General rights are rights that every individual has against every other individual. Those rights have often been referred to as natural rights or human rights because individuals possess them on the basis of some common natural feature of human existence (e.g., on the basis of the ultimate separate importance of each person and each person's life). The right of self-ownership and the right not to have one's life taken are examples of general rights. In contrast, special rights are rights that specific individuals possess on the basis of particular actions performed by other individuals—individuals who, through their particular actions, have incurred special rights-correlative obligations. For example. I may possess a right against another that he deliver a copy of this encyclopedia to me, and I may possess that right on the basis of his having contracted to deliver this tome. This right is specific—conferred on me alone and not on anyone else. Contract is only the most obvious type of action by which one person may confer a special right on another. A person also might, for instance, have conferred a right on me to be provided with a copy of the encyclopedia by way of the other person having destroyed my previously purchased copy.

Libertarian theorists hold that all general rights are negative rights. For all persons, the initial baseline rights and obligations are negative. We are, so to speak, each born free—morally free to do with our lives as we see fit, subject to the negative constraint that we leave others equally free to do with their lives as they see fit. That is to say that all individuals are born to full self-ownership, to self-sovereignty; no individual is born to servitude to others. Although each person is born to a negative obligation to leave others in the peaceful enjoyment of their persons and their own property, that baseline obligation is not oppressive. For fulfilling that general negative obligation leaves one entirely free to dispose of oneself and one's own property as one sees fit. Moreover, for each person, all others being subject to that negative constraint is essential to his own moral freedom, to his own right to do as he sees fit. Rights to a particular property (aside from property in one's own body) are obviously not general rights; no one is born to any particular rights to extrapersonal objects. Still, property rights—like general rights—are negative rights. In the absence of special complications, one's property rights only impose on others the duty not to trespass and to leave one free to do as one sees fit with oneself and one's own property. Moreover, for each person, the fact that others are bound to respect one's property rights is essential to one's own freedom to do as he sees fit with his person and property. Negative rights are nonoppressive.

In libertarian theories of individual rights, all positive rights are special rights. An individual can acquire positive rights against another—rights to another serving me in one way or another—only if that right is conferred on me by the

other person. All of a person's positive obligations must arise from actions performed by that person, such as his entering into an agreement to provide another with a copy of the encyclopedia. That is the sense in which, on the basis of a libertarian theory of rights, there are no unchosen positive obligations. All positive obligations are chosen, most characteristically through the agreements into which individuals voluntarily enter. The world of interpersonal relations is indeed thick with a great variety of positive rights and obligations, but those special rights and obligations are the products of particular decisions made by the individuals who are bound by those obligations. They are not obligations to which individuals are born, nor are they obligations that are imposed by others' needs, desires, or decrees. Libertarian theories reject assertions of positive rights that cannot be traced to the specific obligation-incurring actions of the individuals who are subject to those rights. Thus, individuals control the positive obligations to which they are subject, and, accordingly, the list of recognized obligations remains nonoppressive.

All general rights (and property rights) are negative rights. Yet this scenario is not a recipe for a world in which all or even most individuals retreat behind their right to be left alone. For the right to be left to the peaceful enjoyment of oneself and one's own is the right to choose which socioeconomic relationships one will enter. Recognition and protection of everyone's baseline negative rights induce the formation of relationships that individuals willingly enter on the basis of their perception of the value of those relationships. The recognition and protection of the positive rights and obligations that arise within those voluntary relationships sustain and advance the complex and mutually beneficial social order that emerges from respect for individual rights. It is that complex and advantageous social order, not merely the right to be left alone, that the doctrine of individual rights serves.

EM

See also Freedom; Kant, Immanuel; Nozick, Robert; Positive Liberty; Private Property; Rand, Ayn; Rights, Theories of; Rothbard, Murray

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INDUSTRIAL REVOLUTION

The *industrial revolution*, a term under dispute but hard to avoid, refers to the economic transformation that began in northwestern Europe in the 18th century, accelerated in the 19th century, and then spread worldwide—with many diversions for war and socialism—in the 20th century. Such an industrial revolution was the cause in the world today of much of what is different from earlier times: poor people who are rich by historical standards, ordinary people in charge of their own politics, women with jobs outside the home, children educated into their 20s, retirees living into and beyond their 80s, universal literacy, and the flowering of the arts and sciences.

Fifteen or more is the factor by which real income per head nowadays exceeds that around 1700 in Britain and in other countries that have experienced modern economic growth. This increase in material wealth indeed is the heart of the matter. Economic historians in the 1960s have uncovered the fact that the average participant in the British economy in 2000 was 15 times better supplied with food, clothing, housing, and education than were her remote ancestors. If one's ancestors lived in Finland, the factor is more like 29; the average Finn in 1700 was not a great deal better off in material terms than was the average African of the time. If one's ancestors lived in the Netherlands, it is only a factor of 10 or so largely because in 1700 the Netherlands was the richest—and the freest and most bourgeois—country in the world, approximately 70% better off than the soon-to-be United Kingdom. If one were in Japan, the factor since 1700 is fully 35. If in South Korea, the factor is 18 merely in the past half century—since 1953 when income per head, despite access to some modern technology, was about what it had been in Europe 450 years earlier. The improvement has been crammed into 4 decades instead of, as in the British case, stretched out over 2 centuries.

These facts are not, in rough outline, controversial, although their magnitudes are not something that people suspicious of capitalism know on their pulse. The gigantic enrichment of all who allow capitalism and the bourgeois virtues to work—the average person as well as the captain of industry—is one argument to support them. The enrichment

is, so to speak, a practical justification for the sin of being neither soldier nor saint. You may reply, and truly, that money isn't everything. But as Samuel Johnson replied, "When I was running about this town a very poor fellow, I was a great arguer for the advantages of poverty; but I was, at the same time, very sorry to be poor." Or you may ask the inhabitants of India (average per capita income in 2007 in U.S. purchasing-power-corrected dollars of \$4,720) or China (\$9,700) whether they would like an American per capita income of \$47,700. Or you can note the direction of permanent migration. Immigrants from the developing world reveal their preferences quite clearly by coming to the United States and other rich countries.

Britain was first to achieve industrialization. Britain also was among the first in the study of economics, from the political arithmeticians of the 17th century through David Hume, Adam Smith, T. R. Malthus, David Ricardo, John Stuart Mill, and the British masters of the subject in the early 20th century. "The bourgeoisie," wrote Marx and Engels in 1848, "during its rule of scarce one hundred years has created more massive and colossal productive forces than have all the preceding generations together." It was a prescient remark. But the classical economists from Adam Smith to Marx and Mill were writing before the upsurge in real wages of British and American working people in the last third of the 19th century and long, long before the explosion of world income in the 20th century. They imagined a moderate rise of income per person, perhaps at the most by a factor of two or three, such as might conceivably be achieved by Scotland's highlands becoming as wealthy as capital-rich Holland (Smith's view), by manufacturers in Manchester stealing savings from their workers (Marx's view), or by the savings generated from globalization being invested in European factories (John Stuart Mill's view). But the classical economists were mistaken.

Why did the economy do so much better than the classical economists believed? The answer lies in new thoughts, what the economic historian Joel Mokyr calls the *industrial enlightenment*. What made the modern world was, proximally, innovation in machines and organizations, such as the spinning jenny and the insurance company, and innovation in politics and society, such as the American constitution and the British middle class.

Of course, if you conceive of a waterpower-driven spinning machine, you need some savings to bring the thought to fruition. But another of the discoveries by economic historians is that the savings required in England's heroic age of mechanization were modest indeed, nothing like the massive "original accumulation of capital" that Marxist theory had posited. Early cotton factories were not capital-intensive. The source of the industrial investment required was short-term loans on inventories and loans from relatives, not savings ripped in great chunks from other parts of the economy.

The classical and Marxist idea that capital begets capital, "endlessly," is hard to shake. It has recently been revived even among some economists, in the form of so-called *new growth theory*, an attempt to present what the development economist William Easterly calls *capital fundamentalism* in mathematically spiffed-up form. You see capital fundamentalism in all the stage theories from Smith to Marx to Walt Rostow. "Accumulation, accumulation," wrote Marx, "That is the law and the prophets." The economic historians have discovered that it is not so.

One trouble is that savings, urbanization, state power to expropriate, and the other physical-capital accumulations that are supposed to explain modern economic growth have existed on a large scale since the Sumerians. Yet modern economic growth—that wholly unprecedented factor in the high teens—is a phenomenon of the past two centuries alone. Something happened in the 18th century that prepared for a temporary but shocking "great divergence" of the European economies from those of the rest of the world.

Changes in aggregate rates of saving, in other words, drove nothing of consequence. No unusual Weberian ethic of high thriftiness or Marxian anti-ethic of forceful expropriation started economic growth. East Anglian Puritans learned from their Dutch neighbors and co-religionists how to be thrifty in order to be godly, to work hard in order, as John Winthrop put it, "to entertain each other in brotherly affection." Although this philosophy is well and good, it is not what caused industrialization—as indeed one can see from the failure of industrialization even in the Protestant and prosperous parts of the Low Countries, or for that matter in East Anglia. The habits of thriftiness, luxury, and profit, and the routines of exploitation, are humanly ordinary and largely unchanging. Modern economic growth depends on ingenuity in crafting gadgets.

The gadgets—mechanical and social—appear to have depended, in turn, on free societies, at least when the gadgets need to be invented, not merely borrowed, as was later the case in the USSR and the People's Republic of China. Such innovations of the 18th and 19th centuries in Europe and its offshoots came ultimately out of a change in what Adam Smith called *moral sentiment*. That is, they came out of a change in the *rhetoric* of the economy. Honest invention and hopeful revolution came to be spoken of as honorable, as they had not been before, and the seven principal virtues of pagan and Christian Europe were recycled as bourgeois. Holiness in 1300 was earned by prayers and charitable works, not by buying low and selling high. The blessed were those people "poor of the faith," as the heretical Albigensians in southern France put it (i.e., they were rich people like St. Francis of Assisi who chose poverty). Even in Shakespeare's time, a claim of virtue for working in a market was spoken of as flatly ridiculous. Secular gentlemen earned virtue by nobility, not by bargaining. The very

name of *gentleman* in 1600 meant someone who participated in the Cadiz Raid or attended Hampton Court, engaging in nothing so demeaning as actual work.

The wave of gadgets, material and political, in short, came out of an ethical and rhetorical tsunami in the North Sea around 1700. This time was unique in world history, and the change had stupendous economic consequences. To put it in Marxian terms, a change in the superstructure determined a change in the base.

Away from northwestern Europe and its offshoots in the period around 1848, when revolution spread throughout Europe and when Marx and Engels published their Communist Manifesto and Mill's Principles of Political Economy appeared, the economic virtues were still not respectable in the opinion of the dominant classes. Right up to the Meiji Restoration of 1867, after which things in Japan changed with lightning speed, leading opinion scorned the merchant. More widely, in Confucian cultures, the merchant was ranked as the lowest of the classes: In Japan, for example, the order of precedence was the daimyo, the samurai, the peasant, the craftsman, and, last, the merchant. A merchant in Japan, China, and Korea was not a gentleman, to use the European word, and had no honor—likewise, everywhere from the caves onward, and, likewise, too, circa 1600 in England.

Why, then, did the period from 1600 to 1776 in England witness what Joseph Schumpeter called the coming of a business-dominated civilization? Two things happened from 1600 to 1776, and even more so from 1776 to the present. The material methods of production were transformed, and the social position of the bourgeoisie was raised. The two were connected as mutual cause and effect. If the social position of the bourgeoisie had not been raised, aristocrats and their governments would have crushed innovation by regulation or by taxes as they had always done. The bourgeois gentilhomme would not have turned inventor.

Yet if the material methods of production had not, therefore, been transformed, the social position of the bourgeoisie would not have continued to rise. Without honor to the bourgeoisie, there could be no modern economic growth. (This last point is, in essence, a thesis put forward by the late Milton Friedman.) Without modern economic growth, there was no honor to the bourgeoisie. (This last point is, in essence, a view embraced by the economist Benjamin Friedman.) The two Friedmans capture the essence of freed men, and women and slaves and colonial people and all the others freed by the development of bourgeois virtues. The causes were freedom, the scientific revolution (although not in its direct technological effects, which were postponed largely until the 20th century), and bourgeois virtue.

What we economic historians can show clearly is that the usual suspects do not work. The slave trade, colonial exploitation, overseas trade, rising thrift, improved racial stock—no such material cause works to explain the modern world. We must recur—as economic historians like Mokyr are doing—to ideas, the ideas about steam engines and about the standing of bourgeois men and women who make the steam engines and the ideas about liberty that allow other ideas to change. The change in ideas arose perhaps from the turmoil of 17th-century Europe experimenting with democratic church government and getting along without kings. It certainly arose with the printing press and the difficulty of keeping Dutch presses from publishing scurrilous works in all languages. It also arose from the medieval intellectual heritage of Europe, free universities, and wandering scholars. In short, it was newly freed people who innovated and kept their just rewards.

DMC

See also Capitalism; Development, Economic; Division of Labor; Marxism; Material Progress; Smith, Adam

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INTELLECTUAL PROPERTY

Private property is the cornerstone of the market system. A well-functioning free-market economy requires that property rights be clearly defined and protected so that people can engage in trade. Most libertarians agree that such rights should be extended to physical property, but they differ about property rights in ideas (i.e., intellectual property). More specifically, they differ about whether patents and copyrights are legitimate.

Many market-oriented economists believe that intellectual property rights must be protected. In principle, they argue, people would have little or no incentive to invent and develop goods that they will ultimately bring to market. Consider prescription drugs, for instance. Such drugs have benefited millions of people, improving or extending their lives. Patent protection enables drug companies to recoup their development costs because for a specific period of time they have the sole right to manufacture and distribute the products they have invented. After that period elapses, these drugs may be sold in generic form. The copyright system works in a similar way and for similar reasons. Novelists, for example, have the exclusive right to profit from the stories they write as long as those works are under copyright. To libertarian supporters of patent and copyright, the key is to develop an optimal intellectual property regime, one that promotes both innovation and consumer welfare, not to abolish the system altogether.

But to other libertarians, abolition is indeed the proper goal. Intellectual property laws, they argue, cannot be ethically justified. Consider the position taken by libertarian philosopher Roderick Long. He writes:

Ethically, property rights of any kind have to be justified as extensions of the right of individuals to control their own lives. Thus any alleged property rights that conflict with this moral basis—like the "right" to own slaves—are invalidated. In my judgment, intellectual property rights also fail to pass this test. To enforce copyright laws and the like is to prevent people from making peaceful use of the information they possess. If you have acquired the information legitimately (say, by buying a book), then on what grounds can you be prevented from using it, reproducing it, trading it? Is this not a violation of the freedom of speech and press?

It may be objected that the person who originated the information deserves ownership rights over it. But information is not a concrete thing an individual can control; it