'The History of the Victorian Age', wrote Lytton Strachey in 1918, 'will never be written: we know too much about it. For', he went on, 'ignorance is the first requisite of the historian - ignorance, which simplifies and clarifies, which selects and omits, with a placid perfection unattainable by the highest art.' In modern parlance, those who wished to study the Victorians suffered from information overload. But by 'history' Strachey in fact meant narrative history, and indeed the challenge of writing a chronological account was and still is almost insurmountable, given the complexities of the age and the superabundance of evidence for them. So, Strachey concluded:

It is not by the direct method of a scrupulous narration that the explorer of the past can hope to depict that singular epoch. If he is wise, he will adopt a subtler strategy. He will attack his subject in unexpected places; he will fall upon the flank, or the rear; he will shoot a sudden, revealing searchlight into obscure recesses, hitherto undivined. He will row out over that great ocean of material, and lower down into it, here and there, a little bucket, which will bring up to the light of day some characteristic specimen, from those far depths, to be examiner with a careful curiosity.

This, in essence, is what I propose to do in this series of six lectures, beginning today and stretching over the next few months. I'm not going to attempt a comprehensive survey of the Victorians, or offer any kind of chronological narrative, though change over time will indeed be one of my themes.

Instead I'm going to approach the topic selectively, taking 'Victorian' as a concept or an idea rather than a specific period - 1837 to 1901 - of British history coinciding with the reign of Queen Victoria. Though hers was the longest reign in British or English history, or will be at least until 2015 if the present Queen's reign continues to that date, the ideas, beliefs and values we understand as 'Victorian' spilled over at either end of the age, going back at least to the 1820s and on through what was strictly speaking the Edwardian period up to the First World War. Indeed, A. N. Wilson has recently claimed that 'the Victorians are still with us...because the world they created is still here'. In 1983 indeed British Prime Minister Margaret Thatcher expressed her approval of 'Victorian values', and declared she wanted to see them return, though by Victorian values she meant mainly individualism and self-reliance and not much else.

Yet it seems indisputable that 'Victorian' has come to stand for a particular set of values, perceptions and experiences. On the other hand, historians are deeply divided about what these were. Certainly as G. M. Trevelyan remarked half a century ago, referring obliquely to Lytton Strachey's debunking of these values: 'The period of reaction against the nineteenth century is over; the era of dispassionate historical valuation of it has begun.' And, he added, perhaps as a warning: 'the ideas and beliefs of the Victorian era...were various and mutually contradictory, and cannot be brought together under one or two glib generalizations'.

Yet as I argued in my Gresham lectures last winter, what one might call the 'long Victorian era', bounded by the end of the Napoleonic War and the beginning of the First World War, does possess a certain unity and coherence, despite its various and rapidly changing nature. This was the era when Europe, and above all Britain, achieved a leadership in and dominance of the world never matched before or since. This fact alone and the spreading consciousness of it amongst the British and European populations, helped frame attitudes and beliefs in a way scarcely possible in other epochs. One of my aims in this series is to explore how this consciousness worked itself out in practice, and how and why it grew and developed.

In the course of my exploration I will not simply confine myself to English or even British history, for Britain was connected to Europe and the wider world in multifarious ways during the nineteenth and early twentieth centuries. Anyone seeking an illustration of this could do worse than to cast an eye over the Table of Contents of A. N. Wilson's The Victorians, with its chapters on France, Germany and Italy, India, Jamaica and Africa, and its coverage of Wagner, Dostoevsky and Tolstoy. Many of the ideas, beliefs and experiences of the Victorians were shared by people in a variety of different countries, from Russia to America, Spain to Scandinavia, and were reflected in the literature and culture of the nineteenth century, up to the outbreak of the First World War. Beyond this, overseas Empire loomed ever larger in the consciousness of the Victorians, until it came to express itself in an ideology, the ideology of imperialism.
So the focus of these lectures will be on identifying and analyzing six key areas of the Victorian experience, looking at them in international and global perspective: time and space, art and culture, life and death, gender and sexuality, religion and science, and empire and race. I'll try to tease out some common factors amongst all the contradictions and paradoxes, and trace their change over time. And in no area was change more startling to contemporaries than in the topic I want to deal with this evening, namely the experience of time and space. As the century progressed, people felt increasingly that they were living, as the English essayist William Rathbone Greg put it in 1875, 'without leisure and without pause - a life of haste'. Comparing life in the 1880s with the days of his youth half a century before, the English lawyer and historian Frederic Harrison remembered that while people seldom hurried when he was young, now 'we are whirled about, and hooted around' without cessation. 'The most salient characteristic of life in this latter portion of the 19th century', Greg concluded, 'is its SPEED.' Time was becoming ever more pressing.

Speed increasingly became the key measurement of travel. In Britain, rival train companies on the east and west coasts vied with each other to set the fastest journey time from London to Scotland. Fast sailing ships raced to be the first to bring the New Year's tea from China back to Europe, with the tea-clipper Cutty Sark being beaten by the Thermopylae in the most famous race, in 1872, when the winner completed the trip from Shanghai to London in 122 days. By careful study of ocean currents and prevailing winds, along with improvements to sailing technology, sailing ships steadily reduced the time needed to cross the oceans. By the 1890s, ocean-going steamships were vying for the unofficial award of the Blue Riband, for the fastest east-west crossing of the Atlantic; the rivalry between shipping lines soon became a symbol for the prowess of the countries where they had their onshore headquarters, with the Sirius considered the first winner, in 1838, at a speed of just over 8 knots, The Kaiser Wilhelm der Grosse winning it for the Germans in 1898, at 22 knots, and the Mauretania recapturing it for the British in 1929 at 26 knots. Thus in just over seventy years, the average speed of the fastest transatlantic ships had increased more than threefold.

What many people felt was the increasing pace of life in the course of the century was a product in the first place of mechanization and industrialization. The advent of turnpike roads, the growing influence of the state in maintaining main routes of communication, the spread of stagecoach networks, the introduction of canals and the regulation of rivers through locks to increase their navigable length had all had an impact in the eighteenth century and considerably increased the speed of travel at least along major arteries. But these developments were insignificant compared to what happened during the nineteenth century.

In the earlier part of the century, it was reckoned that a stagecoach could achieve about 6 miles per hour on a good road, traveling some 50 miles a day in summer and half that distance when roads were muddy and weather conditions bad. A canal boat could cover around thirty miles a day, a lone horseback courier up to a hundred. As the railway age loomed over the horizon, some were skeptical of the promised increase in the speed of travel. 'What can be more palpably absurd and ridiculous', asked the Quarterly Review in 1825, 'than the prospect held out of locomotives traveling twice as fast as stagecoaches!' In fact they were soon to travel faster still. From their earliest days, the railways were known above all for the speed with which they conveyed passengers and goods from one place to another. George Stephenson called his first locomotive Rocket, while the two British-built engines that pulled trains on the first German steam railway, from Nuremberg to Fürth, were called the Eagle and the Arrow.

Little more than half a decade elapsed between the Quarterly Review's complaint and the realization of its worst fears. Two major technological developments were already paving the way for the introduction of the first true modern railway. Of course, short railway lines designed to serve mines and quarries, with wagons pulled by men or by horses, had been around for many centuries; what transformed them was, first, the use of iron for rails from the mid-18th century onwards, and second and most important, the invention of the self-propelled steam-powered locomotive, devised in the early 19th century by Richard Trevithick and made fully viable by George Stephenson and his son Robert, whose locomotive Rocket reached the amazing speed of 30 miles per hour during trials held in 1829 for the Liverpool and Manchester line, opened in September 1830 in a ceremony attended by the Duke of Wellington and thousands of spectators, including the government minister William Huskisson, who notoriously was run over by the train as he stood on the tracks, not noticing it coming. The gauge selected by Stephenson for the railway four feet eight and a half inches, became the world's 'standard gauge' and remains so today; when it was officially adopted in 1845, Brunel's seven-foot gauge was already in operation on the Great Western Railway, which was not converted to conform to the rest of the country until the end of the century.

Once the thirty-mile Liverpool and Manchester was in operation - and it carried half a million passengers in its first year - it was soon followed by others. Within twenty years there were seven thousand miles of railway line covering the country. Speculators
like George Hudson invested huge sums of other people's money in railway projects, many of which turned out to exist on paper only. The early literature on railways claimed that they were a major engine of democratization and national unification, and to a degree this was true. In the 1850s, a British commentator noted that 'of all levelers' railways were 'the greatest...Cabinets, and even queens, now abandon their easy, but lazy equipages for the bird-like flight of iron and fire.' Not all were happy with this development. In the mid-1840s the poet William Wordsworth commented on the evils he feared would beset his beloved Lake District, in north-west England, if a projected railway line was built through it. These evils were not only physical but also social, including 'its scarifications, its intersections, its noisy machinery, its smoke, and swarms of pleasure-hunters, most of them thinking that they do not fly fast enough through the country which they have come to see.' Worst of all was the prospect of the 'affluent benevolent manufacturers of Yorkshire and Lancashire'sending, at their own expense, large bodies of their workmen, by railway, to the banks of Windermere' [the largest lake in this tranquil mountainous area]. In no time at all, he declared, 'we should have wrestling matches, horse and boat races without number, and pot-houses and bean-shops would keep pace with these excitements and recreations'.

The critic John Ruskin also feared that railways would prevent people from observing properly the scenery through which they passed: 'They are the loathsomest form of devily now extant, animated and deliberate earthquakes, destructive of all wide social habit or possible natural beauty, carriages of damned souls on the edges of their own graves.' In railing against the railways, Ruskin was also condemning what he called 'the stupid herds of modern tourists' which it carried into the Lake District, lining Windermere 'with a beach of broken ginger beer bottles'. From the beginning, the railways were the key vehicle of mass tourism and the democratization of travel. They enabled vastly more people to travel than before, by linking together a whole series of coaches traveling at the same time. Many like Ruskin feared that the nature of railway travel destroyed people's appreciation of the beauties of nature. 'What earthly good', asked the Scottish academic John Stuart Blackie in the 1850s, 'is got by the modern fashion of being literally shot through a country without having time to look, or even to breathe?' Soon manuals were being published advising travelers on how to avoid motion sickness and develop a 'panoramic vision' to compensate for the disorienting experience of trying to look at things out of the window as the train rushed past them. J.M.W. Turner depicted these sensations in his famous painting *Rail, Steam and Speed: The Great Western Railway*, painted in 1844.

However democratizing the experience of traveling by rail might have seemed, social differences asserted themselves quickly in railway travel. To begin with, everyone travelled in open cars, but railway carriages were soon divided into first, second and third class, the last-named being open to the weather, with passengers seated on wooden benches, and often very dirty. 'I took a train to Rochdale, noted Thomas Wood in 1845: 'We were put into a truck worse and more exposed than cattle trucks. There were seats, or forms to sit on, but they were swimming with rain.' Even this memorial to two victims of an 1845 railway accident, in Ely Cathedral, illustrating incidentally how quickly the railways impacted on popular culture, made a point of dividing the passengers on 'the spiritual railway' into 'first, second and third class'.

And the democratization of travel was reversed in a different way by the coming of the automobile, following the invention of the internal combustion engine and the first production models manufactured in Germany in the 1880s. In France there were 3,000 automobiles in 1900; by the eve of the First World War this number had increased to over 100,000; double this number of cars were being driven around the roads of Britain by this time. The speed at which they traveled was a cause of grave concern to the authorities, who registered alarming increases in the number of traffic fatalities (under 770 a year in London in 1892 to nearly 1,700 five years later). So in 1878 the British Parliament passed a law ordering that any vehicle using a public highway should be preceded by a man on foot holding a red flag and should not go faster than four miles per hour. Under heavy pressure from motorists, this law was repealed in 1896, but as fatalities mounted, public alarm led to a new national speed limit being introduced in 1904, imposing a maximum of 20 miles per hour on all public highways. In France, by contrast, there was no speed limit outside the towns. France was ideal, a frustrated British motorist complained, 'for the devotee of speed', a land 'where he can peg down the accelerator pedal and go out all day'. Car-ownership before 1914 was overwhelmingly the preserve of the rich, like the car-loving *nouveau riche*M Mr Toad in Kenneth Grahame's 1908 children's story *The Wind in the Willows*: it enabled them once more to revert from the promiscuity of railway travel to the privacy of an individual mode of transportation, exhibiting their wealth and modernity to an astonished world.

Within major cities, tram systems, and suburban and underground railways began to speed up traffic, just as the main roads were becoming clogged with horse-drawn cabs and carriages, automobiles and omnibuses. In 1863 the world's first underground railway, the Metropolitan, opened in London, and was soon extended, but steam locomotives posed many problems, and the cut-and-cover method of construction soon ran out of roads that could be dug up, and London turned to boring deeper lines for 'tube' trains powered by electricity, the first of which was opened in 1890. Above ground, the electric tramway system devised by Werner von Siemens began running in Berlin in 1879, and soon spread to many other countries.
All of these innovations drastically increased the pace of life, as people rushed through the great train stations of Europe's major cities, built as extravagant temples of locomotion, advertising the power and wealth of the nation, such as St Pancras, shown here in a photograph of 1873. Inside the stations, all was bustle and hurry as people rushed to catch their trains. The English artist William Howard Frith represented a scene of this kind in his painting *The Railway Station* in 1862. The railways, especially as they extended deeper into rural areas in the last part of the nineteenth century through the construction of branch lines, hugely intensified and speeded up the network of communications in every country, bringing newspapers, magazines, books and goods and people of all kinds into contact with small-town and village communities. In 1815, news of Napoleon's defeat at Waterloo took two and a half days to reach the government in London. Even in 1881, news of the assassination of Tsar Alexander II did not get to the UK until 12 hours after it happened.

Already, however, this was a huge gain in speed of communication compared to earlier in the century. News such as this traveled mainly not by rail but by telegraph. Already in mid-century, following the establishment of the first telegraph system, replacing the old networks, such as they were, of visually communicating semaphore posts that briefly played a key role in the plotting of novels such as *The Count of Monte Cristo* by Alexandre Dumas, it had become quite normal to send and receive telegrams. Messages were transmitted electrically along wires in a code of long and short impulses, invented by Samuel Morse in 1835. The network soon became global. The first submarine cables were laid across the English Channel in the early 1850s, but it was not until 1865 that the *Great Eastern*, then the largest ship in the world, succeeded in laying a cable across the Atlantic Ocean. A frenzy of cable-laying followed, and by 1871, punters in Calcutta could learn the result of the Derby no more than five minutes after the race was over. This new system of communication was too valuable, perhaps too potentially dangerous, to be left in private hands, so all over Europe the telegraph system was taken over by the state. In the UK, the Post Office took it over in 1869. The majority of users were private, but news organizations quickly saw the potential uses of the telegraph, and the enterprising Julius Reuter established the first agency telegraphing news across the world in Aachen in 1851, establishing his British headquarters in London seven years later. The telegraph arrived in time for the intrepid correspondent of the London *Times*, William Howard Russell, to cable back reports on the incompetencies and inadequacies of the British conduct of the Crimean War to his headquarters in London, helping to create a political storm through the immediacy of his accounts of the terrible sufferings of the troops, the incompetence of the officers, and the squalid conditions of the field hospitals.

The scale of the British Empire and the dominance of British industry ensured that in 1890 nearly two-thirds of the telegraph lines in the world were owned by British companies, which controlled 156,000 kilometers of cables. But the influence of the system extended far beyond the British Empire. The growth of the new global communication networks meant, as the writer Max Nordau noted in 1892, that the simplest villager now had a wider geographical horizon than a head of government a century before. If he read a paper he 'interests himself simultaneously in the issue of a revolution in Chile, a bush-war in East Africa, a massacre in North China, a famine in Russia'.

While the telegraph depended on trained specialists to operate, anyone could use a telephone, following the patenting of the first models and transmission system by Alexander Graham Bell in 1876. Early lines were seldom private: when a call was made on a 'party line' bells rang at every station along its length, and anyone could listen in on the conversation. Advice issued on telephone etiquette included the injunction to begin a conversation by shouting 'ahoy!' down the line, and for gentlemen to keep their moustaches out of the mouthpiece. By the eve of the First World War there were more than half a million subscribers to what was now a national telephone service in Britain. Telephones speeded up still further the distribution of news. As early as 1880, the London *Times* put a direct phone line in to the House of Commons in order to be able to report late-night debates in the following morning's edition. More revolutionary again, though still in its infancy before the First World War, was the new system of wireless telegraphy patented by Guglielmo Marconi and made potentially commercially viable by the establishment of the British Marconi company in 1897; it was used particularly for seaborne communication, mainly naval, though famously in 1910 it was used to bring about the arrest of the alleged murderer Dr Crippen as he was fleeing his pursuers by travelling on an ocean liner to Canada.

The railway, the steamship, the telegraph and the telephone not only speeded up communications on several different levels, they also completely transformed people's perceptions and experience of time, indeed they transformed the nature of time itself. In the pre-industrial world, time was calculated in relation to the solar noon, which of course occurred at different times according to where one was located on the Earth's surface, and changed everywhere with the passing seasons. Thus in the early nineteenth century, each town or city in Europe kept its own time, setting its watches and clocks without much regard for the hours observed by its neighbours. In late nineteenth-century France, every city took its local time from solar readings. The impossibility of continuing to calculate time in this fashion became increasingly apparent as the century wore on. The
international telegraph network, as the Scottish-born Canadian engineer Sir Stanford Fleming pointed out in 1884, 'subjects the whole surface of the globe to the observation of civilized communities and leaves no interval of time between widely separated places proportionate to their distances apart. In the global communication network created by the telegraph, 'noon, midnight, sunrise, sunset, are all observed at the same moment' somewhere on earth. This created intolerable uncertainties of many kinds, in areas such as insurance, or legislation, by rendering the exact point when laws came into force, or insurance policies began to operate, indeterminate. Fleming therefore advocated the creation of certainty through a generally agreed world system of time.

The idea of standardizing time was slow to be implemented. In Britain, many station clocks, for example in Bristol, continued to have two minute-hands up to the end of the century and sometimes beyond, one showing Greenwich time and the other the traditional local time. Belgium and the Netherlands did not introduce a standard time based on the Greenwich meridian until 1892, and Germany, Austria-Hungary and Italy until 1893. The French were even slower. The French railways, recognizing the centrality of Paris to their system, had standardized their timetables according to Paris time, nine minutes and twenty-one seconds ahead of Greenwich. It was particularly galling for French officialdom to have to admit the primacy of Britain in setting world times. A law of 1911 managed to fix French time without reference to Greenwich at all, defining it as 'the mean Paris time slowed nine minutes and twenty-one seconds'. In 1894, indeed, the French anarchist Martial Bourdin gave practical expression to this resentment by detonating a bomb at Greenwich, an incident later celebrated in the Polish-British novelist Joseph Conrad's *The Secret Agent*.

Numerous technical obstacles had to be overcome in creating a universal system of standard time. In 1872, when the first transatlantic cable, the transmission of messages revealed that Paris was half a second further away from London than had previously been thought. Trying to fix a precise difference in longitude between Paris and Berlin, engineers noted that signals were slowed by mechanical and other factors such as the 'non-instantaneity of the transmission of the electric flux'. Despite such technical problems, and overcoming a bitterly fought rearguard action by the French, who eventually abstained on the decisive motions, in 1884, delegates from 25 states met in Washington to agree on the standardization of world time. Sailors had already synchronized time using chronometers set by longitudinal measurements based on the Greenwich Meridian, reflecting British dominance of seaborne mercantile traffic, and this was the standard adopted at the Washington conference, which divided the world into 24 time-zones by longitude, treating the meridian as the zero line, dividing the Eastern from the western hemisphere.

Keen to recapture the initiative from the British, the French government organized an International Conference on Time in 1912, which established a generally accepted system of establishing the time and signaling it round the globe. The Eiffel Tower was already transmitting Paris time by radio signals, receiving calculations of astronomical time from the Paris Observatory. At 10 a.m. on 1 July 1913, it sent the first global time-signal, directed at eight different receiving stations dotted around the world. Thus, as one French commentator boasted, Paris, 'supplanted by Greenwich as the origin of the meridians, was proclaimed the initial time centre, the watch of the universe'. The coming of wireless telegraphy had indeed signaled the death-knell for the remaining local times.

The standardization of time went hand-in-hand with its increasing intrusion into everyday life, not just of people who traveled by train or sent telegrams or used the telephone, but of almost everyone. In the countryside, people lived and worked to the rhythms of natural time - dawn, noonday, sunset - which dictated, with the changing seasons, the time needed to prepare the land, sow the crops, bring in the harvest, tend livestock indoors during the winter, and guard it in the fields during the lighter summer months. Countryfolk, at least in areas of village settlement, could gain some idea of the passing of time not merely from the position of the sun in the sky but also from the ringing of church bells, which were audible every hour in most towns. But few people had learned to tell the time from looking at clocks, a skill that was not taught in schools even where they existed, and the hour was only a very rough guide to the passage of time; in most rural areas, indeed, church bells only tolled for
services such as matins and evensong, providing an even more approximate indication of the time of day.

Up to the early nineteenth century, specific time-communities had emerged, groups of people who needed to measure time more precisely, by the minute as well as by the hour. For mariners, accurate timekeeping was especially important; but on land, the vast majority of people had little need to reckon time accurately to within the minute; often, indeed, clocks only possessed one hand, and the convention of marking the minutes as well as the hours only gained currency gradually.

As increasing numbers of men and women migrated to the cities and worked in factories and mines for wages paid by the hour, so timekeeping became more important for employers and employees alike. This did not necessarily mean that they worked longer hours, but they certainly worked more regular hours. Thus they needed to be able to keep the time. In 1890 a machine was invented in America that stamped an employee's card with the time he entered the factory and the time he left. 'Clocking on' and 'clocking off' soon became widespread. To avoid being fined for late arrival, workers needed watches. World production of pocket-watches, around 400,000 a year in the early nineteenth century, rose to more than 2.5 million a year by 1875. The 'universal diffusion of pocket watches', as the sociologist Georg Simmel noted, contributed further to the acceleration of modern life through instilling a greater sense of punctuality in business and society. The era of the pocket watch's mass adoption was signaled by the name in Britain given to the chain, gold, silver or brass according to the means of the owner, that was used to attach it to a man's waistcoat - the 'Albert' or (for those who could only afford to buy a short chain, the 'half-Albert', named after the Prince Consort, one of the earlier prominent figures to use a pocket-watch).

In the universe described by the seventeenth-century English scientist Isaac Newton, time was uniform and absolute and flowed in a single direction. The idea of a uniform time proceeding everywhere in a linear fashion enhanced people's ability to imagine a distant past beyond their own experience, in which things had been different. The French Revolution had already created a sense of the (pre-revolutionary) past as different, renumbering the years from its outbreak, as Year I, Year II, and Year III, and so on. This practice itself did not survive. But the idea of an otherworldly past became widespread in European culture, in contrast to the eighteenth century, which had depicted the people and societies of the past as largely similar to those of its own age. The novelist Walter Scott began the fashion for seeing the Middle Ages as romantically different rather than materially and intellectually inferior; the German historian Leopold von Ranke, widely imitated in Victorian Britain, famously declared that every epoch was equal in the sight of God. Led by the composer and conductor Felix Mendelssohn's rediscovery of Johann Sebastian Bach, the age saw the beginnings of the now almost universal practice of playing old as well as or even rather than contemporary music. Soon people began to argue that the remains of the past, monuments, buildings and ruins, should be preserved rather than modernized or adapted, as they were in the earlier decades of the century by 'restorers' like Pugin and Viollet-le-Duc. More dramatically still, notions of the scale of time itself began to change during the nineteenth century. Taking their cue from the Bible, Christian theorists such as Archbishop Ussher had dated the creation of the world to 4004 B.C., but geological investigations began to tell a different story, and by 1863 the English physicist Kelvin was calculating the Earth's age as around 100 million years, based on the rate of its cooling over time. Time began to stretch back far beyond what people had previously imagined; it became larger, as well as more uniform and more organized.

I've been talking in this lecture about perceptions of time, but of course the changes that took place over the nineteenth century also encompassed a profound transformation in people's experience of space and distance. As the speed of communication increased, distances shrank; places that seemed impossibly far off in the days of unmade roads and slow-moving carriages became much closer with the introduction of the railways and later on the automobile. For most of the Victorian era, country people were locked into the tiny world of the village and the farm; even a journey to a nearby market town was a major undertaking. Once the main national network of railway lines had been laid, however, companies began to construct local branch lines, connecting small towns and rural communities, bringing to them the latest news and products from the rest of the country, and enabling country people to travel to the nearest town, and far beyond; gradually the abolition of distance opened people's horizons, ironing out local peculiarities and paving the way for the mass culture of the twentieth century.

The railway and the steamship shrank global space as well, as it became increasingly possible to travel huge distances in an extraordinarily short time, as depicted in 1873 by Jules Verne in his novel Around the World in Eighty Days, a story quickly dramatized and presented on the stage, catering to the public's taste for the exotic. By the time of the First World War, you could travel from the Atlantic to the Pacific, using for most of the way the great Trans-Siberian Railway, constructed over the previous two decades; you could cross India on a railway system begun as early as the mid-1840s; you could travel from one coast of the Americas to another. Railways, steamships, and the telegraph had become essential tools in the creation and maintenance of Europe's overseas empires; they were part of the technological underpinnings of British and European
domination of the world in the Victorian era. Without rapid and efficient communications, metropolitan control of vast, far-flung global empires would not have been possible.

At the same time, however, by the turn of the century, what one might call the Victorian sense of time and space was beginning to enter a period of crisis. By their very nature, paintings, drawings and sculptures cannot represent the passing of time. Giorgio de Chirico admitted this in a series of paintings executed from 1912 to 1914 in which clocks dominate an empty landscape, dwarfing the few, tiny human figures with which it is populated. In several of them, a train is depicted; one is even entitled *Gare Montparnasse (The Melancholy of Departure)*. Time, he seemed to suggest, ruled human intercourse; paintings could only depict a single moment, identified by the clearly visible hour shown on the clock. His paintings showed scenes arrested at a single, immovable moment of time, almost like a motion picture frozen in a single frame. People scarcely matter any more; time rules everything in de Chirico's vision, in contrast to the crowded and bustling scenes of railway stations painted by earlier artists such as Claude Monet, in whose smoke-wreathed *Gare Saint-Lazare* there is not a clock to be seen.

Some painters, notably the early Italian Futurists, or the French artist and provocateur Marcel Duchamp, in his 1912 picture *Nude Descending a Staircase*, attempted to incorporate movement in their work through painting an object at several different stages of its progress through time on a single canvas. Here too, however, the influence of the movies was implicitly visible. Motion pictures could speed up time, freeze it, jump over minutes, hours, days or even longer periods in their narratives; even more startlingly, as Louis Lumière showed in 1895, they could reverse time by the simple device of projecting a film backwards, so that divers appeared to leap out of the water to land on the diving-board, broken eggs put themselves back together in their shells, and shards of glass flew up onto a table and reassembled themselves into the unblemished form of a wineglass. Time began to seem malleable, changeable, uncertain, a development represented in science by Albert Einstein's theory of relativity, first announced to the scientific world in 1905. A similar cultural development occurred in perceptions of space, as the Cubists in France and Vorticists in Britain began to represent people and objects seen not from a single vantage point by from many different angles simultaneously, as in C.R.W Nevinson's 1914 painting *The Arrival*. Vorticism, indeed, with its dedication to the age of the steamship and the railway, modernity and machines, and its explicit rejection of everything Victorian, was part of the a new era in literature, culture and the arts; and in my next lecture, on 4th October, I'll try to pin down exactly what was 'Victorian' about nineteenth-century art, and to describe how and why the Victorian cultural world began to fall apart at the end of the nineteenth century.

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