REITH LECTURES 1970: Change and Industrial Society

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Lecture 1: The Loss of the Stable State

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I have believed for as long as I can remember in an after-life within my own life, a calm stable state to be reached after a time of troubles. When I was a child, that after-life consisted in being grown-up. As I've grown older, its content has become more nebulous, but the image of it stubbornly persists. The after-life within my life is a form of belief in what I would like to call the stable state. Belief in the stable state is belief in the unchangeability, the constancy, of certain central aspects of our lives, or belief in the attainability of that kind of constancy: it's deep and strong within us. We institutionalise it in every social domain. We do this in spite of our talk about change, our apparent acceptance of change, our approval of dynamism. Language about change is for the most part talk about very small change—trivial in relation to a massive, unquestioned stability—which nevertheless appears formidable to its opponents by the same peculiar optic that leads a potato chip company to see a larger bag of potato chips as a new product. Moreover, talk about change is as often as not a substitute for engaging in it.

Belief in the stable state is pervasive. For example, we believe in certain very stable elements of our own identity. This comes out when people talk about their occupations. If I ask you who you are, you're apt to say: 'I'm a chemist,' 'I'm a doctor,' 'I'm a short-order cook.' We make such judgments, not as tentative findings, subject to change, but as assertions which concern enduring aspects of the self, and to be unable to make them or to be ambiguous about them is a subject of considerable embarrassment. Similarly, we believe in the stability of our regional identity: 'I come from Nebraska,' 'I'm a Boston boy.' We believe in the stability of the organisations to which we belong: 'I work for the General Electric Company.' That's an assertion that one can make pounding the table, if need be. And one believes in the theory and the ideology that goes with that statement. 'At Harvard, we respect individual scholarship,' 'At the Lighthouse for the Blind, we believe in people, not numbers.' We believe in the stability of intellectual disciplines: 'My field is physics,' 'I've majored in early American history.' We believe in the stability of certain values, values which go by names like peace, work, Justice, satisfaction. We believe in the stability of the technological programme which was initiated in the 18th century and which says in effect that one can attain a sort of earthly Nirvana through the correct and wise applications of technology.

Belief in the stable state is central, because it is a bulwark against the threat of uncertainty. Given the reality of change, we can maintain belief in the stable state only through tactics of which we are largely unaware. Consequently our responses to attacks on the stable state have been responses of desperation, largely destructive, and our need is to develop institutional structures, ways of knowing, and ethics, for the process of change itself.

In order to explore this line of argument I'd like to raise a series of questions. One of them is: what's the function of this belief in the stable state? And secondly, how do we maintain it? What's the nature of the threat to it, and what are the options for responding to its loss?

Belief in the stable state serves primarily to protect us from apprehension of the threats inherent in change. Belief in stability is a means of maintaining stability, or at any rate the illusion of stability. But the most threatening situations are those that confront us with uncertainty, and by 'uncertainty', I don't mean risk, which is a probability ratio which we all know how to handle, particularly those who are managers of industry. We can deal with risk. Uncertainty is the situation of more information than we can handle, If we're playing poker, for example, and you have a queen and an ace showing and I have two aces, and it's stud poker, seven-card draw, we know how to calculate the odds. On the other hand, if I arrive on a desert island and it's quite dark, and I don't know the place and I see a girl standing there who seems rather suspicious to me, and someone sitting opposite me, and I think there's a bulge in his pocket, and he has a queen and an ace and I have two aces, and I hear a strange noise and the lights dim, then I'm in a situation of uncertainty. The situations of uncertainty are many and varied. A psychiatrist dealing with a patient has been working on what seems like a perfectly reasonable hypothesis until the patient suddenly does something that blows the hypothesis to shreds: what's he to do? A business firm that's had a stable product, known how to sell it, known how to produce it, and now finds itself in a situation where that product no longer seems to be meeting the needs of the market and there's no alternative in sight: how does it confront that situation? A scientist who's been committed to a. cherished hypothesis finds himself in direct confrontation with a piece of datum that doesn't fit at all: what does he do?

A scientific community—such as the community of physicists in the early years of" this century—finds its entire conceptual framework inadequate to the data which is presented by a programme of experiments which cannot either be discredited or abandoned. A nation has a policy of trade and economic development which seems somehow to be inappropriate to the competitive situation in which it finds itself. These are all situations of uncertainty, situations in which no plausible theory has emerged. Now in these situations, pragmatism is no adequate response. We can't say: let's get the data, let's experiment, let's test. Because in order to go through those motions, you have first to have formulated a perspective on the situation that lets you know what kind of experiment might be appropriate, what data you want to get.

The feeling of uncertainty is anxiety, and the depth of the anxiety increases as the threatening changes strike at more central regions of the self. In the last analysis, the degree of threat presented by change depends upon its connection with self-identity, and against all this we've erected our belief in the stable state. Now of course it's not only in our own time that the stable state has come under attack. The norm has been change and variety— surprises are constantly occurring. What is curious is not that we're forced at intervals to abandon some stable state, but that we manage to maintain belief in it in the first place. How do we do this?

We compensate for instability in one area with stability in another. Inventors, for example, lead very routine and rigid lives— have you noticed? So do artists. We undertake active programmes for maintaining the homeostatic system in which we're

involved: whether that system is the system of the firm or the family or the self, we resist actively what would disturb that system. The resistance may be either overt or underground, and the effort involved may be as unconscious as the effort of keeping a balance in a sailboat.

War-Cries

What is apparent in our own time is the extent to which the threats to the stable state now exceed our various strategies for defending it. Throughout our society we're experiencing the actual or threatened dissolution of stable organisations and institutions, anchors for personal identity and systems of values. Most important, the stable state itself has become less real.

In the United States we've experienced during the last 30 years three distinct but interacting currents of change. Galbraith gave the war-cry for the first one in 1957, which was an awareness of the great imbalance between the product-based consumer society and the requirements of the public system—transportation, housing, education, waste disposal—which had taken a bad second place. Even though the problems are not perhaps any worse than they've ever been over the last 30 years, our national tolerance of them has been less.

There's also been a growing dissatisfaction with the position of powerless minorities in our society, and although you hear most about it in connection with blacks, it's not limited to blacks by any means. It also spreads to the poor, to rural families, to the aged, to the sick, to children, to prisoners, to the mentally ill. It is as though we're experiencing across the board an imperative for the righting of the balance of power in our society, and there is, of course, a growing disenchantment, expressed most vigorously by the young, with the goals and values of social progress as these have remained, relatively intact, since the 18th century.

There's no established institution, moreover, which now feels adequate to the challenges which confront it. Institutions which were developed in the late years of the 19th and the early years of the 20th century find themselves threatened by complex changes that are now under way. In fact, their very success up to the period of World War Two and somewhat beyond now gives them trouble, and there's nothing parochial about the phenomenon. In America, it cuts through the society. I remember talking with Walter Reuther before his death. I saw that red-headed man at six o'clock in the morning, playing tennis at the age of 66 or so, and he said 'The American Labour movement has had the failure of success. We've all become middle class. We're just one big bureaucracy now. Young people coming up through the ranks are like young people coming up through General Motors. We've lost our cutting edge. We're no longer leading social change. We're just like any other institution.' He tried to invent the concept of the community union as a new approach, as a new way out, and it failed. And with Reuther's death there's no equivalent figure on the American Labour scene. The Federal Government is now under pressure to bring resources to bear quickly and effectively on new problems, but the structure of the Federal Government is very much that of a series of memorials to old problems. And while government has been seeking in the broadest terms to come to grips with these problems, around or through bureaucracies, it has not succeeded in doing so.

The Church in its various denominational guises experiences pressures for ecumenism, and at the same time pressures for local autonomy. It has its real estate in the city and its parishioners in the suburbs. There's an urgent demand for moral wisdom which the Church often feels unable to provide. Parochial sects have tended to dissolve in the face of the technologically- induced inroads of secular society, while more cosmopolitan sects seem diluted to the point of having little to offer. Many churchmen feel impelled to engage in battles about poverty and race in the cities, but to the extent that they do so they tend to estrange themselves from the Church.

Universities, too, have found themselves caught among conflicting pressures. Government presses them to adopt new roles, national and regional, for planning, for development, which they're ill-prepared for and which conflict with the traditional ideals of scholarship and liberal education. Students press for a redistribution of power, for education that is more relevant to the world outside the university.

This inventory of threatened institutions caught in the grip of an imperfectly understood instability could be extended in breadth and depth, but enough has been said, perhaps, to show that we're experiencing a general rather than an isolated or peripheral phenomenon. The threat to the stability of established institutions carries with it a threat to the stability of established theory and ideology, because institutions like the Labour movement, the Church, social welfare agencies, all carry with them bodies of theory, ways of looking at the world, and when the institutions are threatened, the bodies of theory are threatened as well. Most important, when the anchors of the institution begin to be loosened, the supports that it provides for personal identity, for the self, begin to be loosened too. We've lost faith, I think, in the idea of being able to achieve stable solutions to these problems.

This phenomenon, the loss of the stable state, carries with it its own reinforcements. If persons are supposed to respond effectively to the situations of instability and uncertainty, they have to feel secure, they have to have something to rely on, but the very pervasiveness of the erosion of the state undercuts the sources of support for personal identity and security. One sort of response to all of this, of course, is to claim that there's nothing unique about it at all. It isn't special to us, after all. There was Europe in the 15th century, there was America after the Civil War, and there was the major restoration of Japan in the 19th century: these have all been societies in transition.

What peculiar features of the last half century or so do we experience? A kind of clichéd response to this is to say that we are experiencing an unprecedented rate of change and that this has its roots in technology. Because technological change is moving so fast, we are in a situation which is quite unique in the history of the Western world. There's a counter-argument which says in effect that the rate of change of technology has not been changing over the last 200 years—that can't be the difference between our era and that of the last several generations. The argument rests basically on two kinds of data. One of these consists of what are called envelope curves. If you take any technological parameter—whether it's velocity or propulsive force or the hardness of materials or the strength-to-weight ratio of materials—and plot that parameter as it develops over 200 years, what you discover is that its rise is exponential. Each further curve is the power of the preceding. You can think of this as

the process of moving from foot travel to bicycle travel to horse travel to the automobile to the propeller-driven aircraft to the jet aircraft to the missile.

Each one of these curves reaches a certain saturation point and levels out, but then new technology comes along—the way jets replaced propeller travel—and an envelope which is exponential covers them all. You can make the same sort of argument with diffusion curves. If you look at the length of time required for a new technology to diffuse broadly throughout the society, and you plot that for technologies going back several hundred years, you find an interesting sort of effect. The length of time required for the steam engine to penetrate a broad segment of the market was of the order of 150 to 200 years. For the automobile, what—40 to 50 years? For the vacuum tube, 25 to 30 years. For the transistor brought out by Bell Laboratories in 1946, 15 years. For the jet aeroplane invented by Commander Whittle in World War Two, 15 years. For the laser, eight to ten years. The time required for the diffusion of major technological innovations would appear to be approaching zero as a limit.

But a problem underlies these arguments, because if the rate of change has been exponential now, it was exponential in 1910, and exponential in 1850, and exponential in 1800. Perhaps it's true that while the rate has not been changing, the absolute levels of technology have been changing. And that those levels have done something to human limits and to social limits. It's a little bit as though you were in a closed chamber and the carbon dioxide content was doubling, and it doubled every three minutes and the rate of doubling didn't change, but on the third doubling you suffocated. The question is: what might these limits be?

One of them, I think, has to do with issues of pervasiveness: with the number of new inventions that impinge on society, with the frequency with which they appear and the absolute levels of technological performance that they represent. There are no rural or regional enclaves safe from technology in the world today. There is nowhere to go in order to escape it. And our inability to escape it is the function of infrastructure technology. It's the function of technology that governs the flows of men, material, money and information. The technology has an implosive character. It's as though everything that was going on, all events conveyed to us through communications technology, were impinging upon every person wherever he was, and it's as though we were attempting to approach the instantaneous confrontation of every part of the society with every other part as a kind of limit. And as a result social inequalities leap to attention. Every theory confronts its counter-instance. Conflicts long suppressed by separation and isolation escape the bounds that confined them, and as new societies come into contact new technologies emerge, meta-technologies: technologies which influence the rate of technological change have developed, technologies pertaining to the organisation of invention, the technology of the computer, carrying with it potentials for the management of technological innovation and diffusion which have only begun to be tapped.

The frequency of technological impact on society has reached the point where adaptation cannot remain generational. Death has played an enormously important role in the creation of novelty and in biological evolution. Natural selection would not work without it. If individuals didn't die, species could not have evolved. And there is a social correlate. In human societies generational change has often been the vehicle

through which we have been able to absorb innovations which were absorbable in• no other way. I'm reminded of an old farmer whom I met in Oklahoma at a conference on economic development. He got up and said: 'When I was a young man we had ten cows and we did very well. When I was 30 we had 20 cows and we did no better. When I was 40 we had 40 cows and we were barely making it. Now I'm 70 and we have 70 cows, we are not making it at all, and it's all the fault of the Agricultural Extension Service.'

The movement from the small farm to the industrial farm has been handled by the dying-off of the old generation and the coming-in of the new, like the movement from the small store to the large professionally-managed store, like the dying-off of the family-owned company and the generation of the industrialised, professionally-managed company. Generational change permits those developments. But when our diffusion curves get below 30 years, below 20 years, then the social impact generated by that technology lies well below the limit for generational adaptation, and you and I within our own lifetimes have to handle the kind of adaptations that used to be handled as one generation passed into another. These are real human limits and technology transgresses them.

A Variety of Responses

There are a variety of responses to loss of the stable state. Some of the responses are anti-responses, versions of a refusal to recognise it, and they are destructive in character. One of them takes the form of a return. The idea is: let us return to the last stable state, to the way it used to be. Goldwater in the United States was the political incarnation of that view. Another is the idea of revolt. There is a form of revolutionary response whose war-cry is total rejection of the past, but in such a fashion that the past is permitted to creep in by the back door: where the content of the revolutionary response takes its structure from what it reacts against, with nothing to put in its place, where it takes its direction from established institutions themselves. There is a third kind of response, which is mindlessness. I remember once standing in Little Rock, Arkansas, and watching at night in the square what they did for enjoyment. The kids on motorcycles would drive round and round the square, the noise was absolutely deafening, and that was amusement in Little Rock. And the message seemed to be: the machine is winning, so why not join it?

Constructive responses to the loss of the stable state must confront the phenomenon directly. They have to do it at the level both of the person and of the institution. If our institutions are threatened with disruption, how can we invent or modify them in such a way that they are capable of transforming themselves without flying apart at the seams? If we are losing stable values and anchors for identity, how do we preserve self-respect while in the process of change?

There is also the assumption that the stable state means that our society, and all institutions, are in a continuing process of transformation. We cannot expect stable states that will endure even for our lifetimes. We must learn to understand and manage these transformations. We must make the capacity for undertaking this integral to ourselves and our institutions.

We'll begin by analysing the features of social systems which stand in the way of transformation and learning. We'll go on to look at some examples of learning systems—the evolution of the business firm, systems for the diffusion of innovations, ways in which government might become an effective learning system. The inquiry will attempt to ask questions at two levels. One of these is: what is the substance of learning systems? And secondly: what are the limits of our ability to know about this matter?