

A Peaceable Economy

Visions and Voices

Personal Perspectives on Justice and Peace

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A Peaceable Economy

Edward Dommen



THE PEACEABLE ECONOMY

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Preface

May we look upon our treasures, the furniture of our houses and our garments, and try whether the seeds of war have nourishment in these our possessions.

– John Woolman (1720–1772), *A Plea for the Poor*

This is a book about human nature. Economic theory has a fairly all-embracing view of what makes people tick. Theorists of war also have a view of human nature. The two views are similar in many ways, which is hardly surprising since both are concerned with the behaviour of the same people. They part company when it comes to social dynamics. War theorists are acutely aware of processes that feed on themselves, whereas orthodox economists prefer to see the economy as a system in, or at least seeking to reach, a stable equilibrium. However, other observers of the economy, including authors of the Bible in particular but also some present-day academics, join the war theorists in attaching great importance to cumulative social processes.

Economists generally consider their discipline to be a science. They therefore tend to expound their views with the unyielding conviction of those who are convinced they possess the truth. Theorists of war, on the other hand, consider their discipline to be an art. Thus, paradoxically, they can be more pragmatic and flexible in their approach to social reality.

Part One of this book explores the theory and practice of economics and its similarities to war. Part Two envisions an alternative, a peaceable economy, and inquires into its conditions. It starts by describing several ideal or utopian economies. Like the stable equilibrium of the orthodox economy, utopias are supposed to be an ultimate resting place. Once it is reached, there is no call to move on. The book then proceeds to ask whether ideal economies of such a kind can actually be reached from here. It depends on the nature of the people who would inhabit it. Ideal economies require ideal inhabitants. Human behaviour would have to change.

Churches have made it their job over the centuries to teach people how to behave better and to encourage them to change their ways. This kind of activity is prescriptive, not descriptive. Oddly enough, economists, although they claim to be scientists, are no less prescriptive, striving to bring people's behaviour into line with the requirements of their models. Economists have more in common with theologians than many would like to admit.

In any event, history gives little evidence that the efforts of conscious or unconscious moralists have actually achieved much in the way of moral progress. That, however, justifies neither escapism nor defeatism. All we can do is try.

Part One

Economies and Violence

Related forms of social interaction



1. Economies and Economics

Economies are the aspects of society that concern the organization of livelihood.¹ A variety of economies have existed in different periods and places; indeed different forms of economy can exist within one society at the same time with more or less intimate relations between them.

Today's globalized economy exhibits a definite pecking order between forms of economic organization. There is a dominant form, simply called "the Economy" and a range of lesser ones that bear names qualified by adjectives: alternative, subsistence, traditional (whatever that means), indigenous, collective, etc. Serious economists may glance briefly at them with degrees of amusement, if not condescension, when they do not abandon the study of them to anthropologists and such. Political correctness may incite the Economy to treat them politely in appropriate circumstances—provided these inferior forms do not stand in the way of their hegemony. Should they do so, they become heresy, to be persecuted and if possible eradicated like heresies in any major religion.

The Study of Economics

Economics, the academic study of economies, is therefore the defence of orthodoxy, not an encyclopedic enquiry into all existing economies, not to mention all conceivable ones. It is thus very different from biology or botany. It is more akin to theology as taught in a confessional training institution, a seminary for instance, or to politics as taught in a party training college.

Throughout a large part of the 20th century, two forms of economic organization competed for world hegemony; and for part of that period a third form, fascism, also played a significant role. All of them had their apologists, their analyses, and their academic centres. No one of them could ignore the other two, which imposed a degree of comparative thinking if not open-mindedness on all of them. On the other hand, they could all crush, subdue, or at best ignore the other lesser forms of economy to be found in the world. In a similar way, the main Christian denominations reached agreements to share the Pacific island communities among themselves, not fighting each other but recognizing their shared objective of supplanting the local religions.

Some definitions for a start

Let us start with two “inside” definitions of the discipline. In examining them we must however remember that the discipline concerns itself with only a limited range of forms of

economic organization and that the insiders who formulated the definitions regard their activity as a science. Many readers of this book will be able to ask themselves whether theology is a science in the same way.

Two definitions are helpful. The first comes from Wikipedia: “Economics is the social science that analyses the production, distribution, and consumption of goods and services;”² and the second from Lionel Robbins: “Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses.”³

In exploring some of the detailed implications of these definitions, we shall in fact be taking a few examples to confront the self-perception of the discipline of economics with the realities of the Economy, and occasionally of other forms of economy too. The first definition, like many others, focuses on goods and services. Some others include ‘exchange’, while a few recognize that disposal is also involved. The list of functions can indeed be expanded or contracted.

Goods & services

Traditionally in economics, goods are physical objects and services are immaterial. At times in the history of economic thought, the distinction has given rise to extensive debate. It can be argued that the use value of a good, as opposed to its exchange value, depends on the flow of services it provides. Let us treat the debate as metaphysical and ignore the

distinction. To stress the intimacy of the couple, we shall systematically use an “&” to link the two.

Goods & services consist of anything that people would like to have i) to hold, keep, show off or store away; ii) to consume; iii) to use to acquire something else they would rather have, either through exchange or as intermediate goods, inputs into a process producing something wanted more directly for use.

Goods and bads

We all know that good and evil are inextricably entangled. “So I find it to be a law that when I want to do what is good, evil lies close at hand” (Rom. 7:21). The goods and bads that compose the economy are entangled in the same way. If goods & services are good at all, they must be of benefit to at least some people. One can imagine cases in which they may be good for everyone, but these are extremely rare. In other cases, they may benefit some and harm no one; they are rare too. Generally, one person’s meat is another’s poison: the production, distribution, consumption, or disposal of something to the benefit of some generates externalities (that is, other effects) to the detriment of others. The opposite can also occur: something that benefits some may benefit others as a side-effect. People who plant colourful flowers on their balcony railing give pleasure not only to themselves but to passers-by as well. Externalities can be negative or positive; both can indeed occur at once.

The services that economies produce include elements like power or prestige, and by the same token their converse, humiliation or powerlessness, as well as the means of transmission from the one to the other, like oppression or envy. The seven deadly sins can all be generated within the economy and can therefore often be regarded as products of the economy: wrath, greed, sloth, pride, envy, gluttony, and lust (especially if it is taken in its broad sense of a passionate desire, whatever it may be for). Ambition, another driver of economic activity, is one of the generators of several of the seven sins. Hierarchies and pecking orders are as intrinsic to businesses as they are to armies. Definitions of ‘money’ often include a specific reference to power, specifically the power to acquire whatever is for sale. Since in many types of economy the range of goods & services available in exchange for money is wide, money is considered to provide a general command over things and people. Some would even say that it is a yardstick of power.

Among goods & services, public goods and services have the defining characteristics of being non-rival and non-exclusive: one person’s using them in no way prevents anyone else from using them at the same time, and if they are available to anyone they are automatically available to everyone within the relevant area: a street light, for instance. Some economists prefer the term ‘common goods’, associating the concept with that of the commons.⁴ For readers with theological

leanings, however, there is a danger of confusing that term with ‘the common good’, a useful but different concept central to Catholic social teaching.

Within the community concerned, public goods have the virtue of being immune to the rivalry, envy, and greed that drive the conflictual tendencies in the economy. On the other hand, exceptions like the atmosphere apart, they are not available beyond a particular area. This may be the inevitable consequence of their intrinsic characteristics (the light of a street light only carries so far), but the temptation exists to determine and police the boundaries so as to restrict the range of beneficiaries. Defending boundaries is one of the most traditional types of war.

Nature and nurture

Not all goods & services are produced in the sense of being the result of human decisions. The sun’s rays are more than a mere example: they constitute an essential source of energy that serves to counterbalance the energy lost through entropy.⁵ However, the gifts of nature generally require human intervention to put them in a form that people can exploit. Furthermore, whatever may be considered a gift of nature is usually tucked away among human constructs. To try and extricate them is a finicky job and of little practical use. The issue recalls the nature/nurture debate with respect to human character, although here it stretches from

the human personality to all aspects of creation. For present purposes we may leave it aside.

Exchange

Several versions of the first definition of economics, especially in the US, add the word “exchange,” thus implicitly excluding from the remit of economics any form of distribution that does not involve exchange. Apart from excluding centrally planned economies, it ignores production for own consumption. Subsistence production is important, if not essential, to the livelihood or quality of life of a large proportion of humanity. Adding “exchange” to the definition also excludes goods that are so abundant and widespread that there is no call to engage in any social activity to enjoy them.

Insisting on exchange as a criterion excludes gifts and other unrequited transfers, yet these are essential to the economy as a network of social relationships. Indeed gifts can be an important source of friendly relations in the peaceable economy. Marcel Mauss (1923–1924) emphasized the relationships established through a sequence of gifts given and gifts made in return as a form of exchange spread over time. This reassures economists obsessed with exchange as a defining characteristic of the object of their study and helps explain Mauss’s popularity among economists. As he himself recognized, such networks can create burdens of obligation that are far from fostering friendly relations. The type

of exchange Mauss described undoubtedly exists, but so do unrequited gifts.

Conversely, to insist on exchange as an essential characteristic of economies ignores two forms of behaviour that are especially relevant to peaceable economies because they are so essentially unpeaceable: expropriation and imposition. Appropriating other people's possessions for one's own benefit is an everyday occurrence in the world economy. From mining concessions to the facilities for mega sporting events like the Olympic Games, from large hydroelectric dams to large-scale land grabs, powerful economic interests seize other people's land, housing, or livelihoods and disrupt their cultures. Conversely, powerful economic interests impose burdens on weaker communities, for instance by taking their water without compensation or dumping toxic waste on them.

Disposal⁶

The first definition of economics hardly ever includes 'disposal' in the list of activities that make up an economy. Yet it is an integral part of the life cycle of goods & services. The wanted and the unwanted outputs of the economy are inextricably entangled with each other, rather like good and evil.

Industrial ecology strives systematically to put the refuse back into the economic cycle, to turn it from waste into a resource again. Such recycling existed long before industry: it is a normal characteristic of traditional agriculture. It is a

peaceable approach, akin to the advice attributed to Abraham Lincoln: “The best way to destroy an enemy is to make him a friend.”

Unfortunately, such a desirable outcome is all too rarely achieved in either case. Unwanted outputs are produced during production processes, like greenhouse gases or nuclear waste in the production of energy, or tailings and poisoned water in mining. Final products that are no longer wanted or serviceable also need to be disposed of.

Since by definition no one wants this refuse, it can only be inflicted on unwilling takers. Buyers and sellers have a shared interest in leaguering together to impose the costs of disposal on third parties. These are obviously weaker than the others, otherwise they would refuse the burden. This part of the economic cycle is patently warlike, with victors who have the power to get rid of their refuse on the losers. Victory is all the easier if the vanquished are unaware of what is going on. Hence the discretion of the uranium mining industry about the damage it inflicts on the health of its workers, or the dumping of toxic waste in places like Haiti, where the people were even persuaded that it was fertilizer and thus encouraged to spread it about.⁷ When waste disposal results in damage to health and the resource base, or in impoverishment, or more fundamentally expresses contempt or disregard for others, it generates frustration and resentment; it nourishes the seeds of war.

On the other hand, waste disposal is a form of economic activity providing employment and income to many. Not only to powerful public authorities, large enterprises, or mafia-type organizations who simply get rid of it, but also to those who play their part in industrial ecology by collecting scrap metal or empty bottles, not forgetting the countless people who, for lack of a better choice, live on rubbish dumps as scavengers.

In any event, the definition of economics is incomplete without “disposal.” Let us therefore complete the first definition as follows: “Economics analyses the production, distribution, consumption, and disposal of goods and services.” One could even specify “Economics analyses *the cycle of* production, distribution, consumption, and disposal of goods & services,” for indeed whatever is thrown away is likely to reappear somewhere in the cycle later on, as a desired input or as a nuisance that has to be dealt with in the further functioning of the cycle, or as both at once. Thus, kitchen waste can be turned into compost to feed the next generation of vegetables. Nuclear waste has to be managed for thousands of years. It imposes a burden of work on future generations until they invent some way of using it.⁸

The economy is a cycle, but it is not a closed one. On the one hand, it is constantly receiving fresh supplies, especially of energy from the sun. On the other hand, any resource once used degrades into greater disorder through the dissipation of

energy within the system according to the law of entropy; it can be recycled only at increasing ecological cost at each round.⁹

Scarcity

According to the second definition, economics is essentially conflictual. There is not enough to go around, at least of the goods with which the economy is concerned, so economic agents must compete for their share of them. This definition was contested from the moment Lionel Robbins formulated it—for a reason not of scarcity but of overabundance, but which still sprang from a concern for social peace. No one would contest that employment is an economic issue. In the mass unemployment of Europe in the 1930s, the dominant economic problem was not that society had to choose between alternative uses for scarce labour, but that there was no use at all for a significant part of it. The economy did not want all the labour on offer, preferring to leave it unused. Families were not only left with no source of income, the economy simply rejected them, treating them as worthless in all senses of the word. This form of scorn for people was among the main causes of the second world war.

Unemployment is still today a bane of the economies of most rich countries, running at more than 10 percent in most of the EU, and over 25 percent in some of its member countries. In other words, more than one person in four in

the latter countries who would like to work and is in the socially acceptable age group cannot find work. They are unwanted, surplus to requirements.

Reformation theologian John Calvin insists: “We know that for artisans and workers their income lies in their being able to earn a living; they do not have their monies invested in meadows and fields. As God has placed their life in their hands, i.e. in the work they do, if they are deprived of the necessary means, it is just as if their throats had been cut.”¹⁰ Causing the death of people is the hallmark of war, but the incidence of death also provides an effective tool for analyzing how an economy functions.

In Europe and North America today, many of those who have the resources to provide workers with the means to work prefer to do something else with their capital. It has alternative uses, but that does not mean that it is scarce; on the contrary, the sums washing about on the world’s financial markets grow by feeding on themselves. The preferred uses may be utterly futile;¹¹ that is indeed the nub of the debate about whether one can distinguish the financial from the real economy. Finance serves the real economy only in so far as it funds investment in real capital that provides jobs for people wanting to work and goods & services for the common good. Calvin again: “The air must resound with shouts ... against those who have not put to use the means which have been committed to their care.”¹² To withhold capital from

this service is also warlike behaviour, similar to a siege or a blockade.

Economics is sometimes called “the dismal science.” The nickname is generally seen as inspired by the views of the British Anglican clergyman Thomas Robert Malthus (1766–1834).¹³ He argued that while population tended to grow by geometrical progression (1-2-4-8-etc.), subsistence grew only by arithmetical progression (1-2-3-4-etc.). “The ultimate check to population appears then to be a want of food, arising necessarily from the different ratios according to which population and food increase.”¹⁴ Apart from “preventive checks” (broadly speaking, family planning), the “positive checks” that keep population in line with subsistence “include every cause, whether arising from vice or misery, which in any degree contributes to shorten the natural duration of human life. Under this head, therefore, may be enumerated all unwholesome occupations, severe labour and exposure to the seasons, extreme poverty, bad nursing of children, great towns, excesses of all kinds, the whole train of common diseases and epidemics, wars, plague and famine.”¹⁵

We find here an early presentation of structural violence, to which we shall return. Note that Malthus includes war among the normal regulatory mechanisms of the economy. Above all, for the inventor of the dismal science, scarcity not only exists, it prevails. It defines the framework within which the whole economy functions.

The ideas of Jean-Jacques Rousseau (1712–1778) were part of Malthus' intellectual environment. Along the same lines as Malthus, he saw the golden age as ending when the number of humans had expanded to the point where there was no space to spare and the age of scarcity dawned.

[W]hen inheritances so increased in number and extent as to occupy the whole of the land, and to border on one another, one man [sic] could aggrandise himself only at the expense of another; at the same time the supernumeraries ... were obliged to receive their subsistence, or steal it, from the rich; and this soon bred, according to their different characters, dominion and slavery, or violence and rapine. The wealthy, on their part, had no sooner begun to taste the pleasure of command, than they disdained all others, and, using their old slaves to acquire new, thought of nothing but subduing and enslaving their neighbours; like ravenous wolves.¹⁶

Thus for Rousseau war appeared at the same time as scarcity. However, it was not scarcity itself that provoked war and disorder, but the spirit of appropriation and exclusion:

The first man who, having enclosed a piece of ground, bethought himself of saying *This is mine*, and found people simple enough to believe him, was the real founder of

civil society. From how many crimes, wars and murders, from how many horrors and misfortunes might not any one have saved mankind, by pulling up the stakes, or filling up the ditch, and crying to his fellows, “Beware of listening to this impostor; you are undone if you once forget that the fruits of the earth belong to us all, and the earth itself to nobody.”¹⁷

To sum up so far, for Malthus scarcity has war among its normal consequences, while for Rousseau war and scarcity go hand in hand, but both agreed that population growth had reached the point where scarcity is an inescapable fact of life.

Karl Marx’s concept of the reserve army of the unemployed, which makes no secret of drawing on Malthusianism, fits into Rousseau’s vision of the golden age collapsing with the private appropriation of wealth. “Big industry constantly requires a reserve army of unemployed workers ... The main purpose of the bourgeois in relation to the worker is, of course, to have the commodity labour as cheaply as possible, which is only possible when the supply of this commodity is as large as possible in relation to the demand for it.”¹⁸ In other words, those who possess the other factors of production withhold them as an aggressive tactic to force into subservience those who are fortunate enough to be given work.

Mao Zedong’s Great Leap Forward (1958–1961) applied this approach in an even more radical way, starving the peasants, who were the backbone of the economy, to free resources

in order to create capital for a new form of economy. Between 18 and 45 million deaths are attributed to this policy.¹⁹ War-like oppression of the weak is not confined to liberal market economies.

Sufficiency

Calvin on the other hand insists that God provides not only enough for everyone, but plenty: “God not only provides for people’s necessity, and bestows upon them as much as is sufficient for the ordinary purposes of life, but ... in his goodness he deals still more bountifully with them by cheering their hearts with wine and oil. For nature would certainly be satisfied with water to drink.”²⁰

Mohandas K. Gandhi is often cited as saying the same thing more pithily: “Earth provides enough to satisfy every one’s need, but not every one’s greed.” The phrase seems to be apocryphal. The website of Mani Bhavan, a Gandhi memorial centre in Mumbai, offers the following more detailed quotation as more exact:

I suggest that we are thieves in a way. If I take anything that I do not need for my own immediate use and keep it I thieve it from somebody else. I venture to suggest that it is the fundamental law of Nature, without exception, that Nature produces enough for our wants from day to day, and if only everybody took enough for himself

and nothing more, there would be no pauperism in this world, there would be no more dying of starvation in this world. But so long as we have got this inequality, so long we are thieving.²¹

Emulation

Everyone models their consumption standards—and indeed other standards—on those of other people whom they take consciously or unconsciously as role models. It is one of the ways social cohesion and identity are constructed.

Suppose *A* takes *B* as a model. *A* and *B* may be individuals or social entities - families, or religious, ethnic or cultural communities, or companies. Status and style are not confined to consumption; they are also reflected in manners of production. Recourse to company cars or aircraft or an extravagant use of public space and precious marble in corporate offices, or on the other hand the fairness of labour relations and concern for the welfare of workers, suppliers, customers, or the surrounding community, are all forms of behaviour that can inspire emulation by other firms.

Status and style are also expressed in the ways power—political, economic, or other—is displayed and exercised. Consider how French heads of state like to be seen in gilded rooms and how the leaders of North Korea show themselves soberly dressed while the military officers around them are dripping with brass and medals.

Suppose now that *A* is striving to achieve *B*'s standard, to "keep up with the Joneses." In so far as *B*'s standard is more costly, this imitation already increases the scarcity of the norm-setting goods.

However, if *B* sees their status as depending on the distance between themselves and *A*, the situation becomes inextricable. When *A* succeeds in approaching *B*, *B* must flee into greater display in order to preserve self-image. There is no finishing line. In the corporate world, a few decades ago status involved market share. *A* could by definition increase its share only at the expense of its competitors, whose status thereby declined. If *B* is in a position of power, another solution is for it to deny *A* the right to imitate its style. Sumptuary rules that limit consumption of certain goods to certain classes have often been widespread. The scarcity is imposed not by objective availability but by conventional rule. Scarcity is particularly acute when *A* wants, not something like *B*'s, but the very same object. An army officer wants to be dictator in the place of the current dictator. A manager wants to be boss in the place of the boss. A burglar inside a house wants the occupier's belongings. Turf wars between gangs are rivalries of this type. Conflicting territorial claims between states are an especially traditional form of it, traditionally expressing itself in war.

Unlimited wants

The website Investopedia takes the second definition of economics at the start of this chapter a small but crucial step further: “[Economics is a] social science that studies how individuals, governments, firms and nations make choices on allocating scarce resources to satisfy their unlimited wants.”²² The conflict becomes utterly inextricable if the agents’ wants are unlimited: in such a situation there is no prospect of ever producing enough to overcome scarcity.

Economic growth is a present-day fetish. It rests on the assumption of unlimited wants an object of devotion in their own right rather than a means to another goal. The idol representing economic growth is GDP, Gross Domestic Product. This is a compilation of figures that compose the National Accounts, a codified set of economic statistics. The System of National Accounts (SNA)—produced under the auspices of the United Nations, the European Commission, the Organization for Economic Co-operation and Development, the International Monetary Fund, and the World Bank Group—is the internationally agreed standard set of recommendations on how to compile them.²³ National accounts were originally designed during the Great Depression of the 1920s and 1930s as tool for Keynesian management of the economy, initially to manage the creation of jobs for the unemployed (a matter of bringing surplus resources into use) and soon after to manage a war economy in which scarce resources are concentrated as effectively as possible on the war effort.

It was only much later that GDP, one of the many aggregates that can be derived from the national accounts, acquired its iconic status as a symbol of economic size, success, and even welfare. The overblown and dubious virtues of this figure are now increasingly being called into question. The Stiglitz Sen Fitoussi Report, commissioned by the French government in 2008, nicely sums up the state of the debate.²⁴

It is reported that the Swiss writer Max Frisch (1911–1991) asked, “Dinosaurs survived 250 million years. How do you imagine economic growth over 250 million years?” The idea is obviously absurd. Such a span of economic growth can only run smack into the wall of scarcity. More important still for our purposes, growth of GDP ignores the fact that people pick satisfaction, pleasure, and conviviality in activities outside the economy. The Stiglitz Sen Fitoussi Report explores a number of indicators that are less inhuman and aggressive.

Is Economics a Science? Models of Reality

The definitions we have given so far generally treat economics as a science, notwithstanding the Soviet joke that if economics were a science, it would have been tested on animals first. However, although the 1995 edition of the *Concise Oxford Dictionary* defined economics as “a science,” its 2001 edition shifted this to “a branch of knowledge.” As one expects of a good dictionary, it is following changing usages and attitudes.

A growing school of thought among economists contests the status of the discipline as a science.²⁵

What then is a science? Or more precisely, what is the use of science? Science strives to explain systematically and methodically how the world works. Its purpose is to help people find their way through the luxuriant undergrowth of reality without tripping up.

Science is undoubtedly a quest for truth, but then in turn, what is truth?²⁶ Firstly, truth must not only be correct, but helpful. Several truths may all explain a single situation correctly, but some may be more helpful than others depending on one's needs in a particular situation, as illustrated in the accompanying box.

How long is a metre?

The standard measure of length is the metre, a unit at a pleasantly human scale. It roughly corresponds to the length of an adult arm, or the girth of a well-fed man. It is about as long as three human feet. John Wilkins, Anglican bishop of Chester, defined it in the 17th century as the 10 millionth part of the quarter of the circumference of the Earth. The French Academy of Sciences rendered this definition official in 1791. (This lovely round number comforts those who are convinced that God designed the universe for the convenience of humanity, but I have no grounds for claiming that Wilkins, or for that matter anyone else, ever explicitly defended that view.)

Shortly after Wilkins, the Italian scientist Tito Livio Burattini defined the metre as the length of a pendulum for which the period of half a swing equals one second. Burattini's definition was sidelined because the trip through a unit of time to measure a length seemed intuitively awkward. The trouble with both these definitions is that the length varies—a tiny bit—according to geographical location. To escape from all these approximations, the metre was officially defined from 1889 to 1960 as the length between two points on a platinum-iridium rod kept in the observatory at Sèvres in France. The trouble with that definition was that the conservators were so worried about the risk of altering the length of the rod that virtually no one could get access to it.

Since 1983, the official definition of the metre is the distance travelled by light in a vacuum in $\frac{1}{299\,792\,458}$ of a second. If Burattini's definition was regarded as counter-intuitive and therefore unhelpful, what is a breathing consumer with a watch who wants to buy a length of cloth to make of the current definition? It was of course not chosen with such ordinary people in mind, but to meet the insatiable demand of scientists for precision. People buying cloth are content with notches on the counter.

Secondly, all scientific truths are provisional. They are hypotheses, regarded as true until they are proven false, and the scientist's job consists of constantly challenging them by

trying to show them up as false.²⁷ If falsified, they are replaced by a new hypothesis that explains reality more realistically. There is something warlike in the nature of science: the defenders of the status quo, the scientific conservatives, are retrenched in their citadel, ready to repel the scientific innovators seeking to storm it.

Science is essentially curious. It is actively on the lookout for new information that may trouble its certainties. Botanists go out to search for new plants. They attempt to fit them into existing classifications while accepting that the new discovery may oblige them to revise them. Economists on the other hand tend to lack curiosity. They show little interest in unusual ways of organizing livelihood. Instead of studying them objectively, they attempt to belittle their qualities and to hector them into behaving properly. They are more like missionaries than scientists.

Science, we have said, attempts to explain reality systematically. Each truth, each fact, fits into a coherent whole held together by the rules of its logic. To falsify any element of the system weakens the overall structure, which has to be adjusted accordingly. As successive occasional adjustments add to a forest of makeshift supports, it becomes more and more difficult to move around inside the model. Or alternatively, the elegance of the original structure is maintained at the cost of becoming a work of art, perhaps beautiful to behold but with little resemblance to the realities of everyday

life. At some point it becomes more convenient to abandon the old model and adopt another.

Easier said than done. Scientists who invest time, energy, and reputation in building and burnishing a model develop an affection for it. It pains them to turn their back on it. Or, to put it in more brutally economic terms, having built their castle in the air, they want to collect the rent from it.

Economists use models to present their understanding of an economic mechanism in a systematic way. The models are often presented in mathematical form. In many cases, mathematics are to economic models what a suit is to a businessperson: it is a way of dressing up to mark the distinguished status of the role one is playing. Two thousand five hundred years ago and more, the Bible presented a shrewd and coherent model of the economy in the vernacular, without hesitating to draw on pithy sayings from the popular wisdom of its time. The model is still applicable today. As recently as the mid-20th century, James Meade wrote *The Balance of Payments*, which largely contributed to his 1977 Nobel Prize in Economics, by and large in plain English. The mathematics underlying the argument was confined to a supplement in a separate volume.²⁸ Science need not be abstruse.

Since all models by their very nature simplify reality in order to explain it, no model can provide a complete and perfect description of the real world, even less so if it needs to be convenient as well. There can be legitimate argument about

which model provides the most effective tool for dealing with the problem at hand.

In any event, one can generally trust the model-builders to have built a model that is internally consistent, so that the assumptions lead by the force of logic to the conclusions. The validity of the model can therefore be tested by confining one's efforts to examining its assumptions.

One can also check the realism of the conclusions. If they do not correspond to reality, several types of reason can be adduced. Lack of realism in the assumptions is one, but inappropriate simplification may be another: maybe the model has ignored some variables that play a significant role in the workings of the real system in all its complexity.

Most economic models claim to describe aspects of reality. On the other hand, many of them are prescriptive rather than descriptive: they present a picture of a desirable economy rather than an existing one. Having described the desirable state of affairs, it is possible to work back through the model to ascertain its assumptions, the conditions in which it could be achieved. One can then explore the realism of the assumptions, or the possibility of modifying reality so that it corresponds to the required conditions. We shall do something along these lines in Part Two.

Economic science is dominated by Anglo-Saxon thinking and cultural presuppositions. Nonetheless, many economists ignore one of the founding distinctions in Anglo-Saxon

moral philosophy, the 18th-century Scottish philosopher David Hume's dictum that "is" should not be confused with "ought."²⁹ In economics, several prescriptive models masquerade as descriptive ones.

Let us end this enquiry into what an economy is with a third definition, subtler and more evocative than most of the ones we have explored so far. It is by Alfred Marshall (1842–1924), one of the founders of economics as an undergraduate discipline, whose *Principles of Economics* can be considered a pioneer university textbook on the subject. Setia's definition in the opening sentence of this chapter stops at the semicolon; Marshall's spells it out in more detail: "Economics is a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and the use of the material requisites of wellbeing. Thus it is on the one side a study of wealth; and on the other, and more important side, a part of the study of man."³⁰