

Sparks and prairie fires: A theory of unanticipated political revolution

TIMUR KURAN*

Department of Economics, University of Southern California, Los Angeles, CA 90089–0035

Abstract. A feature shared by certain major revolutions is that they were not anticipated. Here is an explanation, which hinges on the observation that people who come to dislike their government are apt to hide their desire for change as long as the opposition seems weak. Because of this preference falsification, a government that appears unshakeable might see its support crumble following a slight surge in the opposition's apparent size, caused by events insignificant in and of themselves. Unlikely though the revolution may have appeared in foresight, it will in hindsight appear inevitable because its occurrence exposes a panoply of previously hidden conflicts.

1. Introduction

Certain political revolutions in modern history, including the French Revolution of 1789, the Russian Revolution of February 1917, and the Iranian Revolution of 1978–79, took the world by surprise. Consider the Iranian Revolution. None of the major intelligence organizations – not even the CIA or the KGB – expected Shah Mohammad Reza Pahlavi's regime to collapse. Right up to the revolution, they expected him to weather the gathering storm. Retrospective perceptions notwithstanding, the Shah's fall came as a surprise even to the Ayatollah Ruhollah Khomeini, the fiery cleric who, from exile, masterminded the revolutionary mobilization process that was to catapult him to Iran's helm.

In hindsight, these revolutions seem anything but surprising. The literatures they have spawned put forth a wealth of explanations: disappointments, governance failures, class conflicts, foreign exploitation, and so on. Plausible as at least some of these seem, they leave unanswered the question of why hindsight and foresight diverge. Why does a revolution that in hindsight seems to

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be the inevitable outcome of powerful social forces surprise so many of its leaders, participants, victims, and observers?

My objective in this paper is to resolve this paradox. I do so with the aid of a collective choice model that distinguishes between individuals' privately held political preferences and those they espouse in public. The central argument goes as follows. A privately hated regime may enjoy widespread public support because of people's reluctance to take the lead in publicizing their opposition. The regime may, therefore, seem unshakeable, even if its support would crumble at the most minor shock. A suitable shock would put in motion a bandwagon process that exposes a panoply of social conflicts, until then largely hidden. From these newly revealed conflicts, almost any writer with a modicum of imagination will be able to construct an elaborate explanation, consistent with almost any social theory, as to why the observed revolution took place.

Historians of revolution have *systematically* overestimated what revolutionary actors could have known. The reason, I argue in the final section, lies in the human mind's use of heuristics that project into the past trends that later developments have revealed.

The paper helps explain two other features of modern revolutions that do not fit into existing theories. One is that they tend to be spearheaded by leaders. Leaders enter naturally into the framework developed here, as individuals with an exceptional ability to detect and to help to expose the incumbent regime's vulnerability. The other feature is that revolutionary regimes invariably undertake campaigns of repression and indoctrination, whose targets include people who risked their lives for the revolution. A major reason, I suggest, is that the memory of how quickly the previous regime's support crumbled makes leaders of a revolution fear that if a counter-revolutionary movement were tolerated it would become unstoppable.

The term revolution has changed meaning over time; currently it covers several forms of change (see Zagorin, 1973: Sect. 1). Here I am using it to mean a fundamental change in the social order brought about in a short period of time through a massive shift in people's expressed political views. By this definition, a *coup d'état* involving the replacement of one set of leaders by another, with neither popular participation nor a major impact on the social order, is not a revolution. Whether or not an observed change in the social order is fundamental may, of course, be controversial. Some have argued that the Iranian revolution did not bring about a fundamental reorientation of the social order, because, they say, the Iranians are just as oppressed as they were under the Shah. But what matters, from the standpoint of the definition offered, is how a change tends to be perceived by the society in question at the time it comes about. In the case of Iran, therefore, the relevant criterion is whether in the winter of 1978–79 the Iranians themselves considered the end

of the monarchy to represent fundamental change; the retrospective assessments of outsiders are immaterial.

2. Three anticipation failures: Evidence

My objective in this section is to substantiate the claim that the three revolutions mentioned above took the world by surprise. Later, in Sections 3 through 5, I shall develop a model to explain why anticipation failures occur. Further on, in Section 6, I shall relate this explanation to the evidence presented here.

The most telling evidence that the French Revolution of 1789 startled the world appears in Alexis de Tocqueville's masterpiece, *The old régime and the French Revolution* (1856/1955: in particular, pp. 1 and 143). On the basis of pre-revolutionary documents, Tocqueville reports that on the eve of the revolution, Louis XVI had not the slightest clue that a violent eruption was in the making – let alone that he was about to lose his throne and his head. He saw in the middle class, which was to form the backbone of the insurgence, his strongest base of support. The aristocrats, meanwhile, were more preoccupied with royal encroachments on their political rights than with the mounting frustrations of the middle class. Outside observers did no better at predicting the King's fall. Not even Frederick the Great of Prussia, whose political acumen is legendary, had an inkling of the trouble brewing next door.

In retrospect, of course, it is easy to find signs of the impending revolution. Tocqueville himself suggests that

Chance played no part whatever in the outbreak of the revolution; though it took the world by surprise, it was the inevitable outcome of a long period of gestation, the abrupt and violent conclusion of a process in which six generations had played an intermittent part. (p. 20)

How can the suggestion that the French revolution was long in the making be reconciled with the fact that it was not foreseen? Before we address this paradox, let us consider some evidence pertaining to the Russian and Iranian Revolutions.

The Russian Revolution of February 1917 was not totally unexpected. For one thing, there were the precedents of the French Revolution and of Russia's own revolution in 1905. For another, the preceding years witnessed numerous industrial strikes and peasant uprisings, as well as some terrorist acts. Neither supporters nor opponents of Tzar Nicholas II thought that his power was fully secure. Still, and in spite of Russia's large human and material losses in the war, the Tzar was widely believed to enjoy the allegiance of the army, without whose cooperation a revolution was deemed out of the question. In the early

days of 1917 Lenin told an audience in Switzerland that older men like himself would not live to see Russia's great explosion (Schapiro, 1984: 19). Nor did others working for a revolution see the fall of the monarchy as imminent. Not even the Bolsheviks and Mensheviks in Petrograd during the months leading up to the revolution were prepared for the fall of the Tzar (Schapiro, 1984: 39; and Chamberlin, 1935: 74–75). Foreign observers in the capital were also caught by surprise. Just three days before the Romanov dynasty was overthrown, the British Ambassador cabled his Foreign Minister: 'Some disorders occurred to-day, but nothing serious' (Chamberlin, 1935: 76). Nor did the Tzar and his family realize what was in store. Two days before the end, the Tzarina Alexandra had this to say about the general strike in the capital:

This is a hooligan movement. Young people run and shout that there is no bread, simply to create excitement, along with workers who prevent others from working. If the weather were very cold they would probably all stay home. But all this will pass and become calm, if only the Duma [the parliament] will behave itself (Chamberlin, 1935: 73).

The Tzar, too, was optimistic. Until the very last day of his rule, he apparently believed that the movement against him was too weak to succeed (Paléologue, 1924: 221–225).

The most significant case from our standpoint is the Iranian Revolution, whose climax came in January 1979, with the Shah's self-exile. Because it happened so recently, readers will find it especially instructive to contrast their own explanations with the pre-revolutionary perceptions held by the world's leading intelligence organizations and the principal players in Iranian politics. Common *ex post facto* explanations rest on such matters as the people's hatred of the Shah, the corruption in his government, the brutality of his secret police, his apparent disdain for Iran's Islamic heritage, and the imbalances created by his economic policies.

In September 1977, only 16 months before the end of the monarchy, the CIA conducted a study on Iran, finding it to be an island of stability in a sea of turbulence and the Shah's position to be very secure. The demonstrations that were to lead to the revolution had already begun, but the study saw these as minor disturbances that the Shah's police was quite capable of handling. The Soviet Union was no more accurate in its assessment: since the Soviets did not withdraw their support from the Shah until the last few weeks of his reign, it appears that they, too, expected him to pull through, even as the street demonstrations grew by leaps and bounds. Every other significant state, including China, Great Britain, Turkey, and Pakistan, supported him almost to the end (see Hoveyda, 1979/1980: 15–17; and Zonis, 1983: 602).

The Shah and his entourage did no better in foreseeing the explosion. In

May 1978, eight months before the end, the Empress Farah first heard a name she is unlikely now ever to forget. ‘For heaven’s sake,’ she asked, ‘who is this Khomeini?’ (Heikal, 1981: 123). In June 1978, according to inside accounts, the Shah continued to believe that the demonstrators belonged to the fanatic fringes of Iranian society and that their cause would not appeal to the wider masses (Hoveyda, 1979/1980: 33–38). This perception was shared by the leaders of Tudeh, the pro-Soviet Communist Party.¹ Most amazing, perhaps, is that Khomeini himself doubted that the Shah could be toppled. Although in public he thundered relentlessly that the monarchy was about to collapse, to his close associates he confided serious reservations. In the spring of 1978, he told them that the Shah would manage to extinguish the fire that had engulfed his regime (Bakhash, 1984: 45). It is revealing that as late as December 1978, Khomeini’s lieutenants were looking for a country that would take him when his French visa expired in April 1979 (Heikal, 1981/1982: 157).

If there is any lesson in all this, it is that a revolution *can* come as a surprise even to those with exceptionally good access to information and with everything to lose from misjudgment. This does not mean that big social changes *always* come suddenly, or that they are *never* anticipated. There are, to be sure, fundamental social conflicts that reveal themselves gradually and are resolved over long periods. Changes of regime brought about by prolonged civil wars offer examples of this pattern. But although the framework here can, with suitable refinements, be applied to such changes of regime as well, they will not receive attention. In the spirit of medical research that focuses on why seemingly healthy individuals might die *suddenly* of a heart attack, I shall restrict my attention to unanticipated revolutions.

3. A framework for analysis

The analysis is based on a model developed in two earlier papers, Kuran (1987a, 1987b), where more elaborate justifications for the main features, as well as further details, may be found.

3.1 Preliminaries

Consider a society whose members have a unidimensional conception of the social order, represented by p . Specifically, every possible social order lies in the unit interval, $[0, 1]$. Although social orders differ in reality along very many dimensions, individuals often collapse the differences to a single dimension. A case in point is the left-right political spectrum, which in this century has been used very widely to classify and compare even the most complex programs.

Two political parties are in competition over \underline{p} social order. One, which initially governs the country, advocates $p = 0$; the other advocates $p = 1$. I shall call them Party 0 and Party 1, respectively. Neither party's position is influenced by changes in the popularity of its position, and the leaders of each are fully and unalterably committed to their party's fixed agenda.² The notion of a durable revolutionary organization with a fixed agenda suits the revolutions of the nineteenth and twentieth centuries better than those of earlier times. The French Revolution, in particular, was led by a hastily formed, loosely organized coalition of informal associations, whose goal was rather ill-defined.³ But all that matters here is the existence of some nucleus of opposition to the government, around which a large movement for change can crystallize.

Society contains N individuals, indexed by i , who belong to neither party's leadership. In contrast to the *activists* within party leaderships, these *non-activists* are not publicly pre-committed to any particular social order: if the incentives they face make it advantageous to alter their political positions, they will do so.

Let the preference that non-activist i conveys in public – his *public preference* – be denoted by y^i . Individuals' public preferences matter, because their weighted average, which I shall call *collective sentiment*, determines the apportionment of power between the parties and, hence, the nature of the social order. The observation that the power to rule rests on collective sentiment goes back, of course, at least to Hume (1741–42/1963).⁴ The weight associated with non-activist i 's public preference, w^i , is a measure of his importance and influence in society. If he is a lieutenant stationed in the capital his weight is bound to be larger than if he is a peasant inhabiting some isolated region. As a rule, of course, there are numerous lieutenants stationed in the capital, and there exist many additional important and influential people, so the weight of even the most influential non-activist is likely to be very small.

In terms of the notation introduced, collective sentiment is given by

$$\hat{y} = \sum_{i=1}^N w^i y^i, \quad (1)$$

where the weights sum to 1. The closer collective sentiment is to 0, the freer Party 0 is to run the government as it pleases. A revolution, as we shall see further on, involves a sudden and massive shift in collective sentiment, which results in a huge transfer of power from Party 0 to Party 1.

3.2 Preference declaration

Let us turn now to the individual non-activist's preference declaration deci-

sion. Individual i 's public preference depends on a tradeoff between two distinct considerations. The first is the sociological fact that he gains rewards and incurs punishments for his political stands. The second is the psychological fact that he suffers for compromising his integrity. He makes such a compromise, and incurs a commensurate opportunity cost, by conveying a preference that diverges from his privately held preference – by engaging, that is, in preference falsification.⁵ The latter preference, which I am taking to be exogenous, corresponds to the position he would take in a secret ballot. Labelling it his *private preference*, I am denoting it by x^i .

Formally, the maximand of an individual with private preference x^i is represented by

$$V^i(y^i|x^i) = R(y^i) + N(y^i|x^i), \quad (2)$$

where $R(y^i)$ captures the individual's reputational utility, the utility he derives from being known as having preference y^i ; and $N(y^i|x^i)$ is the utility he derives from integrity, given that his private preference is x^i . Conspicuously absent from (2) is the utility the individual derives from the social order itself. The weight of his public preference in collective sentiment being very small, his personal influence on the selection of the social order is negligible. Knowing this, he treats the order and his associated utility as given.

This feature of the model puts it into a class with Tullock's (1974) theory of revolution and sets it apart from almost all the others. In most theories, the individual's motivation to act is the promise of changing the social order. In both Tullock's theory and the present one, by contrast, the individual disregards the advantages and disadvantages associated with alternative political outcomes. Treating all possible outcomes as collective goods or bads, he bases his political choices on his personal gains and losses.

There is a crucial difference between the two theories. In Tullock's model the individual derives no utility from integrity, which means that (what I call) his private preference does not influence his political choices even indirectly. Accordingly, he jumps on the revolutionary bandwagon as soon as the reputational benefit of doing so rises above that of continuing to side with the government – this, even if he privately considers the revolutionary platform to be an abomination. Here, as we shall see, such an individual does not move over to the revolutionary camp until the reputational advantages of supporting the opposition exceed those of supporting the government by a sufficiently wide margin. To put this difference in perspective, think of Iran in the months leading up to the revolution. As it appeared increasingly probable that the Shah would lose the struggle, many of his supporters switched over to Khomeini's camp. This much is in line with Tullock's model. But the Shah's supporters did not all switch at once, and some held out, at great peril to themselves, even

after he had been deposed. The model being developed explains this fact, too. It suggests, as will become clear presently, that those who privately preferred the Shah most strongly stayed on his side longest, because their cost of preference falsification was greatest. In sum, the distinctiveness of the present theory lies in its emphasis on preference falsification. This emphasis will enable us to explain the paradox put forth at the outset – namely, that a revolution might catch everyone by surprise, yet in retrospect seem the natural outcome of a long chain of developments.

To return to the model, let s and S denote the weighted shares of the non-activists who publicly support the government and the opposition, respectively. In terms of these variables, the first additive component of (2) has the form

$$R(y^i) = \left\{ \begin{array}{lll} f(s) & \text{if} & y^i = 0 \\ 0 & \text{if} & 0 < y^i < 1 \\ F(S) & \text{if} & y^i = 1 \end{array} \right\}, \quad (3)$$

where $f(0) > 0$, $F(0) > 0$, $df/ds > 0$, and $dF/dS > 0$. Two properties of (3) require attention. One is that the individual derives no reputational utility if he supports neither party's position. This is an extreme simplification, but as I have maintained in earlier work, it accords with the observation that, in the interest of discouraging factionalism, political parties deal harshly with free-thinking rebels against party discipline. The other feature is that the individual's utility from supporting a particular party's position is related positively to the party's weighted share of support. Its empirical basis is that participants in a political movement provide *each other* various subtle benefits, such as camaraderie, social support, and a sense of importance. The levels and shapes of $f(\cdot)$ and $F(\cdot)$ reflect the selective incentives available to the two parties, either directly through their leaders or indirectly through their supporters.

The second additive component of (2) has the form

$$N(y^i | x^i) = N(1 - |x^i - y^i|). \quad (4)$$

The function $N(\cdot)$ is increasing in $1 - |x^i - y^i|$, which assumes a value between 0 and 1. According to this formulation, preference falsification imposes a cost on the individual, which equals $N(1) - N(1 - |x^i - y^i|)$.

Inspection of the model reveals that (2), the individual's maximand, reaches a maximum when he chooses one of three options: $y^i = 0$, $y^i = 1$, or $y^i = x^i$.⁶ To keep the model simple, however, I shall assume that the third option is always dominated, for every non-activist, by one of the other two. This assumption implies that an individual with $0 < x^i < 1$ is better off, in all possible situations, to support one of the parties than he is to remain independent and advocate the order he privately prefers. It is important to recognize that the

assumption does not suppress the role of integrity in the individual's calculus: for reasons of integrity, an individual might withhold his support from the party able to reward him most.

If all non-activists side either with the government or the opposition, it is reasonable to assume that their estimates of the weighted shares, s^e and S^e , will satisfy the condition

$$s^e + S^e = 1. \quad (5)$$

This implies that S^e equals \hat{y}^e , expected collective sentiment. Using (5), along with (2)–(4), one finds the levels of utility the individual expects to attain by supporting the government and opposition to be

$$V^i(0|x^i) = f(1-S^e) + N(1-x^i), \quad (6)$$

$$V^i(1|x^i) = F(S^e) + N(x^i). \quad (7)$$

Note the following: (i) $V^i(0|x^i)$ varies inversely, and $V^i(1|x^i)$ directly, with S^e ; (ii) $V^i(0|x^i)$ varies inversely, and $V^i(1|x^i)$ directly, with x^i . From these relationships it follows that the value of x^i that makes the individual just indifferent between declaring $y^i = 0$ and $y^i = 1$ declines with S^e .⁷ This relationship is illustrated in Figure 1, where the individual prefers to side with the government if the ordered pair $[S^e, x^i]$ lies below the depicted function, but with the opposition if it lies above.

3.3 The threshold function

To be able to focus on the implications of differences in private preferences, I shall assume that all non-activists form the same point expectations of the parties' shares of support, and in addition, that they all have the same reputation and integrity functions. The latter assumption means that the boundary curve in Figure 1 is shared by all. The curve can conveniently be reinterpreted, therefore, as a separator of the non-activists whose private preferences impel them to side with the government from those whose private preferences impel them to side with the opposition. In Figure 2, the downward-sloping segment of the heavy curve is the boundary curve depicted in Figure 1. This curve also has a horizontal segment, which signals that for sufficiently low values of S^e the non-activists support the government unanimously. (A horizontal segment along the bottom axis would indicate that for sufficiently high values of S^e all non-activists support the opposition.) I shall call this curve the *threshold function* and denote it by $\underline{x}(S^e)$. To each possible expectation of opposition support, the threshold function assigns a range of private preferences for which

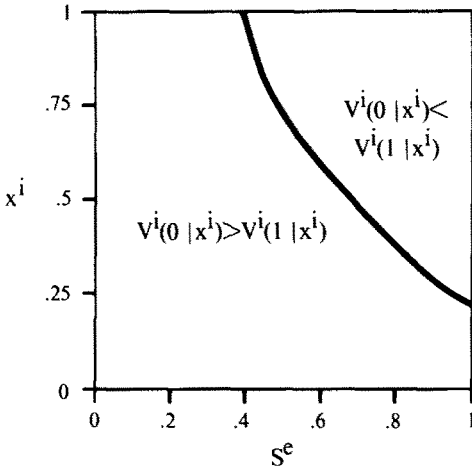


Figure 1.

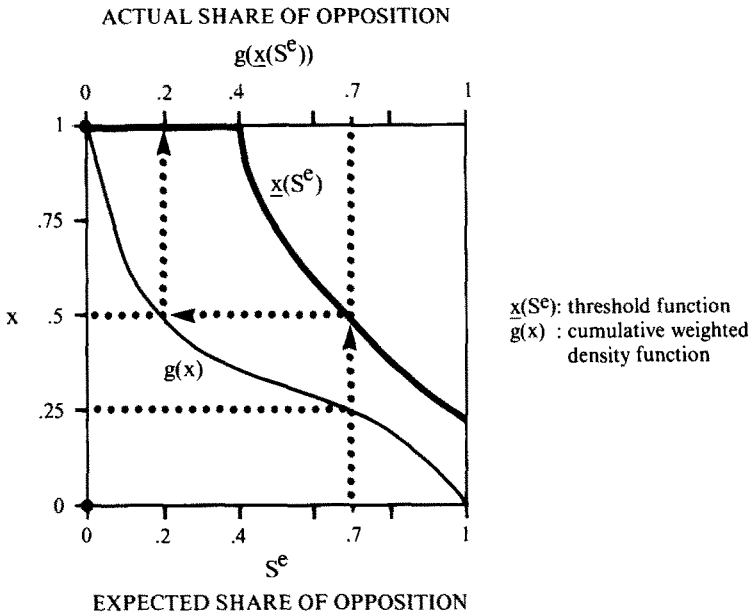


Figure 2.

supporting the opposition is optimal. It could be relatively steeper or flatter, relatively lower or higher, and with two, one, or no horizontal segments. But this particular example will do as a representation of initial tradeoffs.

3.4 The cumulative weighted density of private preferences

The light curve in Figure 2, $g(x)$, represents the *cumulative weighted density* of

the non-activists' private preferences. The weights incorporated into it are the same as those in collective sentiment. Recorded along the top horizontal axis, it measures the weighted share of the non-activists with private preferences greater than any given x . The S-shaped density shown in the figure implies that, in weighted terms, half the non-activists have private preferences between 0.25 and 0.5.⁸

3.5 Equilibrium

Given S^e , the actual share supporting the opposition turns out to be

$$S = g(\underline{x}(S^e)). \quad (8)$$

If $S \neq S^e$, the system is obviously in disequilibrium. In Figure 2 this is the case for any $S^e > 0$. For $S^e = 0.7$, for instance, we see from the dotted arrows that the corresponding S is 0.2; only the non-activists with private preferences above 0.5, who form 20 percent of the population, support the opposition. If $S^e = 0$, the non-activists' expectations are self-confirming, and none has an incentive to alter his preference declaration. The system depicted in this figure features, therefore, a unique and stable equilibrium. An equilibrium, in the present context, does not mean absence of social change, for everyone might want some form of change. It means that collective sentiment is at rest, in other words, that the weighted average of people's public preferences, which governs *how* the social order will change, is fixed.

4. Revolution

There would be multiple equilibria if the threshold and cumulative density functions crossed more than once. The vertical projection of each crossing would constitute an equilibrium. Let us now examine the emergence of new equilibria and then turn to an analysis of the revolutionary process.

4.1 Disturbances and new equilibria

For additional equilibria to emerge, one or both of the curves in Figure 2 must shift. Suppose first that only the density of private preferences shifts, as shown in Figure 3, in favor of $p = 1$. Such a shift might arise in response to an economic downturn that makes certain groups feel relatively deprived and, hence more sympathetic than before to a new order. Alternatively, it might arise as new production methods cause people to desire fundamental political change.

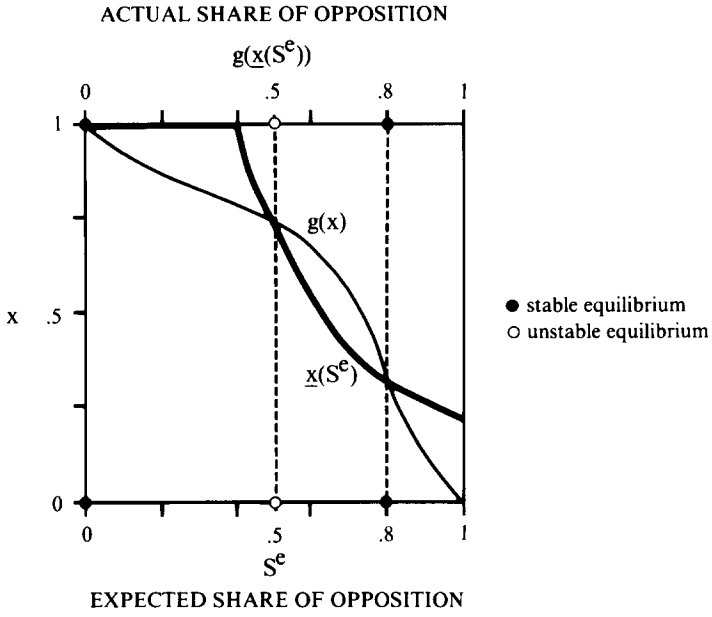


Figure 3.

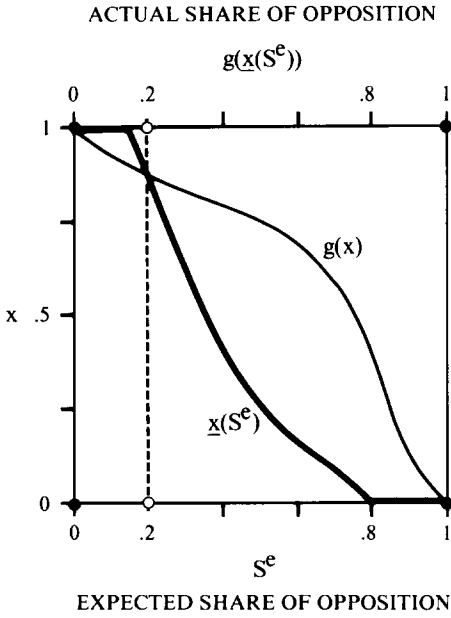


Figure 4.

Each of these factors plays a key role in a popular theory of revolution, the former in the relative deprivation theory, the latter in the Marxian theory.⁹ But I see no reason why the possibilities should be limited to these. The advent of television, for instance, could alter people's political preferences by enhancing their awareness of how other societies are governed.

Figure 3 features three equilibria: a stable equilibrium at 0 (which constitutes the status quo), a new unstable equilibrium at 0.5, and a new stable equilibrium at 0.8. We see that if the opposition's expected share somehow became positive, but remained below 0.5, revisions would take place to drive it back to 0. On the other hand, if the expected share moved above 0.5, the ensuing revisions would drive it to 0.8. The status quo thus casts a *shadow* over the interval $[0, 0.5)$, and the new stable equilibrium casts one over $(0.5, 1]$.

In Figure 4, the threshold function has also moved leftward. The reason could be an improvement in the opposition's relative ability to deliver reputational utility – generated, say, by an upward displacement of $F(S)$ in (3), made possible by funds provided by a foreign source. Here, too, there are three equilibria, the middle one unstable. But the status quo's shadow comprises a narrower interval, $[0, 0.2)$. Also, the new stable equilibrium lies further to the right, at 1, and it casts a wider shadow, $(0.2, 1]$.

4.2 Revolution defined

As noted above, collective sentiment determines how political power is apportioned between the two parties. Party 0 remains totally in control as long as all the non-activists support it publicly. As Party 1 gains support, Party 0 is forced to make increasingly large concessions to it – by giving its members positions in the government and altering policies in favor of its platform, among other possibilities. If Party 1's share of support rises above 0.5, it comes to dominate the government, and Party 0 moves into opposition. Observe that since collective sentiment is a weighted average of public preferences, it is possible for a revolution to be carried out by a small, but influential, share of the population.

According to this model, a revolution is a sudden and massive shift in collective sentiment which induces a fundamental transformation of the social order. Whether or not a change is fundamental may, as already mentioned, be a source of disagreement. But there are certain changes which most members of society would readily characterize as fundamental. In Iran, overthrowing the Shah constituted such a change. In the United States, to give another example, most people would characterize the establishment of a socialist regime as a fundamental transformation – although libertarians might argue that since the federal government is already very powerful, the changes instituted

would be symbolic. Returning to the model, I shall call a shift in collective sentiment a *revolution* if it exceeds 0.5 units. In Figure 3, therefore, a sudden rise in S from 0 to 0.8 constitutes a revolution; so does, in Figure 4, a sudden rise from 0 to 1.

Every political party responds, in varying degrees, to collective sentiment. But when it suffers a massive loss of support very suddenly, it generally cannot respond quickly enough to regain the people's confidence. Consider the Iranian government in 1978. As the demonstrations grew, the Shah tried to meet some of the opposition's demands. For instance, he abolished the Women's Ministry and jailed some of his former ministers.¹⁰ But in the short period in which collective sentiment turned drastically against him, he could not possibly have met all the demands being voiced. Even if he had tried to do so, he would not have been taken seriously. Who would have believed him if, from one day to the next, he announced that he wished to run Iran according to the precepts of fundamentalist Shi'i Islam? Would the angry mobs in Tehran have turned down the opportunity to topple his regime just to give him a chance to prove he could outdo Khomeini? Another reason has to do with the fact that changes in a party's orientation require a measure of consensus within its leadership – which in pre-revolutionary Iran included the Shah's family, his generals, and his ministers. Forging a drastically different consensus is a notoriously difficult task, which can take a very long time.¹¹ Finally, there is a point beyond which an individual leader will not go. The Shah would probably not have been willing to embrace fundamentalist Islam even if by doing so he might have saved his throne.

We now have a justification for the assumption in the model that the parties have fixed positions. A political party cannot adapt quickly enough to reverse a sudden and massive shift in collective sentiment – the kind of shift with which we are concerned.

4.3 Long-term causes and precipitants of revolution

We can now explore what it would take to set a revolution in motion. Three factors may play a role, either in setting the stage for a revolution or in getting it started. These have to do with expectations of the collective sentiment, the threshold function, and the density of private preferences.

Turn back to Figure 4, recalling that the status quo is $S^e = 0$. A jump in the opposition's expected share of support to a point above 0.2 would precipitate a bandwagon toward $S^e = 1$. Such a jump might be generated by an exposition of the pervasiveness of preference falsification, which convinces the non-activists that over 20 percent of them (in weighted terms) actually support the opposition. Given the shape of the threshold function, the exposition would

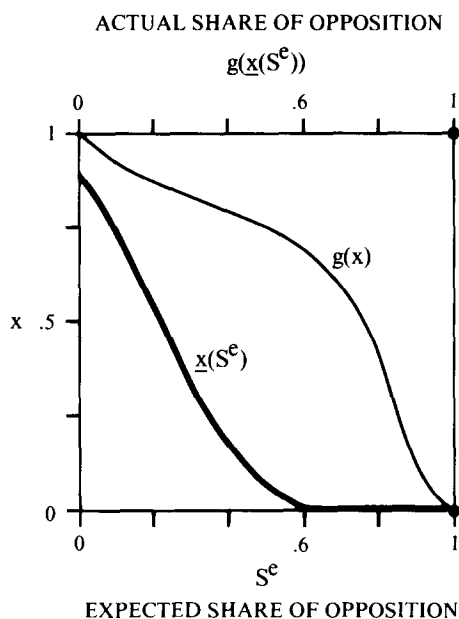


Figure 5.

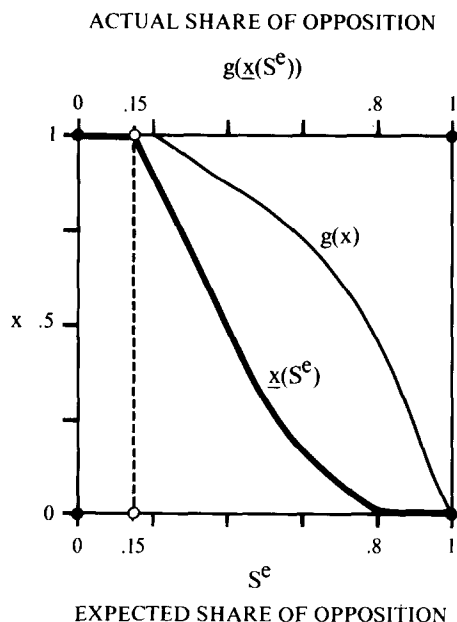


Figure 6.

in the first instance affect the public preferences of individuals with private preferences around 1. Individuals with somewhat lower private preferences would follow suit, which would then induce those with even lower private preferences to make the switch, and the bandwagon would keep rolling until the opposition enjoyed unanimous support. I leave to Section 7 the issue of how the pervasiveness of preference falsification might get exposed. What needs to be noted here is that although an expectational shift might precipitate a revolution once the stage is set, it cannot start one by itself if the stage is not ready. In Figure 2, for instance, no expectational jump could start a revolution, however large.

If we now compare Figures 3 and 4, we see that a leftward shift of the threshold function makes a revolution more likely by narrowing the status quo's shadow. A second factor in getting a revolution started consists therefore of the long-term causes that move the threshold function, $\underline{x}(S^e)$, leftward. Such a move might be brought about by a rise over time in the opposition's relative effectiveness in rewarding its supporters, through an upward shift of $F(S)$ or a downward shift of $f(s)$. A leftward move of the threshold function can also serve as a precipitant. Suppose, to illustrate the point, that the threshold function were to move further leftward, as shown in Figure 5. The status quo of $S^e = 0$ would become unsustainable, and the expected share of the opposition would gravitate toward the sole remaining equilibrium, $S^e = 1$.

The third factor can help set the stage for a revolution, but it cannot precipitate one by itself. It entails an upward shift of the cumulative density, $g(x)$, generated by a change in private preferences in favor of $p = 1$. Such a shift increases at least some individuals' willingness to side publicly with the opposition. But it does not necessarily put in motion a revolution, for the structure of the reputational incentives may keep even the non-activists most sympathetic to the opposition's platform from taking the lead in switching. For an illustration, turn back to Figure 4, and then suppose that the cumulative density function shifts upward, as in Figure 6. Although 20 percent of the non-activists now have private preferences of 1, $S^e = 0$ remains an equilibrium, and no revolution occurs.

Let me pause to summarize these points before I turn to an interpretation. First, a rise in the expected collective sentiment can precipitate a revolution if the stage for a revolution has already been set. Second, a leftward shift of the threshold function can set the stage for a revolution, and it can also precipitate one. And finally, an upward shift of the density of private preferences can help set the stage for a revolution, but it cannot precipitate one by itself.

4.4 *Discontent and revolution*

The third point lends credence to the assertion, put forward in the Russian revolutionary journal *Narodnaya Volya*, that 'No village has ever revolted *merely* because it was hungry' (quoted by DeNardo, 1985: 17; My emphasis). For a hungry person to revolt he must not only attribute his misery to government policies but also believe that revolting is a remedy. If no one else is revolting, $F(S)$ is likely to fall way short of $f(s)$. This means, unless he derives immense satisfaction from integrity, that he would only compound his misery by following the call of his private political preference.

A nineteenth-century socialist is reputed to have exclaimed to a friend who was handing coins to a beggar: 'Don't delay the Revolution!' The logic underlying this cry is shared by the two most popular theories of revolution in the social sciences, the Marxian theory (according to which epochal changes in production methods and forms of exchange generate discontent, which then leads to an overthrow of the social order) and the relative deprivation theory (according to which gaps between economic expectations and outcomes produce frustration and revolt). Proponents of these theories believe that discontent leads automatically to change-oriented political action. They thus overlook the interdependence of people's political choices and fall victim to the fallacy of composition.¹² Given that in a wide class of plausible situations interdependencies make frustrated people refrain from revolutionary agitation, it is not surprising that neither theory accords with the historical record.

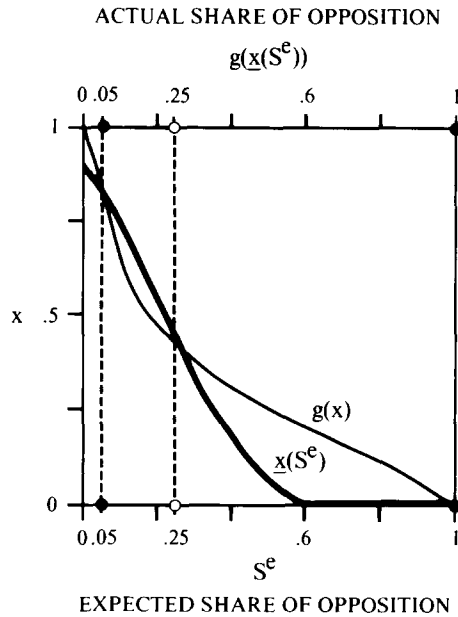


Figure 7.

If the Marxian theory (specifically, the best known of Marx's own versions) were correct, the early industrializers of Europe would all have experienced communist revolutions by the early twentieth century. Equally important, the first successful communist takeover would not have occurred in backward, semi-feudal Russia. As for the relative deprivation theory, it falters in the face of evidence that deep economic crises are not followed automatically by heightened agitation against the political status quo. Snyder and Tilly (1972) found that between 1830 and 1960 the level of collective violence in France was uncorrelated with the degree of mass discontent.¹³

None of this should be taken to mean that the opposition does not stand to gain from upward movements of private preferences. On the contrary, if the cumulative density of private preferences is too unfavorable to the opposition, then even a substantial leftward shift of the threshold function might not generate a revolution. To see why, return to Figure 2 and then suppose that the threshold function shifts dramatically to its position in Figure 7. The expectation $S^e = 0$ is no longer self-sustaining, so S^e will be revised upward. To which equilibrium will the revisions lead? One can easily check (in the manner shown in Figure 2) that they will lead to the leftmost equilibrium at 0.05 – the reason being that the pre-disturbance equilibrium at 0 provides the initial post-disturbance expectation. The shift from $S = 0$ to $S = 0.05$ entails a tiny increase in opposition support and, hence, a minuscule adjustment in the social order in the direction of the opposition's demands.

Of course, if the threshold function shifts sufficiently leftward, all equilibria other than $S^e = 1$ will disappear, putting into motion a major revolution. A revolution can always be brought about through a large change in the parties' relative effectiveness in providing reputational utility to their supporters. Interestingly, some writers have taken the position that a revolution does not occur in practice *unless* the opposition's relative effectiveness rises dramatically. In the *Republic*, Plato asserts that a revolution is possible only if the ruling class is weakened by internal dissension or defeat in war.¹⁴ In terms of our model, a weakening of the ruling class would entail a downward shift of $f(s)$ and, hence, a leftward shift of the threshold function, which implies a rise in the opposition's relative effectiveness. More recently, Tullock (1987: Ch. 4) has observed that horrendously inefficient regimes, such as those in Albania and North Korea, tend to survive indefinitely as long the ruling elite maintain their unity.

5. Revolutionary potential

In some of the examples considered above, revolution entails a larger shift in collective sentiment than in others, and/or it appears easier to accomplish. Take Figures 2 through 4, in all of which the status quo is by assumption $S^e = S = 0$. In Figure 2, revolution is not a possibility, since there is no self-sustaining alternative to $S = 0$. In Figure 3, there is a self-sustaining and stable alternative, $S = 0.8$, which would be established if the expected share of the opposition were to jump by over 0.5 units. Figure 4 differs from Figure 3 in two respects: the alternative stable equilibrium lies further away from the status quo (at $S = 1$ as opposed to $S = 0.8$), and the expectational jump required to start a revolution is smaller (0.2 units as opposed to 0.5).

It will be instructive to develop a continuously variable measure to quantify the joint effect of such changes. Since each of the examples considered contains at most two stable equilibria, I shall construct it for this class of cases. Some new notation is needed. So, let S^- represent that status quo; S^+ the alternative stable equilibrium; and S^{-+} the unstable equilibrium sandwiched between S^- and S^+ . (In the unique equilibrium case, $S^- = S^{-+} = S^+$.) Further, let $d(S, S')$ denote the Euclidean distance between any two shares of the opposition S and S' ; and $D(S)$ the largest possible jump in the opposition's share. In terms of this notation, a meaningful measure of revolutionary potential is

$$S^* = \frac{d(S^-, S^+) - d(S^-, S^{-+})}{D(S)} \quad (9)$$

Table 1. The revolutionary potential stored in the status quo: Figures 2–7

Figure	S ⁻	S ⁻⁺	S ⁺	S*
2	0	0	0	0
3	0	0.5	0.8	0.3
4	0	0.2	1	0.8
5	1	1	1	0
6	0	0.15	1	0.85
7	0.05	0.25	1	0.75

Since $0 \leq d(S^-, S^{-+}) \leq d(S^-, S^+) \leq D(S)$, the measure's range is $0 \leq S^* \leq 1$. Observe that on the right-hand side of (9), $d(S^-, S^+)/D(S)$ is the change in opposition support that a revolution would bring in relation to the greatest possible change. It enters the expression with a positive sign, which means that S^* increases with the size of the potential revolution. The second term on the right-hand side, $d(S^-, S^{-+})/D(S)$, represents the jump in the opposition's expected support needed to get a revolution started. It enters the expression negatively, implying that the smaller it is, the larger is the revolutionary potential.

Let us evaluate S^* for each of the cases just reconsidered. For Figure 2 both terms in the numerator are 0, so $S^* = 0$. For Figure 3, $S^* = (0.8 - 0.5)/1 = 0.3$; and for Figure 4, $S^* = (1 - 0.2)/1 = 0.8$. For each of the remaining figures, the value of S^* can be found in Table 1.

A society featuring high revolutionary potential is liable to burst aflame following a minor shock. Yet it appears tranquil, because the status quo's overwhelming support conceals the existence of a latent bandwagon which, if unleashed, will cause this support to evaporate. This latent bandwagon rests on intra-individual tensions caused by preference falsification. In the pre-revolutionary transformation captured by Figures 2 through 4, these tensions are mounting. The shift of the cumulative density of private preferences raises individuals' integrity-associated losses from supporting the government; and the threshold function's shift then lowers their reputational gains. In Figure 4 the government still enjoys unanimous support, which means that, for all i , $V^i(0|x^i)$ continues to exceed $V^i(1|x^i)$. But the differences are smaller relative to Figures 2 and 3, and individuals' inner tensions correspondingly larger.

The notion that an outwardly stable social order might harbor inner tensions is not novel in itself. Hegel (1807/1949) and Marx (1867–94/1967) consider inner tensions (contradictions in Hegelian terminology) to be the driving force behind social transformations. While some of the tensions that Marx and his followers built into the Marxian theory of social change have upon careful reflection turned out to be spurious, the concept itself has proved useful outside of Marxian thought, too. A non-Marxian use is found in Thomas Kuhn's (1970) theory of scientific revolution. In the course of 'normal science',

Kuhn suggests, more and more facts emerge which the reigning paradigm cannot explain. The ensuing tensions within individual scientists set the stage for a scientific revolution.

6. Unanticipated revolution

We are prepared now to explain why a long-standing regime that has survived many challenges might collapse suddenly, to the bewilderment of all concerned.

The explanation hinges on preference falsification. Individuals who, for any number of reasons, become increasingly sympathetic to the idea of change, do not necessarily take actions that betray their changing private preferences. If the government enjoys widespread support and, hence, is very powerful, such individuals find it prudent to remain outwardly loyal to the existing order. In the process, they keep the government, outside observers, opposition leaders, and even each other in the dark as to the regime's vulnerability. Their silence makes society appear stable, even though it would find itself in the throes of revolution if there were even a slight surge in the size of the opposition. Sooner or later, a relatively minor event makes a few individuals reach their boiling point and take to the streets in protest. This kicks off the latent revolutionary bandwagon, and the opposition darts into power. The magnitude and speed of the revolutionary process come as an enormous surprise, precisely because the masses had been concealing their growing frustrations.

The dynamics involved are captured beautifully by the old Chinese saying, 'A single spark can start a prairie fire' (cited by Mao Tse-Tung, 1930/1972). Just as a normally ephemeral spark can, given the right combination of physical conditions, touch off a wildfire, an event that would normally lead to mere grumbling can, given the right combination of social conditions, touch off a revolutionary uprising.

Let us turn back now to the three revolutions considered in Section 2. Does the explanation I have offered fit the facts?

In the decades leading up to 1789, many groups in France had reason to resent the status quo: the cloth merchants faced increasing competition, seasonal laborers lacked job security, soldiers felt underpaid – and the list goes on and on. From time to time, moreover, such groups took to the street in protest. But virtually every segment of the population was watched and controlled by some specialized police, so the authorities were never unprepared. Confident of their ability to control crowds, the King's men actually tolerated some forms of disorder. They even allowed street riots, as long as the rioters kept violence to a minimum and stayed clear of certain quarters. The rioters invariably respected these rules of protest (Cobb, 1969: Chs. 8 and 20). This is why riots were considered no more of a threat to the pre-revolutionary

monarchy than crowds of screaming football fans are to the Fifth Republic. What neither the King nor anyone else appreciated was that the preservation of order depended vitally on his regime's willingness and ability to enforce the established rules of protest. Everyone saw that most Frenchmen remained loyal to the regime, that they respected its rules even while letting off steam. No one saw, or could see, that multitudes were prepared to join a revolt against the regime if ever they felt it was safe to do.

In Russia, too, it was widely known that many segments of the population had grievances against the regime. The peasants were hungry for land, the urban working class felt exploited, and the soldiers hated the harsh conditions of military service. But the potential revolutionaries were divided – not least because the regime took measures to ensure this (see Chamberlin, 1935: 63–77). Equally important, there was a huge garrison in the capital, whose function it was to help the police in defending the regime. Both friend and foe of the Tzar considered the army to be a reliable protector of the regime (Chamberlin, 1935: 66). True, the soldiers were disgruntled, but when had they not been? And even if most would welcome a change in regime, who among them would take the lead in revolting? In 1848 Bismarck had managed to avert a revolution in Germany by retaining the support of the army. Why, people asked, shouldn't the same strategy work for the Tzar?¹⁵ No one, it seems, expected the army to disintegrate upon contact with civilian protestors.

With respect to Iran, there is much evidence that the likelihood of revolution was distorted by people's propensity to engage in preference falsification. Four years before the revolution, when the Shah formed the Rastakhiz (Resurgence) Party, most politically significant Iranians rushed to join it. From post-revolutionary accounts, we know that in private many resented having to do so.¹⁶ We also know that at least some high-level bureaucrats were critical of the sumptuous celebrations of the 2500th anniversary of the Persian monarchy, but only in the company of family and close friends (see Hoveyda, 1979/1980: 103 and 117). Meanwhile, numerous clerics who achieved prominence after the revolution, including the Ayatollah Beheshti, were quite restrained in their criticisms – until, that is, the eve of the revolution. In various capacities, some even served in organizations linked to the Shah's government (see Bakhash, 1984: 40–42). These examples, to which many more could be added, illustrate why neither the Shah nor others noticed the simmering trouble.

In terms of the model developed in this paper, the evidence just presented suggests the following. In all three pre-revolutionary periods, substantial numbers of people were privately opposed to the incumbent regime. At the same time, the regime appeared strong, which ensured that public opposition was, in fact, unalarming. What, then, happened to break the appearance of the invincibility of the regime and to start a revolutionary bandwagon rolling?

In the cases of France and Iran, the answer seems to lie, in large measure,

in a lessening of government repression – which in our model shifts the threshold function leftward. The French Revolution, Tocqueville (1856/1955: 175) notes, drew much of its strength from districts near Paris where ‘the freedom and wealth of the peasants had long been better assured than in any other [district].’ Under the influence of the democratic ideas in the air, King Louis XVI and his men had simply ‘lost the will to repress’.¹⁷ In Iran, the impetus for reducing repression seems to have come from U.S. President Jimmy Carter’s human rights campaign. Aiming to preempt Carter to avoid the appearance of being pressured by the U.S., the Shah took some measures on his own initiative: he gave the press more freedom and permitted open trials for civilians brought before military tribunals (Bakhash, 1984: 13–14). Regardless of the merits of the measures themselves, it stands to reason that they helped the opposition grow. If hatred for the government is widespread, providing greater opportunities for criticism serves to publicize this fact, thereby encouraging more people to side openly with the opposition. Also significant no doubt is the Shah’s vacillation with regard to the use of force against the growing crowds, perhaps because the cancer treatment he was receiving impaired his judgment. Inasmuch as vacillation is seen as a sign of weakness, it raises the relative attractiveness of joining the opposition.

As mentioned earlier, the Marxian and relative deprivation theories of revolution trace political explosions to policies and institutions that are unpopular. We have just seen, however, that both the French and Iranian Revolutions were precipitated by government measures that were popular. The following remarks by Tocqueville are apposite:

[I]t is not always when things are going from bad to worse that revolutions break out. On the contrary, it oftener happens that when a people which has put up with an oppressive rule over a long period without protest suddenly finds the government relaxing its pressure, it takes up arms against it. Thus the social order overthrown by a revolution is almost always better than the one immediately preceding it, and experience teaches us that, generally speaking, the most perilous moment for a bad government is one when it seeks to mend its ways. (pp. 176–177)

The Russian Revolution, it appears, was ignited by a major strategic error on the part of the authorities, coupled with a series of coincidences. The Petrograd regiments normally responsible for protecting the Tzar were at the front in early 1917, and most of their replacements were new recruits who were not only less well trained and less experienced, but also more attuned to the mood of the civil population. This proved to be a grave error, since the new regiments fell apart as they came in contact with the crowds (see Chamberlin, 1935: 66, 74–80; and Walsh, 1975: 267–269). It is well worth reiterating in

this connection that no one, not even Lenin and his fellow revolutionaries, foresaw that the regiments in Petrograd would melt away when called on to control the crowds.

But what brought the crowds into the street in the first place? Four factors seem to have played a role. On 23 February, the day the uprising began, many residents of Petrograd were standing in food queues, because of rumors that food was in short supply. 20,000 workers were in the streets after being locked out of a large industrial complex. Hundreds of off-duty soldiers were outdoors, looking for a distraction. And as the day went on, multitudes of women workers left their factories early to march in celebration of Women's Day (Chamberlin, 1935: 75; and Walsh, 1975: 267–273). The combined crowd quickly turned into a self-reinforcing mob. It managed to topple the Romanov dynasty within four days.

7. Revolutionary leadership

It was mentioned above that even when revolutionary potential is very great the typical member of society will not know this. While in principle he could find out by polling his fellow citizens for their private preferences, he is unlikely to do so, because polls cost time and money, and because the ensuing benefits would accrue largely to others. He will know his own private preference and possibly those of his relatives and close friends. But such limited information does not provide a reliable base for estimating the wider distribution.

How, then, do people seething with repressed resentments ever discover the vulnerability of the status quo? The information could emerge through a conjunction of events, as in the Russian Revolution of February 1917. Alternatively, it could be foisted on them by revolutionary leaders.

Before I go on to discuss the activities of revolutionary leaders, let me deal with a possible source of criticism, which is the distinction I am drawing between uninformed, politically ungifted masses on the one hand, and knowledgeable, skilled leaders on the other. This may seem an ad hoc distinction, but it does reflect reality. The production of information entails increasing returns to scale, which means that the intelligence specialists employed by political leaders can acquire information more cheaply. Also, political prowess differs across individuals, much like eyesight and mechanical ability. We do not have a full explanation as to why only certain individuals possess political prowess, but this is no reason to deny that differences exist. After all, we cannot explain why some people have exceptional mechanical ability, yet we do not pretend that this ability is distributed uniformly. Recognizing that differences are pervasive, we bring them into our explanations of the labor market.

That movements for change depend on leadership has, of course, been rec-

ognized. But as far as I can ascertain, there has been little systematic theorizing on what a revolutionary leader does; the most popular theories of revolution avoid the issue altogether. In the present theory, we can identify three distinct roles, which correspond to the three factors designated in Section 4.3 as a long-term cause or a precipitant.

One is to help break the appearance of the inevitability of the status quo. An opposition leader who senses that there is a great deal of hidden discontent will publicize this in an effort to raise S^c , the opposition's expected share of support. Going further, he will foster the belief that almost everyone privately wants change, and that in reality the government has only the smallest base of support. To succeed, the leader does not have to know exactly how private preferences are distributed. He needs only to sense that hidden discontent is pervasive. His task is akin to that of an entrepreneur who, knowing only that his new product has market potential, sets out to maximize his sales. Just as the entrepreneur discovers the demand curve facing him as the market unfolds, so too, the revolutionary leader improves his knowledge of the distribution of private preferences in the course of the revolution.

In the Iranian Revolution, the Ayatollah Khomeini played a crucial role in creating the image that an overwhelming majority was opposed to the Shah. His tactic was to organize strikes and demonstrations, in order to convince supporters of the status quo that the Shah's days were numbered. Fearing that the Shah would use his 700,000-man army to stop the revolutionary movement in its tracks, and knowing that a soldier carries a much greater weight in collective sentiment than a non-soldier, Khomeini devoted much energy to spreading the message that the soldiers' sympathies lay with the crowds. Don't be fooled by appearances, he said, pointing out that even though the army might seem loyal to the Shah, it was made up of men who were the strikers' and demonstrators' brothers. And he made every effort to keep his followers from firing at the soldiers, lest this turn them against the crowds. 'Do not attack the army in its breast, but in its heart,' he exhorted. 'You must appeal to the soldiers' hearts even if they fire on you and kill you' (Heikal, 1981/1982: 145–146). As already mentioned, Khomeini was not sure, until the battle was more or less won, that the movement would succeed. He sensed that the Shah was vulnerable, but the speed with which the opposition grew surprised him like everyone else. This is not to say that he picked the time to call for an uprising at random. In 1974, when he was still in Iraq, the Iraqi President proposed that they work together to topple the Shah. He declined the offer, quoting Prophet Muhammad: 'There is a right time for everything' (Heikal, 1981/1982: 140).

The uprising that brought down the Romanovs was not orchestrated by a tightly organized leadership. Many factions worked independently against the Tzar. It is significant, however, that the leaders of these factions directed their

efforts at winning over the troops rather than at arming the crowds (Chamberlin, 1935: 76).

The second role of a leader is to mold people's private preferences. To this end, he finds wrongs in the existing order, brings these to the non-activists' attention, and drums into their consciousness that the order advocated by the opposition would serve them better. His immediate objective here is to enhance the non-activists' willingness to join his movement. (Recall that a person's utility from siding with the opposition rises with the proximity of his private preference to the opposition's stand). Khomeini, students of the Iranian revolution agree, did a brilliant job of convincing Iranians of almost all walks of life that they would be better off under an Islamic regime than under the Pahlavi monarchy. He managed to be all things to all people: to the devout, an idol smasher; to the downtrodden, a deliverer of dignity; to the poor, an egalitarian redistributionist; to the Marxist, a democrat who would allow them to prepare for *their own* revolution.

The third role of a leader is to enhance the benefits of siding with the opposition. This can be done through a variety of means, ranging from social events to prayer meetings to physical intimidation. In the Iranian revolution, as in others, it was clear that if the movement succeeded, government supporters would be punished. The fear of retribution was undoubtedly instrumental in causing increasing numbers of government workers to go on strike as the opposition grew.

The view that leadership plays a crucial role in getting a revolution started was rejected by Marx, who saw political revolutions as the work of grand forces of history. One might expect, therefore, leading communist revolutionaries to have deemphasized its role. In reality, most, including all who were successful, have accorded it a vital role. Lenin (1902/1975), for instance, explicitly rejected the doctrine of historical inevitability, arguing that the revolutionary mobilization process depends crucially on sound political strategy, and on inculcating the workers with a revolutionary consciousness.

Engels managed to capture the reasoning behind Marx's position in one of the most famous sentences he ever wrote: 'In default of Napoleon, another would have been found.'¹⁸ What he meant by this is that when historical trends bring a society to the brink of revolution, the leadership required to push it over will always be forthcoming. There are two reasons why this view is difficult to accept. First, the emergence of a great leader, or of a great cadre of leaders, depends on many complex factors – biological, psychological, and social. Since no one really knows how these factors come together, we have no way of ascertaining that a leader will necessarily be there when needed. Second, there is no guarantee that when a leader does emerge, the opposition will be the beneficiary. For reasons known fully not even to himself, the leader might choose to join the party in power, take its helm, and succeed in stemming the

revolutionary tide by outmaneuvering the opposition.

This should not be taken as an endorsement of the ‘great man’ theory of history, which ascribes to exceptional individuals a cardinal role in shaping the course of events. An entire generation of talented revolutionary leaders might fail so much as to dent the social order, even if they succeed in altering the criteria on which people base their public preferences. The reasoning that sustains this argument was outlined through Figures 2, 3, and 4. In practice, many generations of revolutionary leaders might come and go before the revolutionary potential is sufficiently high for a major change in the social order to become possible. One must also recognize that long-run developments impose limits on what leaders can accomplish. Local and global economic trends, for instance, influence revolutionary leaders’ effectiveness in preparing people’s minds for change.

The arguments just advanced are in line with Tocqueville’s views on the role of leadership in the French Revolution. He observes that the ideas that turned the French peasantry and the middle class against the old regime came to them largely from above – from philosophers, the aristocrats, and surprisingly in retrospect, the King and his ministers. And he maintains that revolutionary leaders are likely to preach to deaf ears until people are ready to accept change. Here is a remarkably perceptive passage:

In all periods, even in the Middle Ages, there had been leaders of revolt who, with a view to effecting certain changes in the established order, appealed to the universal laws governing all communities, and championed the natural rights of man against the State. But none of these ventures was successful; the firebrand which set all Europe ablaze in the eighteenth century had been easily extinguished in the fifteenth. For doctrines of this kind to lead to revolutions, certain changes must already have taken place in the living conditions, customs, and mores of a nation and prepared men’s minds for the reception of new ideas. (p. 13)

8. Post-revolutionary repression and indoctrination

Major revolutions tend to be followed by massive campaigns of repression and indoctrination whose targets include many of the revolutionaries themselves. The revolutionary regime in France was obsessed with tearing the mask of mendacity and hypocrisy off the faces of all Frenchmen, including its own leaders. The thousands it sent to the guillotine included such figures as Danton and Robespierre.¹⁹ Under Stalin, the Bolshevik regime engineered one of the worst calamities of the twentieth century, wiping out over ten million people,

including almost all of Lenin's closest comrades (see Medvedev, 1967/1973: Chs. 2–8). In Iran those executed or imprisoned by the Islamic regime include thousands who, before victory seemed assured, risked their lives by participating in the anti-Shah demonstrations. Meanwhile, immense efforts have been undertaken to control how people think and act. Universities remained closed for two years while professors redesigned their courses in accordance with ostensibly Islamic values. A clause was inserted into the constitution which makes criticism of Islam a punishable offense. Various organizations, like the Center for Combating Sin, have been created to enforce ideological and behavioral conformity (see Bakhash, 1984: esp. Chs. 4, 9, and 10).

How to explain these campaigns? And how, specifically, to explain that revolutionaries figure prominently among their targets? The Marxian and relative deprivation theories provide no answer. Each says that people revolt against an established order when they become convinced that a new order would serve them better. An implication is that while a revolutionary regime might gain security from terrorizing and indoctrinating its active opponents, it would have no reason to target its supporters. The theory developed here, however, provides an explanation. Since people's public and private preferences may differ, a revolutionary regime is justified in suspecting that its supporters include many would-be turncoats, people who participated in the revolution even though they privately favored the old regime.²⁰ Consider, once again, Figure 5, which features a single equilibrium that entails unanimous support for the revolution. Some supporters have private preferences close to 0, which means that if the revolutionary regime were to relax its grip over what people do and say, a counter-revolutionary bandwagon might form.

The leaders of the Iranian Revolution had a well-founded reason to fear that many who took part in the revolution would disapprove of forced Islamization. The uprising that brought down the Shah united the most disparate social groups: clerics and Westernized intellectuals, nationalists and pro-Soviet communists, wealthy industrialists and bazaar merchants, factory workers and bureaucrats, women with and without the concealing *chador* (see Arjomand, 1986: esp. 392 and 402). Among those who marched through Iran's major cities shouting 'Death to the Shah' and 'Allah is great' were many who had benefited handsomely from the Shah's rule and had everything to lose from a theocratic order. Moreover, there were substantial differences within the clergy as to what Islamization would entail. The Ayatollah Shariatmadari, for instance, was opposed to some key features of Khomeini's interpretation.²¹ There was thus a very real possibility that after the excitement of the Shah's fall died down, some type of counter-revolution would gain momentum.

This is not to suggest that in the aftermath of a revolution the counter-revolutionary potential²² will be assessed accurately. The typical member of society is likely to underestimate it, for the same reason that before the revo-

lution he underestimated the revolutionary potential. The fact that collective sentiment strongly favors the revolutionary order will hide the readiness of multitudes to participate in a counter-revolution should the political winds change. An additional reason why the counter-revolutionary potential is likely to be underestimated is that after the revolution it will be prudent for people to exaggerate their contribution to the revolution's success. Many will thus turn the clock back on when they lost faith in the old order and on when they exposed themselves to danger by siding with the opposition.²³ In retrospect, consequently, the revolutionary potential in the pre-revolutionary period will be overestimated. It might even seem that the revolution was inevitable, even if it would not have occurred at all in the absence of fortuitous circumstances.

Nevertheless, until the extent of the previous regime's one-time support and the suddenness of its disintegration recede from memory, many members of society will consider a counter-revolution to be within the realm of possibility. The revolutionary leaders will recognize, in this connection, that just as they forged a coalition of disparate elements to topple the previous regime, so too, could another group of aspiring leaders forge a similarly composed coalition to topple the new regime. In Iran, in fact, almost as soon as the Islamic order was established, the leftist Mojahedin Party set out to organize strikes and demonstrations, in the hope that these would stimulate an anti-Islamic uprising (see Bakhash, 1984: 219–224). The Mojahedin evidently sensed that the very process that destroyed the monarchy could be used to destroy the nascent theocracy. The Islamic regime's ongoing campaigns of repression and indoctrination stem from its well-founded fears that the anti-Islamic movement has a chance to succeed.

9. Explaining revolutions: Why we err

As mentioned, political revolutions are commonly explained through theories emphasizing such factors as socioeconomic trends and relative deprivation. So it is with regard to the latest great explosion, the Iranian Revolution of 1979. Scores of books and articles have appeared which attempt to explain it in terms of these theories. None, as far as I am aware, ascribes much significance to the fact that the revolution shocked almost everyone concerned. Nearly all explanations suggest that the Iranian revolution was inevitable and, hence, predictable. The objective of this final section is to explain why scholars tend to give the appearance of inevitability to revolutions that seemed anything but inevitable until they occurred.

The mind of a scholar, like that of anyone else, is limited in its ability to receive, store, retrieve, and process information. It is thus forced to use short-cuts, or judgmental heuristics, in trying to interpret, estimate, and infer. Two

heuristics are relevant here. One is the *availability heuristic*, according to which the relative availability of information dictates which information is used. The other is the *representativeness heuristic*, which involves the application of resemblance criteria to tasks of causal explanation.²⁴ Cognitive psychologists have found that although these heuristics serve the mind rather well in many contexts, they generate serious judgmental errors in others.

The availability heuristic comes into play because information consistent with revolution gains salience, and information inconsistent with a revolution loses salience, with a revolution's occurrence. Experimental research suggests that whether a given piece of information is consistent or inconsistent with revolution will depend on the mental models that the historian brings to the task of explanation.²⁵ An historian who subscribes to the relative deprivation theory is apt to notice, and consider significant, different pieces of information from one who subscribes to the Marxian theory.

Noticing that there were many strikes in the decades preceding the revolution, Marxist historians trying to explain the revolution of 1917 infer that a proletarian revolutionary tide was in formation.²⁶ They tend not to notice that in the decade preceding the revolution the incidence of strikes was minuscule compared to the next-to-last decade, and that the war generated a wave of pro-Tzarist, nationalist sentiment (see Chamberlin, 1935: 62–63; and Malia, 1980: 92–93). For another illustration, take the relative deprivation explanation for the Iranian Revolution. It suggests that the revolution was fueled by disappointments caused by the post-1975 decline in Iran's oil revenues (see Walton, 1980). Writers who offer this explanation do not appreciate that throughout the 1960s and 1970s there were always groups in Iran who felt relatively deprived. Nor do they accord significance to the non-occurrence of revolutions in Turkey, Brazil, and India, in each of which certain groups suffered severely from the adjustments necessitated by the global economic shocks of the 1970s.

Writing with the benefit of hindsight, historians of revolution consistently exaggerate what anyone could have anticipated in foresight. Might historians who recognize that outcome knowledge distorts human perceptions overcome the bias that the availability heuristic introduces into their judgments? In experiments, trained subjects manage to reduce, but not to eliminate, the bias. Like their untrained counterparts, they tend to overestimate both what they knew before outcome knowledge was revealed to them and what others could have known (see Fischhoff, 1975; and Fischhoff and Beyth, 1975). This last result is especially significant, as it suggests that even historians who understand that perceptions are colored by outcome knowledge might overestimate the foresight of revolutionary actors.

Tocqueville's book on the French Revolution is a towering accomplishment partly because he took exceptional care to guard against the biases that out-

come knowledge introduces into historical analysis. His interpretations are based almost entirely on pre-revolutionary documents: minutes of meetings of the 'Estates' and provincial assemblies, written instructions given to deputies by their constituents, and confidential files of the government. Where he does use a post-1789 source, he remains alert to discrepancies between pre-1789 facts and post-1789 renderings of them. In this connection, he reports without equivocation that Frenchmen of all backgrounds tried systematically to conceal their pre-revolutionary dispositions – to obliterate, as it were, their former selves.

The representativeness heuristic biases historical interpretation by focusing the historian's attention on great forces, like epochal shifts in economic structures or massive disappointments. It keeps him from imagining that small forces, such as misjudgment on the part of a ruler, or a string of fortuitous circumstances, could explain why one country blew up while another remained stable. A *small* event, according to its logic, is not representative of a *great* outcome, so there can be no causal relationship between them. Thus, if country A experienced a revolution but not country B, this must be because a great force was at work in the former but not the latter. A great force, of course, is likely to be visible. One might fail to notice the prejudices that underlie the actions of a political leader, but it is hard to miss an epochal shift in relations of production.

Tullock (1974: Ch. 5) observes that post-revolutionary writers ignore people's personal incentives for revolutionary participation and greatly exaggerate their collective incentives. The two heuristics explain why. Collective incentives, such as the benefits that accrue to the nation at large from the toppling of a rapaciously corrupt regime, are more representative of a great revolution than are personal incentives, such as the lure of a job or the fear of ostracism. Also, they are more salient, or available, than personal incentives. It hardly helps that in their memoirs revolutionaries tend to conceal their selfish motives and stress their devotion to the common good.

The causal significance of the factors stressed in the theory presented here, namely preference falsification and the interdependence of public preferences, has tended to be overlooked. One reason is that these factors are perceived as unrepresentative of great events. The model will help, I hope, to alter this perception. Once it is recognized how preference falsification can keep a society's revolutionary potential from being assessed correctly, and how in an apparently tranquil society a small event can precipitate a cataclysmic upheaval, the representativeness heuristic need no longer be a factor in keeping the focus of analysis on relative deprivation and structural economic trends.

A complementary reason why the factors highlighted here have received little attention lies in the perception that the data necessary to detect preference falsification and latent bandwagons are not readily available. There is some va-

lidity to this charge. One must recognize, though, that the supply of data is driven largely by demand, and that the demand for data is driven by the existence of theories that suggest how they might be useful. Who would want to collect data that no one desires to use? Equally important, who would want to develop methodologies for collecting such data? Fortunately, the usefulness of data on preference falsification and the interdependence of public preferences is beginning to gain recognition. At the Allensbach Institute in Germany, some very promising work is underway to develop a methodology for detecting changes in the distribution of private preferences and for quantifying the factors that drive a wedge between private and public preferences (see Noelle-Neumann, 1980/1984). It may soon be possible to track the revolutionary potential of a society, as defined in this paper, thereby improving our ability to predict and explain future revolutions. But I do not want to sound overly optimistic, for social predictions interact with the phenomena they predict. The announcement that revolutionary potential is high may precipitate a revolution; or, by inducing the government to take decisive action, it may prevent one. Possibilities abound, as do questions calling for further research.

Notes

1. For this blunder, they were later sacked in a meeting held in Prague. See Heikal (1981/1982: 156).
2. Some leaders have no other option, as they cannot alter their political stands convincingly. See section 4.2 above.
3. On the emergence of durable revolutionary organizations, see DeNardo (1985: Ch. 1).
4. Noelle-Neumann (1980/1984: Chs. 4–12) provides an excellent survey of the pertinent writings by Hume and by others, including Locke, Madison, Rousseau, and Tocqueville.
5. For more on this tradeoff, see Kuran (1987a: Sects. 1–3).
6. Due to the form of (3), all other intermediate choices of y^i are dominated by $y^i = x^i$.
7. To obtain this result formally, equate $V^i(0|x^i)$ with $V^i(1|x^i)$, and implicitly differentiate x^i with respect S^c .
8. Observe that $g(0.25) - g(0.5) = 0.7 - 0.2 = 0.5$.
9. On the relative deprivation theory, see Davies (1962) and Gurr (1970). The Marxian theory has many variants, of which Skocpol's (1979) is the latest to receive substantial attention. Marx's most influential statement on the subject of revolution is in *A contribution to the critique of political economy* (1859/1970: 20–21). Elster (1985: 428–446) provides an excellent critique of Marx's pertinent writings.
10. See Bakhash (1984: Ch. 1). The chapter provides numerous additional examples of policy shifts in the waning days of the Shah's reign.
11. For a detailed explanation that rests on preference falsification, see Kuran (1987b). Some complementary explanations are surveyed in Kuran (1988).
12. Marx, unlike many of his followers, understood the fallacy of composition. He argued, for instance, that the capitalist class would self-destruct, against the wishes of individual capitalists. But, as Olson (1965/1971: 105–110) and Buchanan (1979) have pointed out, he nonetheless fell victim to the fallacy on the subject of socialist revolution.

13. The fallacy of composition does not afflict all arguments based on relative deprivation. A case in point is Easterlin's (1980) theory of fertility, in which the childbearing decisions of couples depend on how well off they consider themselves to be relative to their parents. Couples decide how many children to have largely independently of other couples, so if each of 100 households wishes to have one more child, it follows (in the absence of biological obstacles) that there will be 100 more children. In this context, therefore, the link between relative deprivation and childbearing is basically automatic.
14. Plato makes this assertion in the eighth volume. As cited by Popper (1957/1964: 62).
15. On the regime's efforts to follow Bismarck's strategy, see Malia (1980: esp. Ch. 1). An additional component of this strategy was to make concessions designed to moderate their opposition. One such concession was Alexander II's emancipation of the peasants.
16. One must keep in mind that those who served a toppled regime have a strong incentive after the revolution to say that they served only to avoid reprisals. See Section 8 below.
17. The phrase belongs to Cobb (1969: 272). Tullock (1987: 121) observes in this connection that at the time of the revolution the Bastille prison did not contain a single genuinely political prisoner.
18. F. Engels to H. Starkenburg, 25 January 1894. As quoted by Gardiner (1952: 100).
19. A brilliant analysis of the post-revolutionary terror in France is provided by Arendt (1963/1965: 88–109).
20. An analogous phenomenon has been detected in studies of technological diffusion. Rogers (1983: 172–174) cites cases of people choosing to adopt a new technology *before* becoming persuaded as to its superiority over the old.
21. See Akhavi (1980: 168–180). Bakhsh (1984: 223) reports that in 1982 Shariatmadari was accused of treason and put under house arrest. In retrospect, it appears that the Shah might have avoided the revolution by exploiting the serious differences within the clergy.
22. If one redefines S^- as the share of the revolutionary party's support after the revolution, and S^+ its share in the event the counter-revolution succeeds, this potential, too, can be measured by (9).
23. Such systematic distortions are observed in non-revolutionary contexts as well. After elections, for instance, more people claim to have voted for the winning candidate or platform than actually did so. See Noelle-Neumann (1980/1984: 31–33) and Uhlaner and Grofman (1986).
24. These heuristics were first introduced by Tversky and Kahneman (1974). Other important articles on the subject can be found in a volume edited by Kahneman, Slovic, and Tversky (1982). A splendidly clear exposition has been provided by Nisbett and Ross (1980).
25. On the mechanisms by which preconceptions bias cognitive processes, see Taylor (1982).
26. The standard Marxian explanation and its flaws have been outlined by Malia (1980: 91–93).

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