urban and labouring populations in the early nineteenth century

Challenging Law and Order: British Riots and Reforms

Set against the magnitude of the wars, political radicalism, and economic challenges that crystallised from the 1770s, the powers of law enforcement agents remained very localised and threadbare throughout Britain. At the start of the period, with the exception of a handful of newly organised officers in the Bow Street office in London, public safety across the country was policed by a mixture of part-time parish constables and municipal night-watchmen – supplemented by private interests and, when necessary, contingents of local militia or nearby troops who could be summoned by magistrates. The inadequacy of this criminal deterrence came into sharp focus at the close of the American Revolutionary War, when crime rates rose, it became impossible to ship convicts to American colonies, and rioting broke out of control in London in June 1780 in the notorious “Gordon Riots” – during which the inmates of Newgate Prison were released by the authority of “His Majesty, King Mob” according to the graffiti they daubed on its ruined walls. Thereafter, the state and city authorities devoted increasing attention and resource to the administration of criminal law. The 1780s brought the creation of the Home Department to systematise law enforcement, a spate of new legislation, and the selection of New South Wales (Australia) as a new colonial destination for British convicts sentenced to transportation. Major changes also took place at the municipal level: industrial towns, beginning with Glasgow in 1800, established professional police forces, and larger enterprises such as the Liverpool and Manchester Railway secured legislative sanction for policing operations. Mindful of the ideological sensibilities of libertarian Britons, new forces were made accountable to the Home Secretary – initially Sir Robert Peel (who founded the London Metropolitan Police in 1829) – and were prevented from having a military appearance (excepting the distinctive Constabulary of Ireland (1836)). But by 1851 there was a veritable army of law enforcement officers numbering some 14,000 policemen in around 200 forces.

The challenge for governments was how to address justifiable discontents among their populations without destabilising society or derailing the interests of capital. Much famous British legislation of the era – such as the Corn Laws of 1815 which regulated foreign wheat imports – played with this balancing act, as reformism developed a pragmatic dimension: torn by an anti-radical constitutional heritage on the one hand, and profoundly transformative new industrial relationships on the other. In spite of overall expansion at an unprecedented level, the British economy remained vulnerable to short phases of downturn, often pinned to post-war depression or demobilisation (as in 1815-1821) or recessions connected to high grain prices or a fall in overseas trade demand (as in 1826, 1830, and 1837-42) when credit contracted. Such moments served to expose and exacerbate the plight of the poor, prompting unrest and the threat of radical mobilisation, which now carried new meaning in the shadow of revolutions past and present. One way of understanding this might be to view it as a revolution in the experience and meaning of poverty. The thinning of the traditional links between work, welfare, family, and the parish meant that oppressed peoples had to locate new sources of solidarity and protection, and their champions had to articulate new values and establish new institutions to support them. All in all, the concessions on behalf of the lower orders were minimal, but

each victory gave meaning and shape to the self-conception of a “working class” that would prove a foundation for radicals, unions, and political contests in the late nineteenth and early twentieth centuries.

The suppression of political radicalism absorbed much governmental energy in the 1790s, initially targeting dissent and sedition, but in 1799 extending to “An Act to Prevent Unlawful Combinations of Workmen” which prohibited trade unions and collective action or bargaining because of their potential to undermine the war effort. The Combination Acts operated at the nexus of issues of revolutionary paranoia and economic productivity, exposing a point at which political interests overlapped with economic ones. When the revolutionary and wartime urgency dissipated, the restrictions were lifted in 1824, but this precipitated a wave of strikes among workers, and suppressive measures were reinstated the next year. In 1833 a small group of agricultural labourers in Tolpuddle (Dorset) met collectively to protest the decline of their agricultural wages, and were found guilty of transgressing rules about swearing oaths – all six of them sentenced to seven years’ penal transportation. Thanks to a remarkable publicity campaign that drew support from all sectors – as one union hymn put it, “from field, from wave, from plough, from anvil, and from loom” – the Tolpuddle “Martyrs” became the subjects of mass petitions, marches, and eventually a pardon. Their case showed that labour solidarity could raise a clamour that was transregional and transnational, and such iconic confrontations offered a sort of interpretative punctuation to radical statements in years to come.

Although typically small scale and local, resistance to the technological and entrepreneurial developments associated with industrialisation sometimes generated violent opposition. For example, angry workers fearful about a loss of employment in domestic cotton spinning attacked the homes of early inventors and damaged machinery – including James Hargreaves’s “spinning jenny” in Lancashire and Richard Arkwright’s “water frame” in Derbyshire. Opposition was even more pronounced among the male-dominated handloom weavers whose numbers had expanded before the 1830s to accommodate the rising production of yarn, but who battled factory-based technological improvements (in steam powered looms). As a centre of production, Manchester played host to several episodes: protestors destroyed an early weaving mill in 1791, and violence worsened during the Napoleonic Wars in April 1812, as authorities (including a troop of the Scots Greys and the Cumberland militia) killed around twenty in nearby Middleton, complaining of the destructive behaviour of large crowds of “revolutionary Jacobins” who were ransacking mill-owners’ mansions and rioting for food. Unremitting mechanisation, deteriorating working conditions, and environmental downturns tended to bring the worst crises to the foreground and present genuine threats to law and order that eclipsed those of earlier periods. Among these were the Luddite protests in the 1810s (named after an alleged Midlands frame-breaker, Ned Ludd), the Swing Riots (centred in southern and eastern England) and the Merthyr Rising (in Welsh colliery communities) in 1830-1, and agrarian malaises in Scotland and Ireland, where the famine triggered by potato blight in the 1840s reinvigorated political clashes and prompted another attempt at armed rebellion in 1848.

Real frustrations hid behind symbolic and mythical figures in the form of “King Mob”, “King Ludd”, or “Captain Swing,” but the political fears of ruling classes – in Britain and elsewhere – and the economic

interests of industrialists and landowners prevented meaningful concessions. In the 1830s and the 1840s, partly reenergised by the renewed activity of European radicals, British protesters turned to Parliamentary reform as a way of moderating social inequality and oppression. Serious riots (especially in London, and towns in the Midlands and Southwest) accompanied the defeat of a bill in 1831 that would have modernised the electoral constituencies and loosened the franchise; as a consequence the Great Reform Act was passed in 1832. But although rotten boroughs were removed and industrial towns awarded MPs, there remained major barriers to political participation – including a £10 threshold that in practice denied the vote to the bulk of the working classes.

In the late 1830s, the Chartist movement rallied disparate working-class communities behind a simple campaign for democratisation, though one proponent, the Methodist radical firebrand Joseph Rayner Stephens, famously noted it was “a knife and fork, a bread and cheese question.” Millions of signatures were registered on “The People’s Charter” which was presented to Parliament in 1839, 1842 and 1848, and called for six basic reforms that would afford working people better representation and access to political rights. Rooted in working men’s associations within the new industrial heartlands (northern and central England, southern Wales, and the Clyde Valley), the Chartists built mass support that spanned occupations, and articulated their message through newspapers and in outdoor meetings. Repeatedly denied a hearing, many angered sub-groups planned to fall back on covert plans for a general strike, to deploy physical force, or coordinate a fully-fledged insurrection or revolution. The upshot was a series of waves of riots, strikes, and repressions during which industrial labourers and radicals wrestled with the apparatus of the state – including the army, the police, and the courts. The spectacular final bout occurred in 1848, following the remarkable election of Chartist leader Feargus O’Connor as MP for Nottingham, an impetuous Protestant Irish patriot and reformer, whose father had been an Irish nationalist and whose brother had migrated to fight alongside Simón Bolívar in numerous liberation campaigns. In sync with the 1848 revolutions in Europe, O’Connor organised a grand rally on Kennington Common (London) in April, but although some six million signatures were amassed in the petition presented to Parliament, the police prohibited protesters from processing to deliver it themselves – avoiding violence, bloodshed, and allowing Parliament to avoid again the call for universal manhood suffrage by a vote of 222 to 17.

Key Messages: Challenging Law and Order: Riots and Reforms

British radicals and workers wrestle with state forces to defend political and economic rights:

- Developments in legislation and policing safeguard against radicalism and unions
- Mechanisation, falling working conditions, and environmental downturns frequently provoke industrial and agricultural labourers into violent action
- A new sensibility, discourse, and symbolism emerge among the working classes
- Working associations support one another through publications, collective funds and welfare schemes – especially aligning on issues of wages, hours, and prices
- National campaigns are coordinated to push for economic and political reforms, culminating in the Great Reform Act and the frustration of Chartism

People in Motion: Exiles and Opportunists

The end of the eighteenth century marked the end of a long process of seaborne exploration – dominated in recent centuries by Europeans – that had mapped out the continental geography of the globe. When Captain James Cook claimed possession for Britain in 1770 of what he named “New South Wales” (the vast lands and peoples of eastern Australia), and French expeditions two years later claimed western Australia and Tasmania, the full force of European overseas exploration was mobilised to the other side of the world. Many botanists, zoologists, cartographers, and then colonists descended with their instruments, charts, and cages, intent on scoping the new territories for economic, scientific, and geopolitical possibilities, even as counterparts in the United States roamed into the “unknown” mountain and riverine systems that lay west of the Mississippi River. The conjunction of this moment in global exploration with continued growth in trade, and the impacts of political and industrial revolutions, were to accelerate to an unprecedented degree the process of globalisation. While the numbers of enslaved migrants dropped with the gradual ending of the international slave trade, the volume of voluntary migration rose dramatically, because transportation became more accessible, and more and more people moved either in response to agricultural poverty or to newfound opportunities connected to industrialism and empire.

The American, French, Haitian, and Spanish American revolutions all precipitated major upheavals that prompted subsections of their populations to uproot and relocate, creating much spontaneous,

disordered, and transnational movement of people that went far beyond patterns that had previously existed. In the American case, for example, the revolution involved the flight or expulsion of tens of thousands of loyalists (to Canada, Britain, and elsewhere in the empire), the escape of untold numbers of slaves who sought their freedom, and the reconfiguration of relations with Native Americans that left the indigenous people bereft of support against the uncontrollable westward migration of whites in years to come. The revolution in France brought about a dispersal of the aristocracy and, as a consequence of the bloody European wars that followed, major episodes in regional depopulation and resettlement in Europe and overseas. Under civil law during the Jacobin “Terror”, all those banished were proclaimed as dead, and all their assets confiscated, nationalised, and sold – the death penalty awaiting any who should reappear. The Haitian Revolution offered among the more spectacular instances of expulsion, for between 1791 and 1804, thousands of the wealthiest whites and free people of colour (along with many of their slaves) left the colony as refugees, some 10,000 of them swarming into New Orleans where they doubled the city’s population. The French diaspora in the 1790s (when perhaps 150,000 people sought refuge in neighbouring states), and then return of a significant proportion of *émigrés* from all levels of French society, differed in important ways from earlier mass movements – such as the religiously-motivated Protestant Huguenot and Catholic Jacobite dispersals – for the returners brought back with them a greater sense of exchange and connectivity that lent itself to new perspectives and innovations. Many of these hundreds of thousands of revolutionary refugees (American loyalists, French *émigrés*, Habsburg exiles from Further Austria or the Southern Netherlands, St. Domingue planters, restored elites in Poland or Naples) formed networks and constituted a sort of multinational league of frustration (often centred in salons and coffeehouses in London, Philadelphia, Hamburg and Vienna), keen to propose new schemes and to find places to restore or reinvest capital.

The population of Europe increased by over a million people each year on average in the half century after 1775, reaching some 230 million by 1830. Between 1815 and 1848, disruption and stagnation to economies in rural areas of Europe prompted millions to move to new homes in search of work and land. Especially when political remedies such as reform or revolution appeared impracticable (or were tried but failed), an alternative for those with means was to seek out locations that offered the prospect of family survival or upwards mobility, albeit with new risks. The end in 1815 of both the Napoleonic Wars and the War of 1812 between Britain and the United States (in which both had inflicted blows to trade and pride, but left the geopolitical status quo unaffected) heralded a new phase of mass immigration from Europe. Quite apart from the post-war malaise, agriculture in the northern hemisphere had been hit by a series of terrible harvests, owing to the fallout of a great volcanic eruption in Indonesia in 1815, so severe famines gripped many regions, striking particularly hard in southwest Germany and Ireland before 1818. Overpopulation in these areas also contributed, and Catholics who continued to face discrimination particularly valued the higher degree of official toleration afforded in the United States and Canada. Ultimately, the United States received more than a million German-speaking and Irish people apiece, hundreds of thousands of Britons (especially Scots continuing to emigrate from the Highlands, where landlords enacted draconian clearances in response to falling prices in traditional commodities), and tens of thousands from Belgium and the Netherlands,

Scandinavia, and Switzerland. Upon arrival in North America, these emigrants channelled westwards into new American states and took advantage of the wide availability of land and the high demand for farming and manufacturing labour. Opportunistic groups of migrants (or their descendants) would go on to bring new forms of revolution, as when settlers in Texas declared a republic independent from Mexico in 1836, or when the radical new Mormon sect set out west to found their spiritual stronghold in Salt Lake City (Utah) in 1846. A fresh European wave swept into motion during the revolutions of 1848-9, when exasperation or political crackdowns forced many more into exile – among them German, Czech and Hungarian democrats, Chartist labour reformers, and desperate refugees from the famine in Ireland. Their arrival into seaboard cities and their absorption into the United States (and elsewhere) challenged the existing composition of society and the political equilibrium, as well as bringing new ideas, networks, and technologies.

Besides these transnational flows encouraged by push-me factors (deteriorating conditions, the fallout of revolutions) and pull-me factors (the opportunities afforded in new republican nations or more loosely-controlled imperial territories), the other dramatic shift was in the internal spread of populations. The phenomenon of urban or “ripple” migration – when new towns or industries enticed migrants from outlying agrarian districts – spiralled in this period, as workers responded to new demand in trade and industry, gravitating towards the cities, where employment and housing could most easily be secured. Although we need to be careful not to overstate the extent and pace of transformation, which varied from region to region and country to country, it is telling that these great leaps towards urbanisation and globalisation seemed not to be reversible. As theorists increasingly recognised at the time, the old walls checking population distribution and engagement in economic exchange had been breached, and were perhaps no longer relevant to the new world of labour that was being charted.

Key Messages: People in Motion: Exiles and Opportunists

Revolutions and economic changes spur millions to move around the globe, connecting peoples:

- Revolutions bring expulsions and mass flight, sending waves of exiles abroad
- Declining working conditions or new opportunities bring a concentration in cities
- Europeans move in unprecedented numbers to emptier lands around the globe, though these are periodic surges
- The impact of mobility is to increase globalisation and extend networks
- National identities and new borders are given meaning by virtue of their relationship to migrants – in some cases more welcoming than others

Economic and Technological Revolution

Printing Revolution: Newspapers and Images

The dissemination of ideas in print was unquestionably a critical dimension of the Age of Revolution, that accelerated the pace of change and spread radicalism and innovation beyond the confines of one region. Newspapers, pamphlets, and satirical cartoons possessed a power and a reach that could undermine the grandest established orders, and it was little wonder that control of them proved to be among the first prizes that revolutionaries and authorities contested. Indeed, without the power to share ideas and express solidarity in print, it is hard to imagine either political or technological revolutions developing very far. Instead, the unstoppable democratisation of print culture ensured that this was a period during which some of the most striking, imaginative, and enduring claims about human rights, civil rights, and political rights were propounded and taken up – including *Common Sense* (1776), *Reflections on the Revolution in France* (1791), *The Rights of Man* (1791), *A Vindication of the Rights of Women* (1791), *Democracy in America* (1840), and *The Communist Manifesto* (1848).

Newspapers and periodicals had become a fixture of the British and American urban public sphere from early in the eighteenth century, in contexts where censorship proved hard to effect. By the 1770s, radicals on both sides of the Atlantic had shared not only copious news about political and economic developments, but also been steeped in libertarian ideas and a suspicion of governmental corruption. Published letters and pamphlets became a vital way of sustaining protest movements, of critiquing or reinterpreting political relationships, and of framing propositions for idealistic new forms of government. Arguments in print made it possible for revolutionaries to rehearse positions and to form consensus across regions, including transnationally. The reportage also allowed revolutions to develop and cement their own symbolic language and imagery, and to advertise and enforce important economic measures (such as boycotts) – as when Americans drew on tropes of racial savagery to demean British occupation, or published lists of goods that were no longer to be imported. Counterrevolutionary authorities were just as quick to write or commission artwork that helped shore up domestic opinion and to ridicule protesters or justify repressive action, as attested in the many satirical cartoons printed in British periodicals that caricatured American patriots as bumpkins, or French revolutionaries as frenzied, greedy, and unnatural – usually fixating on the inversion of an established order. That newspapers were a manifest signal of revolutionary agency is shown in the fact that some two thousand were founded in revolutionary France in the 1790s, whereas Napoleon restricted this to a handful in Paris and just one carefully monitored output in each department.

Advances in the technology of printing meant that prices fell steadily and, by the 1830s in Britain, most major cities offered significant local coverage and daily papers, alongside prominent national organs which usually had political sponsorship of one sort or another – the first newspaper in India from 1780, for instance, being supported by the East India Company. Rapid fire and then double page printing presses arrived in London in the 1810s, when the reform-oriented *The Times* picked up momentum, securing a wide readership by weighing in on social issues, critiquing Parliament, and securing distribution through new transport systems to urban nodes throughout Britain. The increase of taxes

on newspapers during the Napoleonic Wars, and later prosecutions of publishers did little to control the British press, as hundreds of revolutionary new titles emerged in the 1830s, reaching a circulation in all of around 70,000 daily and 300,000 weekly by 1848. Publishers and printers such as William Cobbett (in the 1810s) and Henry Hetherington (in the 1830s) provided a crucial link between the everyday life of workers in cities and industrial zones, and the alien world of parliamentary politics, helping to drive unrest into meaningful causes and campaigns. The Chartist movement in particular benefited from the creation of newspapers – among them the *Poor Man's Guardian* (1831) with its pointed motto, “knowledge is power”, the *Northern Star* (1837) established by Feargus O'Connor in Leeds which peaked at 48,000 copies a week and argued for physical not just moral pressure, and the *Chartist Circular* (1839) printed in Glasgow.

Newspapers also offered a vital radiation point for European radical circles, as shown in the publishing career of Karl Marx, which moved him from Cologne to Paris, Brussels, and London, and involved him working out his ideas in short-lived experimental periodicals, editing his first socialist newspaper (*Neue Rheinische Zeitung* (“New Rhineland News”) in 1848-49), and later writing as a European correspondent from his base in London for the *New York Tribune*. Liberation of the press, more broadly, became a central fixture in the revolutionary contests that swept Europe in the 1830s and especially 1848. In many German territories, the strict surveillance of presses that had occurred in the post-Napoleonic period was swept away as a consequence of the concessions made to liberal reformers in 1848 (many of which short-changed angry lower classes who had mobilised alongside them). The granting of greater freedom to the press tended to buy some time for pressurised European governments in the short term, but over the long durée it opened the door to much larger ideological forces – linking with movements as diverse as nationalism, anarchism, and socialism in the decades to come.

Serialised publications, pamphlets, papers and novels also had a major part to play in raising the profile of campaigns for the amelioration of social conditions and to support the victims of rapid industrialisation and of slave labour. Sentimental literary works drew attention to the plight of child workers, written by the likes of Frances Trollope (1840), Elizabeth Barrett Browning (1843), and Charles Dickens, whose *David Copperfield* (1849) reflected his own time in a rat-infested London factory labelling boot blacking polish from the age of twelve. By 1848, international literary and emancipatory attention had also concentrated its guns on the denial of political agency to women, as French radicals launched *La Voix des Femmes* (“the voice of women”) and Americans gathered that year at Seneca Falls to deride the marginalisation of women, culminating in a “Declaration of Sentiments” which mocked the inadequacies of the Declaration of Independence and became a rallying cry for women's rights movements throughout the United States.

Key Messages: Printing Revolution: Newspapers and Images

Democratisation of print, particularly in English, bursts forward in spite of efforts to restrict:

- Printed pamphlets and newspapers are vital to revolutionary mobilisation
- New ideas circulate and radiate thanks to the efforts of publishers
- Technological advances make printing cheaper and therefore more accessible
- Newspapers offer new ways for the public to engage with politics, bringing literary creativity, graphic symbolism, and investigative journalism to the fray
- New titles formed through subscription to advance particular causes – sometimes supporting interests of the state, sometimes radicals, sometimes social campaigns
- Legal contests see freedom of the press contested, especially in Europe
- Later revolutions win concessions in relation to circulation of ideas and freedom of conscience

Transport Revolution

Advances in the capacity to transport goods, people, and information were essential to the expansion of production in many economies in the late eighteenth and nineteenth centuries – beginning with Britain, before spreading quickly to the United States and many parts of Europe. Many step changes had occurred, of course, in previous decades and centuries, but the pace of transformation during the Age of Revolution was more dramatic, and interlocked with the new technologies, methods, and materials of the era, culminating in the use of coal, steam, and iron rail to drive capitalism onwards. Although no earlier methods of transport had been rendered entirely obsolete by 1850, in most cases it had become pronouncedly faster, cheaper, and easier to get any given item from its point of production to its point of consumption. Importantly, the results were not just about improving the efficiency of internal communications, but helping to stimulate whole new sectors of the industrialising economy, and integrating people and places in new ways: commuting and tourism had a part to play in generating shared sensibilities and regional identities. And the more that goods could be moved, the more the population could be supported and concentrated. By the end of the period, manufacturers and consumers alike could access wider markets, allowing them to be less self-sufficient and less dependent upon the weather or the season, and more responsive to opportunities.

Some of the changes to the infrastructure of transport were incremental, as existing roads or waterways were adapted to render them more effective in the mid to late eighteenth century. Parliamentary legislation helped to ease river navigation (introducing locks, weirs, and mills, or straightening bends), especially with the introduction of pound locks from 1760, and Parliament also allowed the extensive spread of turnpike roads throughout Britain (especially England and Wales), whereby private companies were authorised to build and then charge for traffic on new thoroughfares that connected cities – amounting to over 1,000 trusts by the 1830s which controlled more than 20,000 miles of road and collected some £1.5 million in tolls.

The transport landscape (and waterscape) was transformed more dramatically, however, because of additional features and investment that accelerated beyond this core and revolutionised productivity. Beyond turnpiking, from 1820, processes to construct and streamline the road surfaces and regularise maintenance were introduced by Scotsman John Loudon McAdam. His treatises and methods “on the Scientific Repair and Preservation of Roads” were taken up in England and later Europe and the United States (for instance in the construction of the “National Road” in the 1830s which helped open the American West to settlement). McAdam advocated constructing roads through binding layers of smaller stones to create a smoother surface and ease drainage – later known as “macadamizing” and further treated with tar. Beyond river improvements, substantial investment and innovation poured into the creation of new canals, spearheaded by the famous Duke of Bridgewater’s eight-mile canal that opened in 1761 to carry freight from his coalpits to the centre of Manchester. The canals became feats of the new discipline of civil engineering, and required substantial upfront investment that meant they advanced in fits and starts – leaping forward in the early 1790s until interrupted by the French Revolutionary and Napoleonic Wars. By 1820 roughly three times as much navigable waterway mileage was available than had been the case in England and Wales in 1760, and major trunk routes had revolutionised the profile of many areas producing fuel, raw materials, or manufactures – including Birmingham and the West Midlands (connected to London through the Grand Junction canal), and the Leeds and Liverpool, Forth and Clyde, Thames and Severn, and Kennet and Avon canals. A third incremental advance that drew on existing usages but helped conquer environmental restraints was the introduction of steam-powered shipping alongside the oar and the sail. Using side-wheel paddles and later screw-propellers, steamships soon demonstrated their worth in complementing regular commercial vessels, and by the late 1830s fully-fledged transatlantic ocean liners were emerging, culminating in Isambard Kingdom Brunel’s iron-hulled *SS Great Britain* in 1847.

The rise of the railways, perhaps more than any other transport or technical innovation, came to symbolise the arrival of Victorian industrialism. The technology did not mature until the latter half of the century, but what was particular to the Age of Revolution was the speed of investment, the dramatic return, and the way in which railway tracks, like veins and arteries, generated a new circulation system for regional and national economies. Early experiments with steam locomotives drew on their potential to help in moving bulky goods short distances – especially in mining and quarrying, sectors that had long depended on engineering innovations and early steam power to help with pumps and pressure. They initially suffered from low speeds and poor reliability, but conviction

and competition in the design process swiftly brought technical improvements. By the 1820s demonstrably effective models emerged in the north of England that offered a revolutionary alternative to canal or road, or as one prospectus put it, “manifestly superior to existing modes of conveyance,” especially in light of the growing availability of wrought iron for tracks. Pioneered by George Stephenson (1781-1848) in the Stockton and Darlington Railway, the world’s first passenger railway opened in 1825 between Liverpool and Manchester using a rail gauge of 1,435mm that remains today the most widely used throughout the world. Within twenty years more than 6,000 miles of track had been laid, much of it thanks to huge booms in speculative investment that gripped entrepreneurs in 1825-30 and 1845-47, drawing capital from merchants, landed classes, and manufacturers, and thereby linking them together in a parallel network of commercial interests. This last twist to developments in transport also brought with it a hallmark of the Age of Revolution: the brutal obsolescence of earlier systems. By 1850, railway companies had actively and successfully targeted stagecoaches and the canal freight business – buying up over a thousand miles of waterways and consigning them to disrepair to crush the competition.

Key Messages: Transport Revolution

Rapid advances in the technology, reach, and capacity to transfer goods and people around:

- Britain takes advantage of its location and resources to drive innovation
- Roads are dramatically improved through turnpikes and especially macadamizing
- Feats of engineering and regulation become recognised as state assets
- Unprecedented efforts made to re-channel waterborne traffic in canals
- Beginnings of the railway and steamship eras, as steam power overtakes older methods
- Transport initiatives give rise to new industries and bring exposure to new regions

Trade and Economics

British expansion in overseas commerce had been a key part of economic development since at least the seventeenth century, was helped by the union with Scotland in 1707, and had been consolidated

in the eighteenth century through successful conquests of territories or growing markets in America, Africa, and increasingly Asia – assisted by the largely unbridled activities of trading corporations such as the East India Company. By the late eighteenth century, this marine commerce (concentrated in London, and to a lesser extent Bristol, Liverpool, and Glasgow) was cohesively linked to several sectors of the economy – including banking, insurance, and especially manufacturing. British workers processed raw materials arriving from all over the globe, often in fragmented and diffuse systems that involved task-oriented handicrafts; finished products were then exported to eager markets, particularly in Europe and the Americas. In 1750, there remained little separation between urban and rural dimensions of this activity, especially in relation to textiles (which dominated exports): woollens were produced in East Anglia, the West Country, and the West Riding of Yorkshire; linen thrived in parts of Scotland, Ireland and Northwest England; cotton textiles hailed from south Lancashire; silk was thrown in the Midlands and mainly woven to a high level in Spitalfields, near its elite clientele in London. Other noteworthy products included small metal goods (nails, cutlery, tools, and arms) that dominated trade in the Black Country and around Sheffield. Lastly, the processing of the raw materials extracted from colonialism and overseas trade offered major employment: sugar, tobacco, cocoa, coffee, indigo and dyestuffs, rice, and slave trading all required processing activities, before being re-exported. All of this trade was notionally controlled by the British “Navigation Acts” which set up a system to prevent other nations from muscling in, and aimed to generate income for the state (through taxes), balancing the interests of different lobby groups: consumers, plantation owners, manufacturers, and corporations. Rival countries shared in this kind of protectionism with its high tariffs, trade embargos, royal monopolies, and restrictions on consumption and encouragement of domestic shipping: the longstanding French colonial version was called “l’Exclusif” and the Spanish system tightened under the Bourbon Reforms; non-naval powers such as Prussia also actively subscribed to such measures under the *ancien regime*.

New thinking about political economy was naturally an important component of the greater circulation of ideas in the eighteenth century, and was spearheaded in Britain by the Scottish philosopher Adam Smith, whose *Inquiry into the Nature and Causes of the Wealth of Nations* (1776) advocated free market economics. Building on his survey of European economies and recent theories (including the French “Physiocrats” who urged a “laissez faire” approach), Smith argued that national prosperity and a higher general standard of living could best be secured by trusting to market competition and the division of labour, to eradicate unproductive behaviour. Effectively, he proposed that the swiftest route to economic efficiency and competitiveness was to liberate man’s intrinsic self-interest and to prevent restraints “in any particular branch of trade or manufactures”, so long as precautions existed to preclude businesses from forming cabals. Historians and economists debate whether Smith described something that was already happening, or whether he made an intellectual breakthrough that gathered momentum. There had been a perceptible retreat from formal “mercantilism” (as Smith labelled the earlier interventionist approach) in the eighteenth century, and lots of evidence suggests that commerce flowed regardless – or beyond the reach – of officers of the state, as merchants developed sophisticated systems of trust, credit, and exchange, and smuggling and illicit trade proliferated. David Ricardo added a number of further inflections (1817) to oppose protectionism, to recognise the value of labour, and prevent pandering to landlords, also arguing vociferously for the extension of “free trade” and to make it more international and mutually advantageous. This newly-

supported liberalism in economic policy and the embracing of free trade would become a pervasive and celebrated characteristic of British commerce in the nineteenth century, completing its ascendancy with the repeal of the Corn Laws in 1846 (protectionist tariffs that had supported landowners since 1815 by keeping domestic grain prices high), and the final removal of the vestiges of the Navigation Acts from the books in 1849.

The strength of trade and its encouragement (through low duties) facilitated the coming together of other key variables: machine technology, cheaper transport, and specialist factory production. Indeed, a strong case can be made that the countries which benefited most from economic development in this period – especially Britain – did so because of advances in international finance and trade rather than in manufacturing (to which we ordinarily look for revolutionary transformation). In other words, the industrial revolution hinged upon on a cutting edge commercial sector, without which take-off would have been impossible. Two aspects in particular catalysed Britain's opportunities: the extension of commercial empire into new markets (increasingly an empire of trade rather than one of settlement), and the wide availability of credit. Ultimately, the financial systems that were developed to facilitate overseas trade – sophisticated enough to deal with the complexities of international payments for goods and services, supported by a port and marine infrastructure, and protected by insurance and a flexible military presence – became used also in the domestic financial sphere, confirming London's preeminent place as the world's financial capital.

Between 1775 and 1848, the top two percent of British families doubled their proportion of national income (to two fifths) largely thanks to their deepening of investment. By the end of the period, manufacturing and mining had replaced agriculture as the principal source of national wealth in, largely because its products could find a route to overseas markets. For example, between 1784 and 1854 the export of British cotton goods (which depended, of course, upon securing reliable sources of bales of cotton fibre from America and India) witnessed an extraordinary increase from less than a million pounds sterling's worth to some thirty-five million – for a time (in the mid-1830s), constituting around a half of the value of all Britain's exports. Free trade, in such circumstances, was something of a shibboleth in the sense that it was easy to embrace and enforce from a position of global commercial hegemony. But if the rising national income per capita was an illustration of the benefits of trade and industrialisation, income tax data suggests that its distribution was almost certainly becoming more unequal.

Key Messages: Trade and Economics

Theory and practice come together in the British and then international move towards free trade:

- Many nations retreat from protectionist systems and pursue commercial integration
- Britain takes advantage of its dominant position and imperial reach to consolidate
- Major advances are made in international financing and credit that allows merchant classes and industrialists to join or compete with traditional landowners
- Inequality becomes more rampant and visible
- Agriculture's share of wealth generation drops relative to manufacturing and trade, offering a model of development for industrialising countries

The Impact of Industry

By the midpoint of the nineteenth century, people travelling through Britain or documenting its communities were under no illusions that things had changed dramatically of late. As Thomas Carlyle claimed in 1829, "it is the age of the machine...nothing now is done directly, or by hand." Such commentators were liable to accentuate changes over continuities, of course, but writers, poets, and artists described with fascination a new world of production and industry, in which new constructions occupying a central place: factories, canals, engines, docks, cities and railways. Much of this observational outpouring was positive, for these advances were frequently seen as totems of a new industrial civilisation bringing progress and enrichment, to be celebrated and emulated. But as decades passed and the social consequences of technological, environmental, and economic change became apparent, a newfound nostalgia also became apparent about the world that was being lost, and the hidden costs that accompanied revolutionary industrialisation.

The eighteenth century had witnessed significant changes in the appearance of the countryside, with a substantial reduction in the acreage of lands that were open fields, commons, or wastes, meaning agriculture could support a growing population and allow it to concentrate. The tendency to seek improvement in yields and to consolidate production was given extra impetus by the high prices that accompanied revolutionary wars at the end of the century. But more dramatic changes to the disposition of land and labour over the next decades were tracked in the first British censuses, which showed that 58% of the British labour force (some 5.6 million) worked in manufactures, trade and

transport by 1851, two and a half times larger than those working predominantly in agriculture and fisheries; or in measures of national income, which showed the contribution of manufacturing and mining rising to 34% in 1851 whereas agriculture fell to 20%. Perhaps the most vivid alterations took place in urban environs, as cities experienced spectacular growth rates of 25% per decade between 1801 and 1851 – leaping forward in size, but not in sanitation, employees’ health, amenities, housing, or privacy.

Much ink has been spilt over the legitimacy or not of the phrase “the industrial revolution” to describe changes in the British and later American and European economies. The term was retrospectively imposed – first by a Frenchman, Jérôme-Adolphe Blanqui (1837) and then a German, Friedrich Engels (1844) – who sought to draw on people’s alertness to recent political shocks as a way to stimulate thinking about economic and social change. Ever since British historian Arnold Toynbee popularised the phrase in English in the 1880s, historians have debated its timing, extent, usefulness and legitimacy as a concept. But there was unquestionably a transformative industrial concentration across the country that was given life wherever access to raw materials was joined with the availability of new sources of power. In sector after sector, human or animal muscle gradually yielded to water power (driving the great new textile processing mills of Yorkshire and Lancashire) and eventually to coal power (often overlapping with iron works, as in South Wales, Scotland, and the Black Country). As Arthur Young famously put it in 1791, “all the activity and industry of this kingdom is fast concentrating where there are coalpits,” and the innovations in transport in decades to come – including canals and railways – would extend the reach of these bonds and the importance of mining regions. The clustering of development around these geographic regions was matched by the intensification of productive activities within one building or zone: it became feasible, and increasingly desirable to employers, to control operations on one site where they could best scrutinise, support, and exploit workers. At the same time, this allowed them to take advantage of the division of labour, new technology, and the financial benefits of large-scale practices and consistency of output. The age of the factory had definitively arrived, albeit in a range of shapes and sizes that reflected different ways to apply power to machinery, and the material constraints of different sectors. The labour force was increasingly matched to the spaces, needs, and extent of the local industry rather than the local economy being matched to the homes, needs, and extent of the labour force. In the early part of the period, this meant whole new populations and communities being artificially created around major works dependent on water power such as New Lanark on the Clyde or Cromford on the Derwent. As coal, iron, and textile and steam technologies expanded, though, deeper effects were felt: the countryside was frequently drained of its longstanding manufacturing activities and the cities became the focal point for the concentration of industry and labour.

What did all of this industrial change mean for ordinary people? It may not have gone quite so far as having “changed the whole of civil society” as Engels claimed in his *The Condition of the Working Class in England* (1844) but it undoubtedly brought wholesale changes for many labouring populations and consumers in their daily lives – particularly in those areas tied to key products involved in technological advances, such as coal, iron, and cotton. In the cotton industry regions (centred in Northwest England,

the Midlands, and the Clyde Valley in Scotland), more than a thousand mills were in operation by the 1830s, and workers were no longer constrained by daylight or watermills but operated in shifts through candlelight, using steam power to drive multi-storey engines and machines. Each step in the processing of the fibre was subjected to new methods, vastly increasing productivity and lowering prices as Britain's foreign competitors scrambled to emulate. Cotton handloom weaving had all but disappeared by 1850, eclipsing the livelihoods of some quarter of a million weavers.

The working poor became habituated to a world of bells, clocks, whistles and watches, a world less dependent on skills, and from which older trends retreated: flexible hours, multiple tasks, seasonal differences, and subsistence wages or wages in kind, which shrank before the rise of wage (or cash) labour. This conquest of traditional restraints (such as tides, weather, and daylight) and the intensification of working practices met plenty of resistance, but those who suffered the most tended to be those least able to object. Each installation or mechanisation brought a contest to lay claim to new roles with higher wages or status, and women (even where long associated with manufacturing) tended to fall behind in these new forms of exclusion and specialisation. The declining role of the family as a work unit, and the high number of deskilled simple tasks in new sites, also left children distinctively exposed. In industrial areas, including especially mines and textile mills, children began work aged eight years old or younger – low-paid, dangerous, dirty and traumatic work. Only with belated Parliamentary legislation in 1833, 1844 and 1847 was the minimum age set at nine, and the length of their working day regulated, while the Mines Act of 1842 precluded females and boys under ten from working underground – partly in response to the drowning of 26 children at a colliery near Barnsley in 1838. Many historians have also linked the changing labour patterns to younger female ages of marriage and higher rates of birth outside of wedlock by the mid-nineteenth century, as young women either took opportunities or were victimised by the greater geographical separation they experienced as a consequence of urbanisation and industrial employments. Across British society, ages of marriage dropped and fertility increased, but these patterns were far more concentrated wherever industrial economic change was apparent – reflecting how the new sectors perhaps offered more choice of partners, paid in cash, and drew people away from traditional family-dominated households.

Karl Marx described this wider experience as one of the “alienation” (*Entfremdung*) of the proletariat, viewing workers in a capitalist society as being estranged from their products, from their fellow workers, and from their own humanity. The solution to this alienation and depersonalisation, he (and likeminded radicals) believed, would lie only in revolution and the redistribution it could bring. Others viewed the social disruption as less toxic, and a small price to pay for accompanying improvements in wealth, health, and material life across the nation. Much depended on the nature and outlook of individual employers, and the scale of production in any given sector and region: while many entrepreneurs were ruthlessly exploitative, some leading factory owners such as Richard Arkwright, Robert Owen, and Titus Salt sought to pioneer models of good relations with their workers and to offer preferential conditions and opportunities.

Key Messages: The Impact of Industry

New workplaces and constructions change how people live and interact in Britain:

- The proportion of people employed in industry overtakes those in agriculture
- New technology plays key part in reconfiguring workforces (esp. in textiles)
- New labouring communities are created to take advantage of industrial opportunities and the concentration of resources
- Urbanisation and industrialisation increase mobility and break up older patterns
- Shift to non-familial earning, independent wages, and younger marriage
- Working conditions exploitative and often lamentable
- Regulations eventually bring a role to government to monitor labour relations

Medicine, Science, and the People

The rise of new social forces, new states, and the collapse and restoration of monarchies drew out a new sense of imminence between the people and political structures during the Age of Revolution – a heightened attention to the causes and consequences of unrest. The confrontation of social and health challenges, and mobilisation of new ways to locate problems and understand and surmount them, also found expression in several significant developments in medicine and science. The steps taken in the eighteenth century to institutionalise, systematise, and internationalise intellectual research became great leaps forward. By the mid nineteenth century, recognisably modern understandings and practices in science and medicine had emerged, harnessed to the growing power of print, new technologies of production, and the changing needs of wartime and peacetime populations. This included breakthroughs in health and treatment, as well as more sinister developments relating to science, technology, and medicine as tools of state power. Though revolutions rarely directly influenced the development of science, the changing social context that revolutions fostered did clearly impact upon scientific enquiry – helping open new branches of science up in the natural sciences, and encourage new forms of application.

In the 1770s, attention to precise measurements, quantitative documentation, and the sharing of theories and experimental data were driving on scientific discoveries, as shown in the pioneering experiments of the likes of Joseph Priestley on gases and Antoine Lavoisier, who offered a new list of

chemical elements in a revolutionary classification scheme (the basis, in effect, of the modern periodic table) and introduced the metric system. Both of these social reformers and “scientists” – a term first coined in 1833 – became victims of the French Revolution, Priestly being hounded out of his Birmingham home and fleeing to the United States in 1793, and Lavoisier facing the guillotine in 1794 (the supposedly egalitarian and humane invention of a French physician and German engineer). Other naturalists were better able to negotiate the upheavals, as in the case of Jean-Baptiste Lamarck, a French royal botanist who sensibly changed the *Jardin du Roi* (“garden of the king”) to the *Jardin des Plantes* (“garden of plants”) in 1790, and as a professor of zoology, offered a ground-breaking theory of evolution in the 1800s that drew together older branches into the discipline of biology. The Prussian polymath Alexander von Humboldt also successfully transcended cultures and revolutions, conducting research and anatomical experiments in the 1790s with British intellectuals (such as Sir Joseph Banks, President of the Royal Society) and Johann von Goethe in Jena (in the Duchy of Saxe-Weimar), missing one chance to accompany a French Napoleonic scientific expedition, before embarking on a five-year journey authorised by the Spanish crown in 1799, during which he charted much of the geology, flora and fauna of Latin America, and linked geographical, mineral, and cosmological patterns. The willingness of state authorities and institutions to treat scientific research as a measure of progress, and the fact that most practitioners came from the middling orders (who were least compromised by revolutionary change), meant that Humboldtian field work was shared and popularised, finding a wide audience among the educated bourgeoisie as well as elite patrons.

There was virtually no distinction in the early nineteenth century between pure science and applied science in the way we might understand them today, so intellectual breakthroughs were closely associated with practical and technological applications. Even abstract mathematical theory was tied to a functional purpose, as in the pioneering work of Charles Babbage who invented a mechanical computer and pointed the way to algorithmic programming, a pursuit also followed by the logician and mathematician Ada Lovelace in 1843 (the only legitimate daughter of poet Lord Byron). Astronomy had long been critical to marine navigation, timekeeping, and cartography, and the field advanced through the nebulae and comet searching of William Herschel and his sister Caroline, the latter awarded the Royal Astronomical Society's Gold Medal in 1828. Research in optics accompanied improvements to instruments that were vital for engineering precision, telescopes, and surveying, making possible the “Principal Triangulation of Britain” (1791-1853) which conducted a trigonometric mapping of all of Britain and Ireland (partly in response to the Board of Ordnance’s fear of military invasion). Major breakthroughs in optics, physics, and electricity arrived as experiments demonstrated that light travelled as waves and then that these waves were affected by electromagnetism. Perhaps the most obvious evidence of the heavy synthesis in this period between pure and applied science could be found in the new looms, engines, tools, processes and calculations involved in manufacturing, transport and construction. The economic rewards apparent in early industrialism encouraged synthetic thinking and cross-fertilisation of ideas and applications. Attempts were made in the 1790s in the United States and France at patenting (to protect inventors’ models for a time), in step with the revolutionary-era idea that the law should support people’s natural right to their own originality. This gave the state an important role in brokering intellectual property rights and archiving inventions, though the push for free trade had eroded these rules across much of Europe and America by the

1840s and 1850s, as patents came to be seen as blocking the people's access to knowledge (and slowing technical improvements).

That Lovelace and her father likely both died from complications associated with bloodletting is a reminder that medical knowledge and practice in the period, like science, was in a period of transition. Several significant breakthroughs, however, had major consequences for health and treatment. Perhaps the single greatest impact of the application of new practices in medicine was the treatment of smallpox. Through the development of variolation (injecting or inoculating matter from infected people) and later vaccination (inoculating people originally with cowpox or by definition today, any attenuated organisms to which bodies could develop resistance), the mortality of smallpox was reduced by a factor of around sixteen in Britain. Intrigued by the similarities between smallpox, swinepox, and cowpox, a Gloucestershire country doctor (Edward Jenner) had administered cowpox experimentally, then published an evidence-based treatise in 1798, which led to extensive Parliamentary expenditure in the early 1800s and a rollout of these new techniques as public policy. The spread of vaccination offers a useful case study in how the period in question encouraged unprecedented reach from a starting point of medico-scientific inquiry to an endpoint of improvement in healthcare among both rich and poor. It was a "Society for Bettering the Conditions and Improving the Comforts of the Poor" that proposed and initially funded the establishment in 1799 of the Royal Institution (for scientific research and education). The agonisingly tardy introduction of Vitamin-C containing foodstuffs in diets, powerfully lobbied for by several key naval reformers, eventually led to a dramatic fall in the incidence of scurvy in the Royal Navy, between the mid eighteenth and early nineteenth century.

A willingness to challenge received wisdom and more precise instruments (including microscopes) brought about radical changes to techniques and understanding in surgery and medicine, though many of the benefits did not rebound until the second half of the nineteenth century. The active agency of microorganisms was gradually identified by careful observation, stimulated partly by efforts to improve livestock yields (for instance in silkworms in Italy and France) and partly by the unpleasant scale of mutilation and infection caused by warfare on a new scale. Schools of medicine in Paris and Vienna – though interrupted by Napoleon – promoted the professionalization of training in medical science (often with negative effects for the role of female practitioners) and public health reforms. The rise of large hospitals administered with state support was paralleled in the institutional provision of asylums that segregated mental illness, leading to the recognition of new branches in treatment (such as psychiatry). In the 1840s, experiments with gases (especially in Britain and America) converged in the development of inhaled anaesthetics, which allowed a greater variety of operations to become more practicable, and paved the way for major advances in surgery and dentistry. For the majority of the victims of the revolutionary wars, massacres, and industrial accidents in the period, though, surgery was necessarily traumatic, accompanied with enormous pain and inevitable infection. The best survival chances lay with surgeons who were quick, powerful, and armed with cutting edge tools (in which there were major advances in quality). The Napoleonic Wars gave rise to not only a militarisation of surgery, but also to a large variety of new prosthetics such as the "Anglesey Leg" designed by James Potts.

The Age of Revolution brought a new set of medical and environmental challenges to societies, some of which would only be partly identified or understood in the period itself. The improvement of transport and communication stopped populations being as isolated as they had in the past, which allowed several diseases (such as measles) to become endemic and generally less harmful. The expansion of the public sphere, through coffee houses, institutes of learning, and a proliferation of associations and publications, helped to spread new techniques and discoveries – and to challenge fraudulent claims. On the other hand, sanitary diseases linked to industrial practices, by-products, and urban overcrowding were a major new feature of life and death – as polluted air (in mines and mills) and contaminated water (in sprawling cities) took unmeasurable daily tolls on their confined inhabitants. Residual ailments were supplemented by pandemics that travelled along trade routes, such as the cholera which first arrived in the late 1810s and then struck more virulently between 1827 and 1835, taking particular tolls on industrial and urban zones in Europe and the Americas, and contributing to rioting and unrest. In Britain, at the urging of Edwin Chadwick – a reformer who had authored a “Report on the Sanitary Condition of the Labouring Population” – a Public Health Act was passed in 1848 that established a General Board of Health and local boards to address environmental conditions, including water supply and sewerage.

By the period’s end, the typical profile of a European scientist had changed to a significant degree: previously, the educational and social capital prerequisites for entering into research tended to restrict scientists to an upper middling strata of society at best. In the nineteenth century, opportunities and access opened up somewhat as the tools of inquiry became more accessible, and the demonstrable value of science encouraged direct or indirect state patronage. Though rare, it was even possible for the self-educated dissenter and commoner Michael Faraday to absorb enough inspiration in print during his apprenticeship with a bookseller in the 1800s, that he rose to the pinnacle of British science and international chemistry by the 1840s – turning down a knighthood when the government enquired, as he did when they proposed production of chemical weapons. Like others, his problem-solving did extend to treating some of the new challenges of industrialisation, however, helping to explain coal mine explosions, develop lighthouse lanterns, and address pollution. That science and medicine should be encouraged to move closer to the people, and be more influential in their everyday lives, was also a preoccupation of Faraday’s, which he advanced through a series of Christmas lectures he inaugurated in 1825 for young people at the Royal Institution, and which still continue today.

Key Messages: Medicine, Science, and the People

An evolving appreciation of evidence-based learning brings revolutionary new innovations:

- Development of precision and standardisation enhances experimental and technological advance, attracting support from the state
- Foundation of hospitals, pharmacies, and asylums expands
- Vaccinations introduced that significantly reduce smallpox deaths
- Treatments and reforms implemented to use science and medicine to help address problems of industrialisation and urbanisation
- Beginnings of university science teaching, and branching out of the sciences as new sub-disciplines and specialist societies take shape in response to field research (among them chemistry and biology)