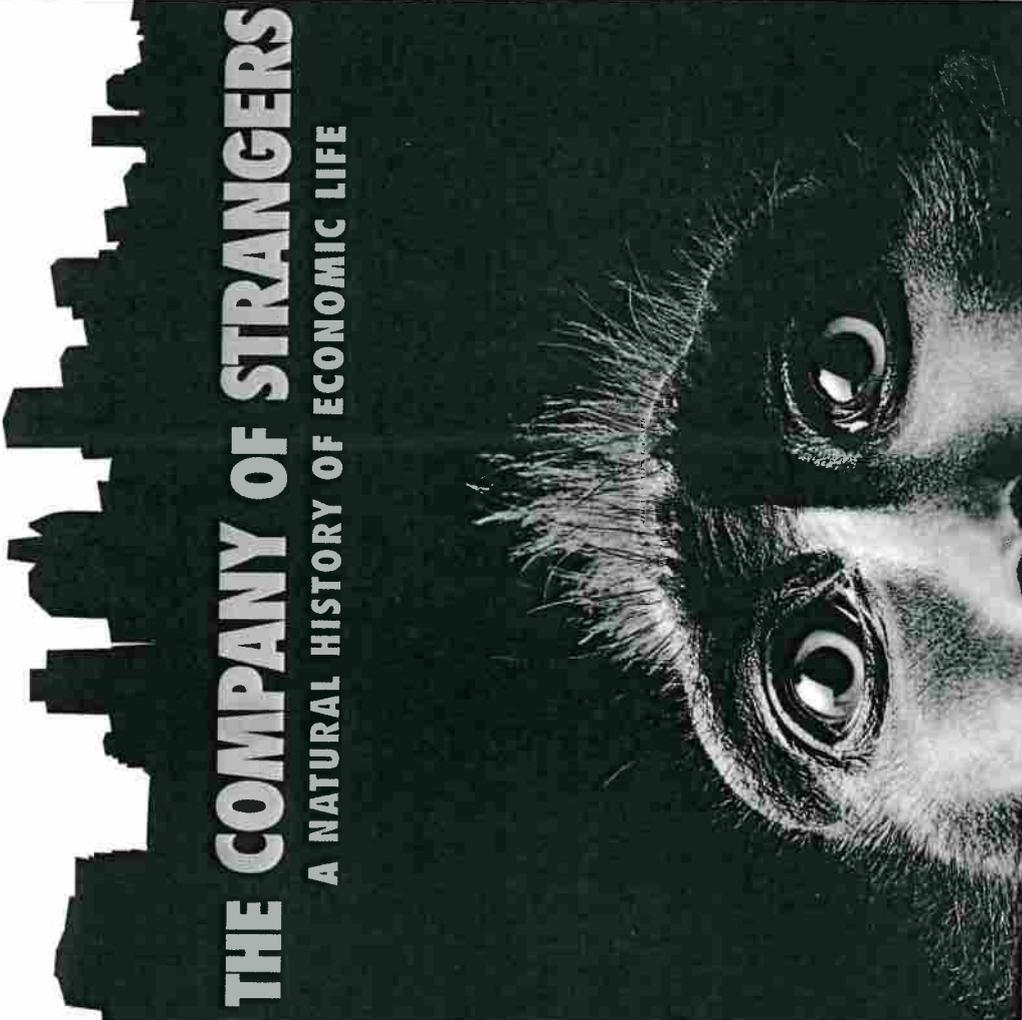


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**PAUL SEABRIGHT**



**THE COMPANY OF STRANGERS**  
A NATURAL HISTORY OF ECONOMIC LIFE



## Who's In Charge?

### THE WORLD'S NEED FOR SHIRTS

This morning I went out and bought a shirt. There is nothing very unusual in that: across the world, perhaps 20 million people did the same. What is more remarkable is that I, like most of these 20 million, had not informed anybody in advance of what I was intending to do. Yet the shirt I bought, although a simple item by the standards of modern technology, represents a triumph of international cooperation. The cotton was grown in India, from seeds developed in the United States; the artificial fiber in the thread comes from Portugal and the material in the dyes from at least six other countries; the collar linings come from Brazil, and the machinery for the weaving, cutting, and sewing from Germany; the shirt itself was made up in Malaysia. The project of making a shirt and delivering it to me in Toulouse has been a long time in the planning, since well before the morning two winters ago when an Indian farmer first led a pair of ploughing bullocks across his land on the red plains outside Coimbatore. Engineers in Cologne and chemists in Birmingham were involved in the preparation many years ago. Most remarkably of all, given the obstacles it has had to surmount to be made at all and the large number of people who have been involved along the way, it is a very stylish and attractive shirt (for what little my judgment in these matters may be worth). I am extremely pleased at how the project has turned out. And yet I am quite sure nobody knew that I was going to be buying a shirt of this kind today; I hardly knew it myself even the day before. Every single one of these people who has been laboring to bring my shirt to me has done so without knowing or indeed caring anything about me. To make their task even more challenging, they, or people very much like them, have been working at the same time to make shirts for all of the other 20 million people of widely different sizes, tastes, and incomes, scattered over six continents, who decided independently of each other to buy shirts at the same time as I did. And those were just today's clients. Tomorrow there will be another 20 million — perhaps more.

If there were any single person in overall charge of the task of supplying shirts to the world's population, the complexity of the challenge



facing them would call to mind the predicament of a general fighting a war. One can imagine an incoming president of the United States being presented with a report entitled *The World's Need for Shirts*, trembling at its contents, and immediately setting up a Presidential Task Force. The United Nations would hold conferences on ways to enhance international cooperation in shirt-making, and there would be arguments over whether the UN or the U.S. should take the lead. The pope and the archbishop of Canterbury would issue calls for everyone to pull together to ensure that the world's needs were met, and committees of bishops and pop stars would periodically remind us that a shirt on one's back is a human right. The humanitarian organization "Couturiers sans Frontières" would airlift supplies to sartorially challenged regions of the world. Experts would be commissioned to examine the wisdom of making collars in Brazil for shirts made in Malaysia for re-export to Brazil. More experts would suggest that by cutting back on the wasteful variety of frivolous styles it would be possible to make dramatic improvements in the total number of shirts produced. Factories which had achieved the most spectacular increases in their output would be given awards, and their directors would be interviewed respectfully on television. Activist groups would protest that "shirts" is a sexist and racist category and propose gender- and culture-neutral terms covering blouses, tunics, cholis, kurtas, barongs, and the myriad other items that the world's citizens wear above the waist. The columns of newspapers would resound with arguments over priorities and needs. In the cacophony I wonder whether I would still have been able to buy my shirt.

In fact there is nobody in charge. The entire vast enterprise of supplying shirts in thousands and thousands of styles to millions and millions of people takes place without any overall coordination at all. The Indian farmer who planted the cotton was concerned only with the price this would subsequently fetch from a trader, the cost to him of all the materials, and the effort he would have to put in to realize an adequate harvest. The managers of the German machinery firm worry about export orders and their relations with their suppliers and their workforce. The manufacturers of chemical dyes could not care less about the aesthetics of my shirt. True, there are certain parts of the operation where there is substantial explicit coordination: a large company like ICI or Coats Viyella has many thousands of employees working directly or indirectly under a chief executive. But even the largest such company accounts for only a tiny fraction of the whole activity involved in the supply of shirts. Overall there is nobody in charge. We grumble sometimes about whether the system works as well as it could (I have to replace broken buttons on my shirts more often than seems reasonable). What is truly astonishing is that it works at all.<sup>1</sup>

Citizens of the industrialized market economies have lost their sense of wonder at the fact that they can decide spontaneously to go out in search of food, clothing, furniture, and thousands of other useful, attractive, frivolous, or life-saving items, and that when they do so, somebody will have anticipated their actions and thoughtfully made such items available for them to buy. For our ancestors who wandered the plains in search of game, or scratched the earth to grow grain under a capricious sky, such a future would have seemed truly miraculous, and the possibility that it might come about without the intervention of any overall controlling intelligence would have seemed incredible. Even when adventurous travelers opened up the first trade routes and the citizens of Europe and Asia first had the chance to sample each other's luxuries, their safe arrival was still so much subject to chance and nature as to make it a source of drama and excitement as late as Shakespeare's day. (Imagine setting *The Merchant of Venice* in a supermarket.)

In Eastern Europe and the countries that used to belong to the Soviet Union, even after the collapse of their planning systems, there has been persistent and widespread puzzlement that any society could aspire to prosperity without an overall plan. About two years after the break-up of the Soviet Union I was in discussion with a senior Russian official whose job it was to direct the production of bread in St. Petersburg. "Please understand that we are keen to move towards a market system," he told me. "But we need to understand the fundamental details of how such a system works. Tell me, for example: who is in charge of the supply of bread to the population of London?" There was nothing naive about his question, because the answer ("nobody is in charge"), when one thinks carefully about it, is astonishingly hard to believe. Only in the industrialized West have we forgotten just how strange it is.

#### COOPERATION WITH NOBODY IN CHARGE

This book is about the human capacities that have made such cooperation possible, about their advantages and their dangers. One way to capture their paradoxical quality is to think of them as embodying a kind of tunnel vision. By "tunnel vision" I mean the capacity to play one's part in the great complex enterprise of creating the prosperity of a modern society without knowing or necessarily caring very much about the overall outcome. We may be—and often are—interested in broader questions about the point and purpose of it all, but the answers to such questions have comparatively little effect on our ability to do our jobs well. Our activities are part of a network; we can play our part just by knowing how to behave toward our neighbors in the network. Some-



times we rationalize this to ourselves by thinking that someone else is taking care of the network as a whole; if so, we are usually mistaken.

Tunnel vision is not the same thing as the profit motive, though a concern for profit to the exclusion of all else is one rather unattractive form that tunnel vision can take. Nor is it the same as self-interest. Economists have often found it convenient to assume that individuals are purely self-interested, if only to contrast the egoism of their motivation with the unwitting benefits created for others by the pursuit of that motivation. In truth human motivation is much richer than this simplification allows—but it cannot escape tunnel vision even so. We all have a strong component of self-interest, and we also care about other things: the welfare of our families and friends, the physical and moral health of our communities, the future of our world. Sometimes this concern expresses itself in strong views about the way in which the production or distribution of economic resources should be organized, as when we protest against the closure of a local hospital. But the altruism of our gesture is no guarantee that we have thought through its wider implications: single-minded obsessiveness can be just as prevalent among those whose goals are not narrowly selfish ones, such as crusaders for a charitable cause, as among profit-oriented businessmen. More often, we neither know nor care very much about the details. If I work in a furniture factory, it is more important to me to have a good working environment, pleasant colleagues, and reasonable pay than to know how the furniture I produce will be used to decorate the homes of those who buy it. I may, of course, derive job satisfaction from understanding how my work contributes to the activities and aspirations of others. People can often strengthen their sense of their own worth by understanding how their work fits into some larger frame of things; this was an important message of the book *Working*, in which the American writer Studs Terkel interviewed people from all corners of life to find out how their jobs affected them.<sup>2</sup> But Terkel's book also showed how solitary this satisfaction can be for many people in modern occupations; it may affect their happiness without making much difference to the quality of their work. It is both an admirable and a melancholy fact that training and the standardization of working methods are designed to reduce the impact of personal idiosyncrasy on the job.<sup>3</sup>

Tunnel vision, then, covers a range of states of mind, from a mere capacity for detachment at one end to an obsessive single-mindedness at the other. As we shall see in later chapters, our understanding of the way modern economies work shows us two things. First, that modern society needs tunnel vision: the prosperity that the world's citizens rightly demand rests upon institutions that are not only compatible with tunnel vision but even encourage it. Secondly, that tunnel vision is also

dangerous: it is the source of many of the gravest threats to our security and happiness. How can this be? To begin uncovering the answer we must go back to shirts.

How should we react when we ask about some activity, "Who's in charge?" and receive the answer "No-one"? It clearly depends on what kind of activity is in question. If I were an airline passenger, I would be concerned to discover that no one was in charge of the airplane. But it is good to know there is nobody in charge of creating modern English poetry. What is surprising is that supplying shirts to the world is—in this respect—closer to poetry than to piloting an aircraft. Why? What explains why these different activities provoke these particular responses?

The details of the answer will occupy most of this book. But here's a start. First of all, the passengers in an aircraft share more or less the same clear goal: they want to get to their destination quickly and, above all, safely. Some of them may be more willing than others to travel slowly to avoid turbulence, but compared with the overriding shared goal of safe arrival, all differences of emphasis between them are minor. Secondly, in the event of danger all the passengers and crew are in the same—as it were—boat. If I don't like the way the lefthand side of the aircraft is tilting, I can't just go and sit on the right. The right hand side of the aircraft will be traveling in the same direction as the left. In other words, the activities and fates of the passengers are interconnected in an inextricable way: such interconnections may make tunnel vision quite dangerous. However, some of this interconnection of our destinies may actually be welcome: if I don't have a parachute, I shall be somewhat reassured to know that the pilot doesn't have one either.

Thirdly, there is enough uncertainty in the aircraft's environment to make us unwilling to trust any purely mechanical set of rules for coordinating its flight—such as those embodied in the autopilot. Even sophisticated fly-by-wire technologies can cope only with conditions precise enough for the programmers to foresee in detail, but there are others (such as the failure of the autopilot itself) where only the presence of someone in charge will do. The relative importance of the unforeseeable explains why there are driverless trains but not yet pilotless passenger airplanes,\* and this difference is significant for many aspects of social life.

Fourthly, although being in charge of an aircraft is a complex responsibility that requires considerable training and experience, it is still sim-

\* However, pilotless passenger aircraft are likely to enter production soon (see *The Economist*, 21 December 2002, pp. 81–83), even if their entry into general service may take many years. Adam Brown of Airbus in Toulouse tells me that in the near future the only inhabitants of the cockpit will be a man and a dog. The man's job will be to feed the dog, while the dog's job will be to bite the man if he dares to touch the controls.



ple enough for one person to be capable of discharging it in most circumstances. This is because of the relative simplicity of the overall goal, the limited number of controls to be operated, the limited number of ways of operating them, and the relatively limited number of signals to which the operator needs to respond. The job of being in charge is within a single individual's capacity.

These four features together imply that the task of flying the aircraft is simple enough for one person but too complex and unforeseeable for a machine. (There are many such tasks—cleaning a hotel room and weeding a flowerbed, to name but two.) But why does this mean one person has to be in charge? Why can't everyone be in charge together? The moment one asks this question it becomes obvious what the answer is: if backseat driving is a nuisance, backseat flying is potentially disastrous. Trying to reach agreement on how to fly the aircraft would involve arguments and delays that the passengers, in their desire to reach their destination safely, simply cannot afford.

Creating poetry is very different in a number of obvious ways, of which only some matter for the question we are concerned with here. First of all, there is no clear goal that poetry is trying to achieve, for all that literary critics may try to impose an order upon it. That's not just an accident or an unfortunate omission: poetry would not be valuable if it lost the subversive, unsettling quality of an activity whose goals are always open to question and renewal. Individual poets who are not free to reinvent and rediscover their own activity cease to be poets and become speechwriters. If the poetry of any era or culture has a pattern, it is not one that can be planned and imposed but one that emerges from the interplay of many individual voices.

Secondly, because the voices are many and individual, the connections between them are subtle and detachable. Poets influence each other, certainly; but if the poet laureate writes a bad poem, it's a bad poem, not a collective disaster.

Thirdly, even if there were reasons to wish to do so, being in charge of a nation's or a culture's poetry is a task of such complexity that no individual could discharge it except by simplifying it to a point of crudity. That is why cultural commissars set up by dictatorships always begin by giving themselves some clear task: poetry should aim to restore national pride or uplift the toiling and exploited masses. Then they realize that monitoring the pursuit of this task is going to be very difficult if there is no limit to the number of people who can write poetry, so the next thing they do is to stipulate that all poets must be members of a Writers' Union. Even without invoking any rights of free expression, it takes very little imagination to see that commissars are bad for poetry.

There may also be a more subtle reason why a single individual could

not be in charge of a culture's poetry. One reason why so few critics of art or literature have also been great artists or writers is that the breadth and flexibility of vision that make a critic—the ability to see virtues in opposing styles and movements and to understand something of the roots of their opposition—tends to be incompatible with the single-minded energy that creates great works. Creativity seems to require more tunnel vision than criticism can usually afford.

What about the production of the world's shirts? The goal of this activity cannot be summed up simply in the phrase “producing shirts.” The quality, the design, the variety of styles, the durability of the cloth, and the location of the different people with their different tastes represent a whole array of dimensions along which decisions must be taken on behalf of all the twenty million people a day who buy shirts—dimensions that are at least as important as the sheer quantity of shirts produced. There is no agreed-upon goal. This, incidentally, is a first step toward understanding why the Soviet Union was able to achieve much more impressive economic growth, relative to Western countries, in its early days, when the priority was to produce items like coal, steel, and electricity and the goals could be summed up relatively uncontroversially in quantitative terms, than in its last decades, when the emphasis had switched toward consumer goods. Chinese planners were more farsighted: the Mao jacket simply imposed on consumer fashions the logic of coal and steel.

By comparison with the passengers in the aircraft, there is also very little direct interconnection between the activities of all the world's wearers of shirts, other than that they are all participants in the market for shirts. Shirts are quite different in this respect from some other products: if your power station pollutes the atmosphere in the course of producing electricity, this has a direct effect on everyone else and not just yourself, but the chances are that you will ignore most of these effects on others when managing your power station. Modern life is full of instances where the direct interactions between individuals mean that in pursuit of their own goals all end up worse off. Consider:

- Everyone else drives to work, so the bus and rail services are infrequent, so I drive to work as well, and the roads are packed.
- Each side in the civil war fears the other side cannot be trusted to keep the truce, so each side prepares to break the truce rather than risk allowing the other side to fire first.
- Any secondhand car for sale must be of dubious quality, so worth only a low price, but if used cars can only fetch a low price, only cars of dubious quality will be offered for sale.
- He drinks in an attempt to forget her infidelity, and she is unfaithful because he drinks.



- The owner of each trawler would prefer the fish stocks to be allowed to regenerate, but each knows that one person's restraint will make no difference, so all of them fish heavily, and the stocks decline.
- Each company hopes that a recession can be avoided, but just in case it can't, all of them cut back on their orders, so a recession occurs.

Shirts are comparatively free of such interactions (though not entirely free of them, as we shall see in chapter 2). You may be somewhat scornful of my taste, but by and large this does not affect your own ability to buy and wear the shirts you prefer, and almost all the rest of the world's shirt-wearers could not care less what shirt I buy. It is true that it may take only one photograph of Cindy Crawford or Claudia Schiffer wearing a particular style of shirt for there to be a surge in demand for it, but that surge will still amount to no more than a ripple on the surface of the vast industry that turns out shirts for the world as a whole, and we can be sure that Cindy and Claudia will be photographed wearing a different shirt tomorrow.

The sheer number and variety of shirts produced in the world is an essential part of the reason why no single individual could be in charge. There are over six billion people in the world, and anyone who thinks it is possible to imagine that number of people might reflect that six billion is roughly the same as the number of postage stamps that could be laid end to end around the equator, or the number of days it would take your hair to grow from London to Casablanca. This vast number means that the variety of needs and styles and tastes that the shirt-making industry has to cater to lies far beyond the capacity of any individual to comprehend, let alone to organize. As anyone who has worked in a large organization knows, people who are put in charge of a complex activity that would be better left alone never do nothing: they seek to justify their existence by simplifying and restricting that activity so that it can be controlled. That is what Soviet planners did: they created large firms, much larger than any equivalent firms in the West, simply in order not to have to deal with too many of them.

By contrast with the overwhelming nature of the problems that would face an individual put in charge of global shirt production, each of us can carry out our task of choosing a shirt fairly effectively without outside guidance. A shirt is an item whose quality is more or less visible to inspection before it is bought (whatever reservations one may have about the quality of the buttons). This is more than can be said for medicines, for instance, and indeed the inability of ordinary buyers to discern the properties of a medicine just by looking at it is central to explaining why we usually choose to delegate at least part of the responsibility for our health to those more expert than ourselves.

Large numbers also help us to understand one of the most mysterious features of a system with no one in charge: its apparent ability to anticipate my desire when I have done nothing to communicate that desire to anyone. We may like to think of ourselves as individuals quite unlike others, but in many respects our behavior is highly predictable. Partly this is because of our biology: we have physical needs that are by and large common to other members of our species. Social conventions also play a part: nothing in our biology obliges us to have our meals when other people are having theirs, but it makes life more pleasant if we do. But finally it is the sheer number of us that makes our behavior predictable, for large numbers of people tend under many conditions to behave in much more regular ways than do any of the particular individuals of which such crowds are composed. Statisticians of the early nineteenth century were fascinated by the fact that even such profoundly personal actions as suicide occurred in a sufficiently regular way in large populations as to be predictable within certain limits.<sup>4</sup> And our more banal activities of working, dressing, shopping, cooking, and traveling turn out, in the mass, to display a regularity sufficiently striking for whole centers of productive activity to be based upon it. If I had not bought my shirt this morning, somebody rather like me would very probably have bought it within a few days. It is on that conjecture that my shirt-maker has built a business.

These four factors—large numbers, great complexity, few direct interconnections between the actions of the different buyers of shirts, and a reasonable ability on the part of ordinary buyers to assess the quality of what they are buying—provide the beginning of an answer to our earlier question: why is it a relief to know that no one is in charge of making the world's shirts? One of the great intellectual achievements of modern economics has been to work out very precisely the circumstances under which decentralized systems of market exchange can produce results that are efficient, in the sense of improving the condition of every individual as far as possible whenever this can be done without harming someone else. This definition of efficiency was originally proposed by the Italian economist and sociologist Vilfredo Pareto and is now known as Pareto-efficiency. The intellectual achievement of economics in showing how and when market exchange can achieve Pareto-efficiency is not the same thing as a practical achievement, for as we shall see, all real-life systems of market exchange fail to live up to these demanding conditions, sometimes to a disturbing degree. But shirts are a pretty good advertisement for decentralized market exchange. They are also a remarkable reminder of how much of the pattern of modern life has emerged without ever having been consciously willed by anyone.



## TWO REASONS FOR DOUBT

Arguments such as these may still not be enough to remove a nagging doubt. Can we be sure that shirt-making shows us the virtues of tunnel vision rather than the vices of central control? Does the shirt-making system really work so well? There are two serious grounds for wondering whether it works as well as it could. The first is that, while the system produces shirts well given the circumstances at any particular time, it may be unstable across time. Swings of fashion and small divergences between producers in their costs of production can result in large shifts of demand away from some producers and in favor of others. In particular, the very internationalization of shirt production described at the beginning of this chapter has led to the loss of many jobs in rich countries whose textile industries have been in steep decline for several decades.<sup>5</sup> Some years ago *The Economist* expressed vividly the anxiety underlying this criticism on its front cover, which portrayed an emaciated, poorly dressed, and dark-skinned man under the caption: "He wants your job." There is often much inconsistency (not to mention xenophobia) in such sentiments, especially when they assert that other countries should buy our products without presuming to make any of their own — as if they could afford to do the one without also doing the other. But there is also a potentially more serious and well-founded point. Even though, on average, shirts made through international cooperation are shirts that correspond better to what their wearers want, if the system that creates them increases instability, that may be bad for everyone. In former ages people faced major hazards affecting their productive abilities (mainly disease and the failure of the harvest). As these hazards have declined, people face threats not so much to their ability to produce as to their ability to sell what they have produced. In an internationally integrated set of markets, people may develop their skills at producing good-quality shirts but find that these skills have become worthless because of unexpected shifts in the decisions of buyers on the other side of the world.

So the growing international division of labor has certainly not removed the threat of instability for those who make shirts, or grow food, or build cars. But that does not mean it has *increased* instability relative to some realistic alternative. The risks of disease and harvest failure are *much* lower today in almost all parts of the world than they were a century or two ago (the exceptions being parts of Africa). And we should not underestimate how often farmers, traders, and artisans in preindustrial societies suffered from the collapse of the market for what they produced.<sup>6</sup> When markets were typically more local, fragmented

and cut off from the outside world than they are today, their failures did not show up as world or even as national events. But they could be just as catastrophic for the individuals caught in their wake. True, the instability of some modern markets is indeed a serious problem for the world economic system. But one reason it seems so serious is that a number of problems that once seemed even larger now trouble us much less.

The second ground for dissent about the effects of tunnel vision would challenge my description of the system as delivering the shirts that wearers want. A much more sinister interpretation is possible: the system teaches wearers to want what the system can deliver. If I believe that I can buy almost everything I want without traveling more than a short distance from my home, that may only show how effectively I have been brainwashed, since it apparently never occurs to me to want something I would have to travel further to get. In the 1950s Vance Packard's popular and riveting book *The Hidden Persuaders* persuaded people that they were in the grip of advertisers who were not only unscrupulous but extraordinarily powerful. Advertisers were achieving in the West what commissars were trying less successfully to do in the East.<sup>7</sup>

These two arguments, though sometimes made by the same people, cannot be simultaneously right, at least not to any important degree. If producers are capable of persuading the public to want whatever they produce, they cannot at the same time be vulnerable to being deserted by the public at any moment for the wares of a rival producer. This same inconsistency pervades Naomi Klein's influential book *No Logo*, which claims that through the process of creating worldwide brands, corporations have become all-powerful, but that they are at the same time engaged in a desperate struggle to survive in the face of competition from each other.<sup>8</sup> Indeed, some of the examples she used to illustrate the unassailable power of brands (such as Levi's jeans) were already looking weak even by the time her book was published.

In fact both arguments express a deep-rooted anxiety at the powerlessness of individuals in the face of a large and anonymous world economic system, and it is the fact that such powerlessness strikes a chord among today's citizens that has made Naomi Klein a millionaire. But the two arguments give different and incompatible accounts of that powerlessness. *The Hidden Persuaders* told us we were powerless because someone else had the power. The instability thesis tells us we are powerless because no one has power. In fact the instability thesis is a more persuasive account of the dangers in tunnel vision, though we shall see in later chapters that *The Hidden Persuaders* may also have an important lesson for us. But for the time being let me return to shirts



and reiterate the simple message they bring us. Even if tunnel vision has dangers, an understanding of those dangers has to start with an explanation of the remarkable fact that many thousands of productive and useful activities work *at all* with no one in overall charge.

Is that really because of tunnel vision or in spite of it? Could it be that they work because people are public-spirited, because they understand what the system needs and do their best to contribute? The difficulty with this suggestion is not the assumption that people may be public-spirited. There is plenty of evidence that, in the right circumstances, people can be persuaded to behave in very selfless ways. The real problem lies not with the idea that there is public spirit so much as with the assumption that people have no difficulty knowing what public spirit requires. If the shirt-making system as a whole is too hard for a single individual to understand, it is no easier for each of a large number of people to do so. The only reason why the system works better with no one in charge is that each of the many individuals who contribute need worry about only a small part of the task, and it is much easier to worry about a part than to worry about the whole. The sense of being responsible for the whole world could easily become a disabling burden.

#### THE ROLE OF GOVERNMENT

It may seem strange to suggest that no one is in charge, since we may well wonder what politicians are for. Every country has a finance minister, or a treasury secretary, or chancellor, whose job it is to look after the nation's economy. There may be no one in charge of the world economy, but that is because there is no world government. At the level of the nation state, one might think, it is surely clear who is in charge.

Yet is it really so clear? There is a lost look sometimes that flits across the brow of those senior politicians who have not managed to attain perfect facial self-control. It is the look of a small boy who has dreamed all his life of being allowed to take the controls of an airplane, but who discovers when at last he does that none of the controls he operates seems to be connected to anything, or that they work in such an unpredictable way that it is safer to leave them alone altogether. Politicians have very little power, if by power we mean the capacity to achieve the goals they had hoped and promised to achieve. Another such admission came from the dismissed British chancellor Norman Lamont, who accused the government he had left (after the U.K.'s forced exit from the European Exchange Rate Mechanism in 1992) of being "in office but not in power." He meant it as an accusation against a particular govern-

ment, but to a greater or lesser degree it characterizes the predicament of any government of a complex modern society. It is a predicament that begins at the most simple level of all, that of knowing what is happening around us—for as the economist Sir Josiah Stamp once observed, "the Government are very keen on amassing statistics. They collect them, add them, raise them to the nth power, take the cube root and prepare wonderful diagrams. But you must never forget that every one of these figures comes in the first instance from the village watchman, who just puts down what he damn well pleases."<sup>9</sup> Without eyes and ears of their own, politicians are touchingly dependent on the cooperation of those they supposedly govern. It is cooperation that precedes government and not the other way round.

Politicians are in charge of a modern economy in much the same way as a sailor is in charge of a small boat in a storm. The consequences of their losing control completely may be catastrophic (as civil war and hyperinflation in parts of the former Soviet empire have recently reminded us), but even while they keep afloat, their influence over the course of events is tiny in comparison with that of the storm around them. We who are their passengers may focus our hopes and fears upon them, and express profound gratitude toward them if we reach harbor safely, but that is chiefly because it seems pointless to thank the storm.

Politicians' inability to control events is not an accidental and regrettable feature of modern society. It is a consequence of the very complexity and the consequent tunnel vision, that have given us both the rewards and the dangers of prosperity in its modern form, in the same way as storms are an inevitable danger once a boat leaves port and heads for the open sea. Many of the most anguished debates over the way society should be organized have turned upon the choice between the often irreconcilable attractions of the port and the open sea. The eternal verities of the countryside versus the adventure and decadence of the city; the virtues of national self-sufficiency versus the rewards of integration into the world economy; the security of traditional forms of order and community versus the flexibility and lack of constraint implicit in modernity; these tensions are too deeply rooted in humanity to be resolved simply by a bold declaration in favor of one or the other pole. Politicians who declare in favor of one or the other may ride a temporary wave but risk an eventual turn of the tide: in the case of Marxism, the wave lasted half a century, with help from the secret police, while its successor liberal democracy is little over a decade old in the former Soviet empire and the nationalist tide is gathering force. Nationalism is, after all, just tunnel vision with costumes and flags, but it is driven principally by a fear of the anonymous open sea.

It should by now be clear that this book is not a hymn to tunnel



vision. Tunnel vision is what makes it possible for all the participants in the task of supplying the world's need for shirts to respond to that need in the many ways it expresses itself, without having continually to check back to base; there is no base. But tunnel vision is also what makes it possible for us to pollute the earth without thinking of the costs. Tunnel vision is what enables a worker in a factory making land mines, and a civil servant authorizing their export, not to think of themselves as accessories to the murder of the small child who will step on the land mine in five years' time. Tunnel vision is what makes us all vulnerable to the sudden disappearance of a market for those skills we have, with much effort, managed to build.

Tunnel vision in this sense is a skill (and a predicament) that was unknown to our hunter-gatherer ancestors. It is a social rather than a biological talent, though it channels powerful biological capacities, and it has developed during the ten thousand or so years that separate us from the first farmers of the Neolithic era. Before we look at its consequences for life in the modern world, it is important to consider why it evolved at all.

## Prologue to Part II

What makes trusting strangers a reasonable, instead of a suicidal, thing to do? It's not enough to show that societies in which people can trust one another reap the benefits of peace and prosperity on a scale unimaginable to our distant ancestors. They do, but trust would soon unravel if individuals could enjoy the benefits of other people's cooperative behavior while making no contribution of their own. Making mistakes about the trustworthiness of others is not just costly but extremely dangerous, and more so for human beings than for almost any other species. The evidence that will be reviewed in part 2 suggests that, in the absence of incentives to the contrary, human beings can behave so violently toward one another that no sane person would trust others based on their natural dispositions alone. If we do so, it is because we have created structures of social life in which such judgments of trust make sense. Still, the structures work—most of the time—because they do not run against the grain of our natural dispositions but build on them in a constructive way.

Two kinds of disposition have proved important to our evolution: a capacity for rational calculation of the costs and benefits of cooperation, and a tendency for what has been called *reciprocity*—the willingness to repay kindness with kindness and betrayal with revenge, even when this is not what rational calculation would recommend. Neither disposition could support cooperation without the other. People given to calculation without reciprocity would be too opportunistic, so nobody would trust them. People given to reciprocity without calculation would be too easily exploited by others. It seems likely that natural selection favored the evolution of a balance between these two dispositions in our ancestors. It did so because such a balance was important to the development of social life even before these ancestors ever began to deal with strangers in any systematic way. But once the dispositions were there, they could be put to work to make exchange between strangers possible.

In the chapters that follow we look at how the balance between reciprocity and calculation underpins our social life. No social institution can function on calculation alone, but well-designed social institutions can make a little reciprocity go a long way. They do so, in effect, by



behavior of those others. These arguments are discussed in more detail in chapter 11.

11. On the dating of the last common ancestors of living human beings, see Cavalli-Sforza 2000, pp. 77–82 (incidentally, the last common maternal ancestor and the last common paternal ancestor almost certainly never met, let alone had children together).

12. Klein 1999, pp. 517–24, after discussing possible objections to the claim, concludes that the behavioral capacities of Cro-Magnon man very likely marked a fundamental departure from those of Neanderthal man, although some archaeological puzzles remain.

13. The puzzle of multiple discoveries of agriculture is discussed in Richerson, Boyd, & Bettinger 2001. See also the prologue to part 4.

14. Blackmore 1999 emphasizes that we cannot conclude that the evolution of human institutions (which are one form of the behavior patterns she calls, following Dawkins 1976, “memes”) is beneficial for human beings, or even for their genes. She argues that “what makes us different [from other animals] is our ability to imitate” and stresses that once behavior patterns are imitated, “something is passed on. This ‘something’ can then be passed on again, and again, and so take on a life of its own.” Memes evolve, in other words, for the good of the memes and not for the good of anyone or anything else. Nevertheless, we can investigate whether human psychology, as shaped by natural selection, makes it easier for certain memes to spread than for others; the extent to which meme evolution is thus constrained by psychology is an empirical question.

#### CHAPTER 1. WHO'S IN CHARGE?

1. The startling character of cooperative exchange involved in the production of even simple objects is not a new observation; see, for example, the discussion of pencils in Friedman & Friedman 1990, pp. 11–13.

2. Terkel 1974.

3. Hamermesh 2003 has studied routine as a characteristic of different kinds of work and documents its links to income and education levels. He describes these links as “yet another avenue by which standard measures of income inequality understate total economic inequality.”

4. Hacking 1990 is a fascinating account of the rise of statistics as a discipline and the wonder provoked in its practitioners by the apparent regularity of human behavior in large numbers.

5. However, the proportion of jobs in rich countries lost through international competition is by most estimates smaller than the proportion lost through technical change. See Bourguignon et al. 2002 for a summary of these issues.

6. See the discussion in Sivéry 2000, especially pp. 44–47; also De Vries 1976, especially chapter 2 and pp. 159–64. I am grateful to Sheilagh Ogilvie for these references.

7. Packard 1957.

8. Klein 2001 —Naomi, not Richard.

9. Cited in Jones 1988, p. 151.

#### PROLOGUE TO PART 2

1. See Wrangham & Peterson 1996, and the more detailed discussion of this evidence in chapter 3.

2. Though not quite indistinguishable: human brain size has fallen since around fifty thousand years ago, and some of this fall may have taken place in the last twelve thousand years. A recent and controversial theory (see Wrangham 2003) suggests this may have been due to a process like the domestication of animals, in which particularly violent or antisocial individuals had their breeding possibilities reduced through ostracism. Domesticated animals typically have brains smaller than their wild relatives. It is too early yet to say whether this theory will prove persuasive, but we can be confident that it will not remove the need to explain how human institutions have managed to tame the violence of which our species is still capable.

#### CHAPTER 2. MAN AND THE RISKS OF NATURE

1. Suppose that of a population of 200 million, 20 million have a certain condition. Then a test with 99 percent reliability, applied to the whole population, will generate 19.8 million true positives and 1.8 million false positives. This means that if you test positive, you have a probability of just over 90 percent of having the condition. If the condition is much rarer, affecting only 20,000 in the population, then the test will generate 19,800 true positives and 1.98 million false positives. This means that even if you test positive, the probability you have the condition is still only a little over 1 percent, namely, 19,800 as a proportion of 1.98 million plus 19,800.

2. See Hacking 1990.

3. Dunbar 1992.

4. Ricardo 1817.

5. See Perrin 1979 for an account of how Japan gave up guns in the mid-sixteenth century and reverted to the sword.

6. Klein & Edgar 2002.

7. Ridley 1996, pp. 197ff.

8. Originally by Peltzman (1975). See also Evans & Graham 1991. Peterson et al. (1994) make a similar investigation of airbags. However, Sen & Mizzen (2001) have provided some reasons to be skeptical about the size of the effects measured in other studies. They point out that sometimes seatbelt use or the purchase of cars with airbags may be prompted by drivers' recognition of preexisting dangers, so the measured association may mean that high risk causes the adoption of safety measures, rather than vice versa.

9. Adams (1995), who writes accessibly about the theory of risk compensation in general.

10. For the evolution of European economies away from peasant self-sufficiency, see De Vries 1974 for the Netherlands; De Vries 1976, especially chapter 2, for Europe more generally; Britnell 1997 for England; and Ogilvie 2000 for an overview, especially pp. 94–108. I am grateful to Sheilagh Ogilvie and Leigh Shaw-Taylor for these references. Leigh Shaw-Taylor has also shown me un-

