



# The greatness of the nineteenth century

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# The Greatness of the Nineteenth Century

SCHOLARSHIP is accustomed to great, evasive terms in cultural history, such as the Renaissance, the Middle Ages, the Hellenistic world; and if occasional attempts are made to overthrow or shrink these concepts (efforts to define the Renaissance seem to want to abolish it), the giant phrases continue to hold their meaning and their excitement. Even smaller arcs of time may glow with the same intellectual zest. One can, for example, be a Miltonic expert, a student of the Enlightenment, or a specialist in the times of Chaucer. Enthusiasm of this kind creates those useful institutions, the Classical Association, the Chaucer Society, and the Mediaeval Academy of America.

Has not the time arrived to admit the Nineteenth Century into the circle of these, rich, imaginative words? Not the Victorian Age only, not the Genteel Tradition, not the Triumph of the Bourgeoisie, not the Age of Imperialism alone, but the whole of the Nineteenth Century as a sweeping cultural term? The Age of Steam is almost as remote, in one sense, as the Age of Sail, and we ought to put it into order. Over half a hundred years have elapsed since Victoria peacefully died, and virtually half a century has gone since Nicholas II was put to death; surely we can begin to see a great age in proper perspective and to salvage what we can of it before everything goes. Salvaging cannot be too soon begun. Bombing destroyed much; and in the United States nineteenth-century domestic architecture disappears along the old-fashioned avenues of emptied homes in Chicago or Cleveland, Rochester or Detroit, where chain-stores, funeral homes, business colleges, and second-hand cars crowd towards the curb, their neon lights blinding us to the few mansard roofs behind them. Photographers, who turn their cameras incessantly upon structures from the Greek revival, do not interest themselves in these stately dwellings except as examples of bad taste.

This, however, is to digress from the central truth that the nineteenth century is one of the most brilliant cultural epochs in all history,

whether you measure by genius or by change. It belongs with the thirteenth, which some enthusiast once dubbed the greatest of centuries. It surpasses the Age of Enlightenment in the width of its many interests, the combination of theory and application it gives us. It has the scope and significance of the Age of Pericles, for surely the century of Beethoven, Goethe, Riemann, Darwin, Eads, Marx, Goya, Turner, Helmholtz, Lincoln, Hegel, and Pasteur does not have to pale its intellectual fires before even the Greeks, to the study of whom it devoted brilliant scholarship and critical acumen.

If the greatness of the nineteenth century as an autonomous cultural unit has not been more commonly acclaimed, it is at least possible to see why. Obviously until now we have been too close to this magnificent time to see it as it was. The antimacassars and the Biedermeier furniture have got in the way, the Albert Memorial and the operas of Meyerbeer are too loud, each in its own fashion. But time diminishes this disproportion, and we can now bestir ourselves to take juster measurements.

Latterly intellectual fashion has been all for the seventeenth century, and this for at least two understandable reasons. One arises from the truth that a great many components of modernity — for example, the rudiments of modern science — appear in that age. Logically the study of origins should lead to curiosity about their results and so bring us straight to Huxley's laboratory and Agassiz's glaciers, but we leap over these things as too obvious, and worry about discontinuity and an expanding universe. The great work of the nineteenth-century men is taken for granted: an instance is the Mendelian theory. And a second reason for our disproportionate sympathy for the seventeenth-century men is that we feel they would understand our *Weltschmerz*, could they but know it, whereas the contemporaries of Victor Hugo or Manzoni could not. To make this come out we have to proclaim Kierkegaard and forget Schopenhauer, believe that Nietzsche was a wise man and Tennyson a foolish one, and prefer Böcklin's *Toteninsel* to Seurat's *Ile de la Grande Jatte*, and some of these things we do in a halfhearted way, and some we cannot bring ourselves to do. The despair of Pascal was a great and real despair, but who shall say whether it was greater than the despair of Leopardi or of Thomas Hardy? I do not know how to measure truth by amounts of misery, but let us not forget that the most philosophic emperor of that happiest of times, the Age of the Antonines, was of so melancholy a cast that all he could

say of life in his *Meditations* was: 'You have made the voyage. Now get out.'

A third difficulty, unconnected with either symbolism or the seventeenth century, is to know precisely when the nineteenth century ended and when it began. We have never agreed as to the end of a century, but if we content ourselves with calendar time, in terms of American history it is at least interesting to note that in 1800-01 Jefferson and Burr defeated the Federalists, whom we somehow persistently associate with wigs and knee breeches, and that this defeat marks the emergence of a popular, even a populist, faction, and the end of the dignified eighteenth-century world organized into rank and class. Dignity went out; democracy came in. At the other end of the arc McKinley and Roosevelt beat Bryan and Adlai Stevenson, and, upon the death of McKinley at the hands of a nineteenth-century assassin in 1901, Roosevelt and the twentieth century captured the White House. The doctrine of Montesquieu about the balance of powers faded before the ebullience of the Big Stick, publicity became an organ of government, and Herbert Croly's *The Promise of American Life* turned into the gospel of a new dispensation.

This, however, is to see the nineteenth century in terms of an American parochialism, and I, for one, would prefer to read the century as stretching from violence to violence — from the French Revolution of 1789 to the Russian Revolution of 1917. In the one case that last relic of the Middle Ages, the divine right of kings, left Western Europe forever; in the other, the divine right of kings departed from Eastern Europe, and thereafter the scanty Occidental prong of the greatest land mass in the world was to live its life more and more under the shadow of Asia, as Western Europe declined and Communist Russia increased in power and urgency from 1917 to the present. Neither the Marshall Plan nor the North Atlantic Treaty Organization could restore the splendid empires of the French, the Dutch, the Germans, the Spanish, and the British after 1945. Nineteenth-century imperialism became one with Nineveh and Tyre.

Whether one chooses the one set of brackets or the other, what an extraordinary set of inventions, discoveries, applications, and theories present themselves! The steam engine, the railway, the steamship, the submarine, the streetcar, the subway, the automobile are creations of the nineteenth century. So are the motion picture and wireless; so, too, is photography; so are the skyscraper, the mechanical reaper, the

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modern steel mill, the modern textile factory; electric power and the electric light (and of course the cable car); the use of gas for illumination; the rotary press; the steel engraving and the electroplate; the breech-loading rifle and a variety of other instruments of destruction, including the Gatling gun and the torpedo; the modern rocket; the coupon bond; postage stamps; the cheap newspaper and the cheap magazine; the public library; education at the cost of the state; and heaven knows what advances in medicine and surgery, including of course the principle of asepsis and the discovery of anaesthesia. Darwinian evolution and the Mendelian doctrine of the genes; the germ theory; the x-ray; non-Euclidean geometry; the statement of the principles of thermodynamics; most of modern chemistry — the mind grows dizzy before this brilliant procession, as more and more novelities — the typewriter, the fountain pen, the Dewey decimal system in libraries, modern telescopes, modern microscopes — crowd into view. One apologizes for so elementary a device as this casual listing, found in any historical textbook, but as so often happens, the elementary things sometimes get overlooked. No century in the history of mankind is more charged with restless intellectual energy.

This same gigantic energy conditions the bad taste of the nineteenth century — that is, of the Victorian world, the Second Empire, and the generation of General Grant. We who demand plain surfaces are appalled at the scrollwork, the jigsaw festoons, the carpenter's frenzy, the anarchy of lines that lead nowhere, of whorls that enclose nothing except smaller whorls, the imitiveness that turns iron into wood, tin into silver, brass into ormolu, and confounds all the properties of materials by pretending that everything is something else. Who that has looked at a catalogue of the Crystal Palace or at pictures of the buildings at the Philadelphia Centennial Exposition does not wonder at the hardihood of a race that could survive in this wilderness, this jungle? Genre painting in the period fills every inch of the canvas with something or other; historians of sculpture are hard put to it to distinguish genius in the age, crowded as genius is by weeping willows in stone, funerary urns in iron, mausoleums, memorials, and gigantic and fraudulent façades. As if this were not enough, brick railway stations pretend to be mediaeval cathedrals, banks are fronted like the tombs of the Pharaohs, and a business block imitates a Renaissance palace. I do not dwell upon the various attachments affixed to female costume. We murmur something about eclecticism, syncretism, exclusiveness for

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the masses, but what is all this except the vigorous expression of endless curiosity, a search into every nook and corner of past cultures to find out and bring home the triumphs of other times? Victorian eclecticism has the superabundant energy of the Baroque, of which, indeed, it is in some sense the heir.

Some part of this eclecticism springs in an upside-down way from the diminishing centrality of the classical inheritance. Up to the French Revolution most nations, including Russia, proudly faced backward to Greece and Rome, France acquiring a consulate and the Americans taking on a senate and a *praesens* or president. But the restless energy of the century, expressed as scholarship, as archaeology, as discovery, as anthropology, as commerce, as imperialism steadily shrunk the sphere of Hellenism, of Roman law, and of the Judaic tradition. The fateful success of Champollion in deciphering the Rosetta Stone opened the door to a widening and deepening of ancient history in Asia, in Africa, and in the New World. The indebtedness rather than the originality of Greece became a matter of debate, and the excavation of triumphs of art in the Fertile Crescent, along the Nile, in Asia Minor, or in Central America diminished the uniqueness of Hellas and of Israel. Archaeology at Crete or Troy not only showed that brave men and excessively modern women were living before Agamemnon and Helen, but that modern plumbing had been laid on, fifteen hundred years or more before Christ. Scholarship also proclaimed the wisdom of the Hindu, the Chinese, and the Japanese and discovered other canons of art than those of Sir Joshua Reynolds; and movements of taste, whether labeled romanticism, the quest for the exotic, decadence, primitivism, or the alienation of the artist from society, found virtue in Africa, in subjects from the South Seas, in Japanese prints, in concepts of representation and non-representation that not only had nothing to do with Phidias but that by and by came to prefer archaic Athenian work to the blameless beauty of the age of Praxiteles and its successors. The great century was in truth overwhelmed and embarrassed by the revelation of its cultural inheritances — the cult of the North (as in Wagner's music dramas), the cult of the Slav (as in the vogue of Russian fiction), the cult of the Indian (as in Latin-American poetry and the twentieth-century Dartmouth College Library murals). Classicism was no longer a Golden Milestone. Henry Adams lamented diversity; and though he measured change from his poem to the Virgin and not from the funeral oration of

Pericles, he found cultural pluralism characteristic of his time. He must have known: he thought of himself as a child of the eighteenth century.

Attempts to get this kaleidoscopic period into focus have not been lacking. One such is to accuse it of materialism and mercantilism. Tender-minded persons, unhappy before the Rothschilds or the Rockefellers, delineate the age as if the Ruggiero of Ingres' painting somehow failed to come in time to rescue the shrinking Angelica of culture from the bleak rock of bargain-and-sale. They declare that the tremendous triumph of science and invention proved to be a great betrayal of the humane tradition. Science, for them, is materialism; invention supports the internecine warfare of captains of industry. The dreadful thing in the nineteenth century is Hudson the Railway King, the four hundred French families, various German Aktiengesellschaften, and the gaudy imitation palaces of Senator Clark and his kind at Newport or along Fifth Avenue. The palaces were certainly built, the ruthlessness existed (read Balzac, or Trollope's *The Way We Live Now*), the materialism is dramatized in the famous Bradley Martin ball.

But this, in some measure, misreads history by laying emphasis all on one side. It not only forgets the real foundations of the Hanseatic cities and the fortunes of the Medici, the income of the bishopric of Durham and the competition between Venice and Genoa in their palmiest days, it does something less than justice to Senator Clark and his kind. Who supported the Chicago Art Institute? Who gave the National Gallery to the nation? Who created Stanford and the University of Chicago, the Guggenheim Foundation and many another instrument of like kind? God, according to legend, told John D. Rockefeller to give his money to the University of Chicago; in what ways does the revelation differ from that vouchsafed to Jeanne d'Arc or Peter the Hermit? I read in the dispassionate *Encyclopaedia Britannica* that the fifteenth-century Fuggers were 'interested in silver mines in Tirol and copper mines in Hungary, while their trade in spices, wool and silk extended to almost all parts of Europe' and I learn that 'their wealth enabled them to make large loans to the German king . . . and . . . contributed largely to the election of Charles V. to the imperial throne.' Conceivably Mark Hanna and the Duc de Morny are not as original as men believe. Let us try to define the century in some deeper way.

It was, we are told, the century of the middle class. The middle class eventually captured the French Revolution and sustained the control of revolutions at least until 1917. The bourgeoisie married the pccrags. The *haute bourgeoisie* turned out the Bourbons and brought in the Citizen King. In Germany the Zollverein proved to be the practical expression of middle-class philosophy — read Pfizer's *Briefwechsel zweier Deutschen* and learn how the Hohenzollerns are miraculously burgher kings, or at least potentially so. And the supposition that the nineteenth century is *par excellence* the era of the middle class receives indirect and emphatic support in the scorn of Byron, Gautier, Flaubert, Ibsen, and, *mirabile dictu*, William Dean Howells, for the unfortunate and unenlightened taste of the bourgeoisie.

But softly, softly. The historic duty of the middle class is to be always rising. It was rising in the eighteenth century — witness sentimental comedy and the theories of Diderot. It was rising in the seventeenth century — hence the overthrow of Charles I. It was rising in the Elizabethan period — read Louis Wright's book on middle-class culture in that same Elizabethan age. It was rising in Henry VIII's time — hence the despoliation of the monasteries and, elsewhere, the interest of 'adventurers' in America. We have just seen it rising in the case of the fifteenth-century Fugger family. I read that in Europe vernacular drama was occasioned by the prosperity of the guilds, those distinctive expressions of a rising middle class. It is, of course, theoretically possible that this perpetual rising reached its climax in Victoria's jubilee in 1887, but as I also learn that the predicament of the American labor movement is that it is today essentially and hopelessly enamored of middle-class comfort, I am not persuaded that the many middle-class characteristics of the nineteenth century notably distinguish it from centuries before and since its time.

Historians rightly make much of the nation-state and the rivalries of nationalism, racism, and imperialism as part of the foundations of the nineteenth century. The facts are undeniable. The French Revolution in a sense created the very peoples it sought to liberate; and the Romantic Movement, by its appeals to racial pasts so vague that they were malleable (in the Balkans, if there was no local Homer, national epics were obligingly manufactured), was to lure nations into thinking with their blood. Unification movements in Italy and Germany are there for all men to see; and in the name of race or folk or nation or patriotism the world grew increasingly fragmentary as Holland and

Belgium split, the Scandinavias became independent states, Iceland broke off from Denmark, succession states in the old Austro-Hungarian empire made the map look like a bed quilt, and in Latin America colonies set up in business for themselves. Young Germany, Young Italy, Young England — these are familiar emotional drives. Nineteenth-century imperialism carried with it the seeds of its own destruction; and as nations continue to proliferate, it is a nice question whether the planners have left enough space for flagpoles on a certain plaza in New York City.

The concept is crucial for an understanding of the age, but it must not be pushed too far. There were nation-states before 1789. Racial and national hatreds are, alas, no invention of the age of Vater Jahn and Houston Stewart Chamberlain. Consider the contempt of a sound eighteenth-century English lad for a nation of 'mounseers' and frog-eaters, the hatred of the Dutch Sea Beggar for Catholic Spain, the terror of the West before Islam, the shiver of Elizabethans at the thought of those slippery people, the Renaissance Italians, the enthusiasm with which Burgundians slaughtered Frenchmen, Swedes massacred Germans, and Poles carried fire and sword into Russia, the Ukraine, and, for that matter, into Poland during centuries of history that are a little dim to our high-school-trained eyes. It is true that the organization of the mediaeval university into 'nations' was a matter of law and lodging, but it should not escape the reader that turbulence in Bologna or Paris was more commonly between 'nations' than within any one of them. The point is not to deny the tremendous economic importance of the consolidation of nations between 1789 and 1917; the point is to see that the bitterness of man for man is nothing novel, nothing strange.

Is it possible to look further? I believe it is, and tentatively advance for discussion four characteristics of this great time. If in so doing I have unwittingly stolen the thunder of anyone else, I apologize in the name of our common enthusiasms. I suggest that one important component of the nineteenth century is the attempt at the Europeanization of the globe; a second is the increasing resort to violence as a mode of securing change in government; a third is the substitution of a dynamic theory of nature for a mechanical explanation; and a fourth is the universalization of mathematics and the increasing application of mathematics to culture.

At the opening of the century most of Africa, Australia, the Pacific

Ocean, and much of North and South America and Asia were still 'unknown.' At the close of the century all the continents and all the seas were 'known,' and by 1909 the North Pole had been reached, by 1911 the South. Exploration was thereafter to be confined to high mountains, the depths of the sea, and the illimitable air. This expression of nineteenth-century energy is principally the work of Europeans and their derivatives the North Americans; and by the end of the century the white race, as somebody has pointed out, had been thrown into contact with every non-white people on the face of the earth. Is not this at least as remarkable as the Hellenization of the world by Alexander and his successors?

The natures of these contacts were many, but one can usefully distinguish three, each with its crucial cultural implications. One is obviously the missionary movement, or the attempt to convert the world to a Europeanized version of Christianity — no invention of the time, but a movement increasingly systematized and rationalized as salvation and hymn-singing gave way to schools and medical missions. A second is of course the attempt, not at religious domination, but at political domination either by colonization and settlement, or by conquest and annexation, or by the creation of spheres of influence. A third, flowing from the other two, is the effort at 'modernization' — that is, Europeanization of inferior racial stocks and alien cultures, a movement prodigious alike for good and for harm. The good intentions of a Macaulay imposing British law on the sub-continent of India as an offset to the rapacity of the East India Company are one thing; the 'modernization' of non-European armies — that is, the spread of destructive weapons around the globe — is another. Intricate questions of interpretation arise as one balances health programs, improvement in the status of women, modernization of agriculture, the spread of education, against the economic exploitation of backward peoples, the blotting out of local cultures, and other deleterious effects. All this is perhaps obvious, but when, since the attempt of Islam to cover the earth, has one culture impinged so rapidly, so violently, and perhaps so successfully on all the others?

Modernization, we are accustomed to say, reduces time and space, the globe shrinks, the continents jostle each other, and tensions and understandings alike appear in new and changing contexts. Perhaps the century that sent Macaulay to India on a voyage that consumed four months but got Phileas Fogg around the world in eighty days

could not understand that it was also creating impatience; and in politics the nineteenth century might be dubbed the age of impatience, the expression of which is revolution. Bemused as we are by Victorian stability, we do not see that the British story is almost unique in a century that increasingly turned to revolution as a normal political instrument. Through the century France exhibits what Wordsworth divined as early as 1802 — that is, unceasing change; from 1800 to 1900 it moved from a consulate to an empire to a monarchy to an empire to the Bourbon monarchy to the Orleans monarchy to the second republic to the second empire to the third republic. Nor is France sole, though it may be singular, in this regard. Violence convulses this or that area or nation in Africa, Asia, and the Americas. There were colonial revolts in the Turkish empire, in India, in the Spanish empire, in Canada, in South Africa, to name only the most important. There were civil wars in Spain, in the United States, in Latin America, in China, in Japan. The transmogrifications of governments in the Italian peninsula are as remarkable as those in France, and so likewise are those in the Balkans. It is difficult to number and assess assassinations in history, but, considering attempts on the lives of nineteenth-century rulers from Napoleon to McKinley, one might reasonably make the revolver and the bomb no less than the ballot box and parliamentary government symbols of its public life. We have to go back to the Renaissance to parallel this restlessness, this energy, this glittering combination of appeals to legal processes and resort to unlawful combinations and lawless means.

As if to find sanction in the cosmos for its terrible energy, the nineteenth century profoundly altered the theory of nature from a mechanical explanation to a dynamic one. The Newtonian world, as somebody has said, may be likened to a smoothly purring machine planned, executed, and superintended by an infinite engineer.

Nature, and Nature's laws, lay hid in night;  
God said, Let Newton Be! And there was Light,

we read, just as we read in Addison's famous hymn:

What though, in solemn silence, all  
Move round the dark, terrestrial ball?

. . . . .

In reason's ear they all rejoice,

And utter forth a glorious voice,  
For ever singing as they shine,  
The hand that made us is divine.

Divinity was frictionless harmony; and Addison's poem, attached to a *Spectator* paper of 1712, was supposed to demonstrate that the perfection of this harmony could be evident only through contemplation — one must be 'out of the noise and hurry of human affairs.' The age of Goethe and of Darwin, of Liebig and Thomas Edison could not thus separate human affairs from the contemplation of cosmic harmonies. Human affairs were part of the cosmos, part of the hurry and bustle, the conflict and collision of the universe. So it is that Faust, that supreme expression of nineteenth-century man, summons up the Earth Spirit only to be fascinated and appalled by him:

*Geist.*

Wer ruft mir?

*Faust (abgewendet).*  
Schreckliches Gesicht!

*Geist.*

Du hast mich mächtig angezogen,  
An meiner Sphäre lang' gesogen,  
Und nun —

*Faust.*

Weh! ich ertrag' dich nicht!

*Geist.*

Du fiehst eratmend, mich zu schauen,  
Meine Stimme zu hören, mein Antlitz zu sehn;  
Mich neigt dein mächtig Seelenflehn,  
Da bin ich! — Welch erbärmlich Grauen  
Fasst Übermensch dich! Wo ist der Seele Ruf?  
Wo ist die Brust, die eine Welt in sich erschuf  
Und trug und hegte, die mit Freudebeben  
Erschwoll, sich uns, den Geistern, gleich zu heben?  
Wo bist du, Faust, des Stimme mir erklang,  
Der sich an mich mit allen Kräften drang?  
Bist du es, der, von meinem Hauch unwittert,  
In allen Lebenstiefen zittert,  
Ein furchtsam weggekrümmter Wurm?

*Faust.*

Soll ich dir, Flammenbildung, weichen?  
Ich bin's, bin Faust, bin deinesgleichen!

## Geist.

In Lebensfluten, im Tatensturm  
 Wall' ich auf und ab,  
 Webe hin und her!  
 Geburt und Grab,  
 Ein ewiges Meer,  
 Ein wechselnd Weben,  
 Ein glühend Leben,  
 So schaff' ich am sausenden Webstuhl der Zeit  
 Und wirke der Gottheit lebendiges Kleid.

## Faust.

Der du die weite Welt umschweifst,  
 Geschäftiger Geist, wie nah fühl' ich mich dir!

## Geist.

Du gleichst dem Geist, den du begreifst,  
 Nicht mir! (*Verschwindet.*)

Goethe is frequently tedious, but nothing in his work more clearly validates his claim to genius than this scene in *Faust*, where, with prophetic insight, he foretells the dilemma of nineteenth-century thought confronting the science of which nineteenth-century thought is both the creator and the creation. Theories of development, theories of evolution, the mysterious doctrine of entropy, the reformulation of the astronomical problems from the time of the Herschels to Ritchey's identification in 1917 of a nova in the Great Spiral Nebula in Andromeda — these are, as it were, gigantic commentaries upon the dialogue between the Spirit and Faust.<sup>1</sup> The paradox is brilliantly expressed in an epigram about astronomy. Astronomy reduces man to total insignificance in a universe that cares nothing about him, but it is man the astronomer who has discovered and is exploring this universe. If nineteenth-century readers might have agreed with Shelley that

Worlds on worlds are rolling over  
 From creation to decay,  
 Like the bubbles on a river  
 Sparkling, bursting, borne away,

nobody in 1917 could have accepted Shelley's inference of 1821 that therefore

<sup>1</sup> See in this connection the wonderful series of articles on modern theories of the universe in the *Scientific American*, September, 1956.

The world's great age begins anew  
The golden years return.

The fourth characteristic common to nineteenth-century culture I have called the universalization and utilization of mathematics, an area in which the layman is helpless except as he notes and muses upon the results. He notes how, beginning with Gauss's *Disquisitiones arithmeticae* of 1801, mathematical analysis of all sorts has moved steadily into greater complexity and greater uncertainty, so that today, after the conclusion of the nineteenth century, Dantzig, in his influential *Number: The Language of Science*, can say:

Mathematics and experiment reign more firmly than ever over the new physics, but an all-pervading scepticism has affected their validity. Man's confident belief in the absolute validity of the two methods has been found to be of an anthropomorphic origin; both have been found to rest on articles of faith.

Mathematics would collapse like a house of cards were it deprived of the certainties that man may safely proceed as though he possessed an unlimited memory, and an inexhaustible life lay ahead of him. It is on this assumption that the validity of infinite processes is based, and these processes dominate mathematical analysis . . . arithmetic itself would lose its generality were this hypothesis refuted, for our concept of whole number is inseparable from it; and so would geometry and mechanics. This catastrophe would in turn uproot the whole edifice of the physical sciences.

Yet, though the validity of inference, to go on with Mr Dantzig, may rest on 'no firmer foundation than the human longing for certainty and permanence,' mathematics has become the universal language of mankind — a triumph of the nineteenth century *par excellence*. Moreover, whatever metaphysical doubts may haunt experts, mathematics enchain the ordinary man as neither Renaissance tyranny nor an absolute monarchy could do. The exact sciences aside, the unique contribution of the pragmatic nineteenth century here was the perfecting of statistical analysis, notably in questions of public policy. Western man is no longer Byronic or Faustian; the nineteenth century eventually reduced him to an integer, a unit, a faceless atom, a nameless one in a myriad of other nameless ones. He lives in a tangle of numerical systems — a numbered house, a numbered license card, a numbered marriage certificate, a numbered tax receipt, a numbered grave. His opinions are calculable in a poll, but they are no longer 'his' opinions, they are simply an infinitesimal in an indefinite series. A calculating

machine confronts him at the bank, at a turnstile, when he weighs himself, when he faces a health examiner, when he writes an examination. His expectation of life, the rate he will pay for insurance, his capacity to contribute to the support of the state, his capacity to retire from business at a given age, the probability of his voting pro or con, and the possibility of his response to this kind of advertising rather than that — by the end of the nineteenth century these and other aspects of individualism were being reduced by curve and graph, median and mean, sample and extrapolation, to the anonymity of twentieth-century culture. If the great triumph of nineteenth-century research has been that it learned to measure change and to induce change in order that it may be measured, the more ambiguous success of that period was to create a mensurative culture in which personalities were reduced to persons, in which the populace replaced the people. The science of statistics, despite some precedents essentially a nineteenth-century invention, may in the long run be that against which men shall revolt in vain.

But the true greatness of the nineteenth century is no more to be adjudged by the potential misuses of its mathematical discoveries than the *expertise* of Pope is to be estimated by the preface to the *Lyrical Ballads*. Its greatness lies in its astonishing achievements in science, in education, in the arts. Take as a single instance the arts. The nineteenth century is the classic century of the novel, the literary form that is to modernity what epic poetry was to earlier epochs, and one thinks at once of Scott, Balzac, Dickens, Turgenev, Manzoni, Zola, Flaubert, Tolstoi, Dostoevski, Hawthorne, James, and a thousand more. In *Faust* it contributed to world literature a great philosophic poem, and in *Don Juan* the greatest comic epic in history, but one has no sooner singled out Goethe and Byron than other poets come forward by the score for recognition — Wordsworth, Pushkin, Heine, Leopardi, Hugo, Baudelaire, Tennyson, Whitman, and their peers. Granted that the seeds of any large movement in art are sown well in advance, granted also that parallels and prophecies are soon found for any change, the century is distinguished for at least four great and profound doctrines of art — romanticism, realism, naturalism, and symbolism, and for such offshoots as the art-for-art's-sake movement. Its historians are equally impressive, from Niebuhr to Henry Adams, and the roll of its critics includes such names as Sainte-Beuve, Arnold, Croce, and Burckhardt. In painting it produced impressionism and

the whole 'modern phase,' nor are its black-and-white work, its water colors, its posters, and its caricatures less than brilliant. In music what variety and range! *Otello*, *Falstaff*, *Carmen*, *Tristan und Isolde*, *Louise*, the *Symphonie fantastique*, the *Rhenish Symphony*, the symphonies of Brahms, the *Lieder* of Schubert, the Viennese waltz, Gilbert and Sullivan, Offenbach, all enclosed, as it were, between the *Fifth Symphony* and *Der Rosenkavalier*! But the mind begins by and by to tire and to rebel against this catalogue of grandeur.

Whether these speculations have merit or not, there remains the problem of nineteenth-century style. All great cultural epochs have their styles; and some are content to dismiss that of the nineteenth century as mere eclecticism, a function of commerce and archaeology. Surely, however, few mistake nineteenth-century work of any sort for the work of any other cultural epoch. The restlessness of this immense period, the wide-ranging curiosity of its mighty geniuses, the very revolutionary fervor that distinguishes much of it — these could not rest in mere eclecticism, in plumage borrowed from other times. Alexandrianism appears in the nineteenth century, but the nineteenth century is not Alexandrian. I should rather contend that fullness of expression, amplitude, an exhaustless treasure of resource is characteristic of nineteenth-century style. Eighteenth-century style is referable to common centers and common canons of taste; not so with its successor. It is never content with austerity. Painting, opera, symphonic music, piano compositions, architecture, literature, oratory — everywhere one finds, it seems to me, the same dynamism and flow, the same aspiration and abundance. Consider the prose of Balzac, Emerson, Dickens, Hugo, and Ruskin, the music of Wagner, Musorgski, and Richard Strauss, the cartoons of Gavarni, Daumier, Nast, and Tenniel — everywhere fullness of detail, the same lively curiosity, as if nothing had been written or composed or drawn in the world before. The 'note' of Victorian literature, according to Oliver Elton, is nobility; I would amend this for the total epoch and declare the general 'note' of nineteenth-century style is restless aspiration. The century of the skyscraper comes as close to heaven, in one sense, as the century of the Strasburg cathedral, and if the one, according to romantic theory, yearns for the infinite, the other may be fairly said to yearn for power.

Everywhere, in sum, energy: energy that, if it exhausts itself, expresses its exhaustion with a kind of patient fury, as in Schopenhauer,

or else lingers with delight over its own decay, as in Swinburne, Baudelaire, Huysmans, and Oscar Wilde. But we do wrong to consider the aesthetes and the decadents too seriously. Sir Kenneth Clark, commenting on a self-portrait by Leonardo da Vinci, writes as follows:

This great furrowed mountain of a face with its noble brow, commanding cavernous eyes and undulating foothills of beard is like the faces of all the great men of the nineteenth century as the camera has preserved them for us — Darwin, Tolstoy, Walt Whitman. Time, with its spectacle of human suffering, has reduced them all to a common level of venerability.

This is well observed except that I would have said 'raised' rather than 'reduced.'

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