

Stages Of Change

**Examples from history and ideas from chemistry
illustrate the process of cultural change**

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If we are to be successful as cultural midwives, cultural gardeners, and the crew of spaceship Earth, we need to begin with understanding. In this article I have pulled together the examples, models, and images that have most helped me to understand the process of cultural change. I hope you will find them as empowering as I have.

THE UNIVERSE IN WHICH WE LIVE is marvelously inventive. When it began, it was nothing but hot gas and light, yet out of these have come the wondrous richness of stars, galaxies, and even daffodils. The earth, in its turn, began barren, yet over the past 4 billion years it has given birth to the most amazing profusion of green and scaly and furry life.

Human cultures are one more step in this process, being "life forms" made up of the most complex "cells" the earth has produced, and like the individuals that are their parts, cultures are always in a process of change and invention. Sometimes this change is slow and relatively minor, like the gradual drift in the meanings of words. Sometimes the change is revolutionary and profound, like the development of the first cities. And sometimes it is devastating, like the impact of European civilization on native cultures around the world.

Yet throughout all this change there are certain basic patterns. Let's explore these patterns, and develop a framework that we can use later in this issue to understand which strategies are most effective and when.

The Elements Of Culture I'm using the term "culture" in the anthropological sense of those patterns of learned *behaviors* (including all skills, technologies, institutions, and the physical artifacts that go with these) and *beliefs* (including myths, unconscious assumptions, values, and emotionally powerful symbols) that are *shared* by some distinguishable group of people. In addition to behaviors and beliefs, the third major element that enters into understanding cultures is the surrounding *environment*, both natural and social.

In a stable culture, these three elements are mutually supportive. The beliefs support the behaviors, the behaviors fit comfortably into the environment, and this in turn helps to

reinforce the beliefs. For hundreds of thousands of years, hunting and gathering cultures had this kind of stability. Today such stability no longer exists anywhere on the planet.

The process of cultural change is a dance among these three elements - a dance with two main steps. The first step is a movement away from the old stability. Some aspect of the culture moves, slowly or abruptly, out of alignment with the other elements. For example, a new technology is introduced (like the automobile or the telephone) or new ideas take hold (like Christianity or Newtonian Physics). This first step often "just happens" or is taken without any intention to cause repercussions throughout the culture, but that doesn't stop the repercussions from happening.

The second step is a response to the tension created by the first step. It is a conscious attempt to get things back in harmony either by undoing the first step (reaction) or by getting the rest of the culture to catch up (innovation). Most of what we usually think of as "social change movements" are examples of this second step.

To see how these ideas apply in practice, let's look at some examples and models of cultural change:

The Agricultural Revolution is one of the major turning points in history. It is of interest both as an example of the general cultural change process and because it is the only cultural change as massive as what we are now going through. The history of humankind before the development of agriculture, as well as anthropologists and archaeologists are able to reconstruct, was characterized by four interlocked trends:

- slow but steady growth in population;
- the gradual spread of human groups from our origins in Africa more than 2 million years ago to essentially complete coverage of the globe by 20,000 years ago;
- a gradual increase in the variety of tools used, and in the technologies required to produce them; and
- a progressive diversification of the diet, from initial emphasis on the meat of large animals to a broad diet that included vegetable items, like roots and grains, that required complex preparation.

How do we interpret this? At first glance, this may look like the story of "progress," with humans adventuring out into ever farther new frontiers at the same time they are learning to make better use of their environment. However, a closer look at the diet changes, especially seen in the light of what we know about recent hunting and gathering cultures, tells a different story. Modern "stone age" cultures, like the Australian Aborigines, generally have an extensive knowledge of the plants and animals in their environment, but choose to eat only a few of the species they know to be edible. The reasons for this selectivity are simple - *taste and convenience*. These cultures have a ranking of foods from more to less desirable, and when that ranking is compared to the gradual diet changes for early humans, it is clear that early human history is the story of adaptation to

steady population pressure that required groups to move into less desirable territories and to use less desirable foods.

According to Mark Cohen in *The Food Crisis in Prehistory*, the development of agriculture was just one more step in this progression. Hunters and gatherers seem to have had, for hundreds of thousands of years, all the knowledge they needed to develop agriculture, but they consciously choose not to as long as wild food supplies were adequate, and with good justification. Hunting and gathering provides a better balanced, more palatable, and more reliable diet with less labor than primitive agriculture does. The *only* advantage that agriculture provides is more food per acre. Thus it was only when population pressure could no longer be relieved by such previous strategies as migration (because the earth was already covered with people) that agriculture developed. *We have been dealing with the population explosion for at least 10,000 years!*

The shift into agriculture is an example of a cultural change whose first step was environmental (increased population leading to too little gatherable food per person) and whose second step was primarily behavioral. For those who lived through it, it was neither "revolutionary" nor did it seem like a great advance. Its initial impact on social systems and beliefs was relatively minor, with the old tribal ways simply adapting to village life.

It was, however, not a complete solution to the population pressure problem. Groups increasingly felt in competition with each other, and it is during this time that "warfare" shifted from being a ritual-game to being a serious business.

The consequences of this shift have been profound. Agriculture provided the "free energy" and the storable/concentratable wealth, warfare provided the basic social organizational model, and more babies kept up the pressure on which conquest, empire building, cities, and civilization could be built.

Scientific Revolutions A more immediately dramatic example of cultural change comes from the history of science. In his classic, *The Structure Of Scientific Revolutions*, Thomas Kuhn argued that the development of the major sciences has been characterized by long periods of "normal" science separated by brief "revolutions" that involved fundamental changes in basic theoretical assumptions. During the "normal" times, experimentation goes on within a generally accepted conceptual framework known as a "paradigm." Normal science fleshes out the implications of this basic framework, but does not challenge its underlying assumptions.

Historically what has happened, however, is that "normal" experimentation has (usually unintentionally) accumulated some "abnormal" results that prove difficult to explain within the old paradigm. As these discrepancies grow to the point that they can no longer be ignored, the revolution begins with an intense period of theoretical search, often involving the abandonment of old basic assumptions. Generally, the "innovators" who develop the successful new paradigm have been neither "outsiders" nor well established "insiders." Rather, they are students or recent graduates who have a sophisticated

understanding of the science but are still fresh enough to see it in new ways. Einstein is a good example.

When a new theoretical framework (paradigm) is found that can explain the "odd" results, the revolution shifts to its second phase of gaining acceptance. The first ones to adopt the new paradigm are usually much like the innovator - young, sophisticated, and not yet entrenched. Acceptance tends to be slower among the well-established older scientists, many of whom never accept the new framework. In a number of the pre-20th century scientific revolutions, the eventual shift was more a case of the old guard dying off than their conversion.

These scientific revolutions are an example of cultural change in which the first step is "behavioral" (experiments that don't fit) and the second, response, step is in "beliefs" (the new paradigm). As is generally the case when the second step involves changes in fundamental beliefs, the shift is experienced as revolutionary by those who live through it.

Cultural Revitalization A similar, but more general model for cultural change is provided by the anthropologist Anthony F.C. Wallace (see *Culture and Personality*) based on studies of change in both tribal and civilized societies. The process begins with a drift away from some previous state of cultural harmony, a drift that shows up first as increased individual stress. A growing number of individuals find that they can't live up to the old cultural expectations, but at first both they and the surrounding society view this as an individual problem. As the number of these personal failures grows, however, the social institutions start to also deteriorate and the whole society begins to recognize that the problem is more than personal.

Once the stress in the system has grown to the level that it is seen as a general problem, it is difficult for that culture to return to a steady state without going through a revitalization process. Wallace describes this revitalization as having 6 major aspects:

- **Formulation of a code.** An individual or small group builds a new idealized image of a "goal culture" that stands in attractive contrast to the existing situation. The formulators have generally personally experienced the stress in the culture, and are thus relieving their own personal tensions as well as resolving the cultural problems.
- **Communications.** Since the full resolution requires cultural changes, the formulators must get others to adopt their vision. This process usually begins by reaching out to those who share the stresses of the formulators and so are likely to be receptive.
- **Organization.** The task of those who first respond to the new vision is generally to extend the communications to a broader audience and to provide continuing moral support to those who have adopted the new vision. This is a group process that requires some form of organization.
- **Adaptation.** As the new vision gets broader exposure it generally grows and changes. There are many potential reasons for these changes. The initial vision is

- usually incomplete, especially in practical details; certain accommodations may be made to broaden the appeal of the vision; and the original vision may include such things as predictions that fail to materialize, thus requiring re-explanation.
- Cultural transformation. If the movement is able to gain enough support within the society, the thrust shifts from communications to implementation. If the "goal culture" can not be immediately established, then a "transfer culture" is adopted as the route to get to the full vision. If this cultural shift is successful, the stress experienced by individuals declines dramatically.
 - Routinization. Once the initial shift of cultural transformation has occurred, the next stage is to establish the new vision as the new steady state, which generally means institutionalizing it in various ways. Those in the forefront of the transformation process may find this last stage difficult and disappointing, but the bulk of the population is glad for a return to normalcy so that they can get on with their lives.

This revitalization can be either reactionary or innovative in its basic thrust. The reactionary mode is characterized by a belief that present problems can be resolved by "doing the old way harder", and generally tries to undo or suppress recent changes that are seen as the cause of the problem. The innovative mode, on the other hand, attempts to get "lagging" parts of the culture to catch up to recent changes that are seen by the innovators as either positive or unchangeable.

In complex societies under stress (like our own), there are usually many revitalization movements competing for attention and converts during the time of increasing cultural disintegration. The inherent conservatism in most cultures favors reactionary movements, and it is common for a culture to attempt a "let's do the old way harder" revitalization as its first response to realizing that something must be done to get the culture back on track (sound familiar?). It is only after the failure of a reactionary revitalization attempt that a culture is willing to risk fundamental innovation.

Wallace's description of cultural revitalization focuses almost entirely on what we have been calling the second or response step in the cultural change process. The first step, the cause of the increased cultural stress, may involve any combination of behaviors, beliefs and the environment. The second step will tend to change beliefs if it is an innovative revitalization, or to bring behaviors back in line with old beliefs if it is a reactionary revitalization.

Non-Equilibrium Systems and Dissipative Structures These examples of cultural change are further illuminated by a model for dynamic systems that applies to much more than just human cultures. Indeed, it has grown out of the work of Ilya Prigogine, the Nobel Prize winning physical chemist, who has made great strides in the study of non-equilibrium systems of all kinds - from chemical reactions to biological and social systems.

Like most useful general frameworks, the ideas are simple once you get them, but clicking into them can be hard at first. It is well worth the effort, however, because of the powerful tools it provides for understanding cultural change.

The main characteristic of a non-equilibrium system is that it is not "closed" but rather it interacts with the larger world around it. It has flows of energy, materials, and information in and out of it, *and* these flows are essential to understanding the system. A river is a good simple example, as is any living system.

We recognize such things as rivers and biological cells as "systems" and not just chaos because there is some aspect of the system that provides "structure" to the flow. The source of this structure may be obvious, as in the banks of a river, or it may be subtle and complex, as in the case of a biological cell where the structure is provided by all kinds of interacting chemical reactions as well as the physical protoplasm. In general, the structure involves patterns of feedback within the system. Prigogine calls these systems *dissipative structures* since they must dissipate or get rid of "waste" energy or material to maintain themselves.

The next important feature of these systems is that the "structure" can be dramatically and discontinuously changed by the amount of flow going through it. Let's look for a moment at a bend in the river. When the flow of water is slow, the "structure" of the river is smooth at the bend. As the flow increases, the river will become more turbulent, with small eddies forming and disappearing. If the flow is increased still further, at a certain critical speed one of those eddies is likely to grow into a real whirlpool - a qualitatively new "structure" to the river. This pattern - stable structures (the smooth flow and the whirlpool) separated by an unstable and chaotic transition region (the turbulent eddies) - is quite common in non-equilibrium systems that are structured by internal feedback.

To see how this can apply to cultures, think of what might happen to a culture if the information flow about the world around it is steadily increased. At a low level of information, a smooth provincialism can prevail. As the flow increases, some of this provincialism will be challenged, producing unstable fluctuations between curiosity and defensiveness. As the flow increases still further, the provincialism may be replaced by a stable cosmopolitanism.

We need to take this description one more step, however, to really see its usefulness. It turns out that in many non-equilibrium systems there are *alternative* stable structures. That is, at some given flow the system has more than one potential structure it can "choose" from. How does it choose which structure to lock into? Prigogine's answer is that seemingly small fluctuations can play a major role at this crucial point.

Let's go back to the bend in the river. Suppose there are two places in that bend where a stable whirlpool *could* form, but once a whirlpool forms in one place, it prevents the other one from forming. As the flow increases, which will the river choose? It all depends on which place "just happens" to have an eddy in it as the flow gets strong enough to amplify that eddy into a full whirlpool.

In the same way we can return to our provincialism example and recognize that there are other potential outcomes besides cosmopolitanism. The result of a high level information flow might be the development of a paranoid totalitarianism or it might result in the complete collapse of the original culture. Seemingly minor events during the unstable phase of curiosity and defensiveness can be "blown out of proportion" and have a major impact on the subsequent history.

Likewise, consider a hunting and gathering culture that feels the population pressure that could lead it into agriculture. It also has other choices, the major ones having been nomadic herding or continued hunting and gathering, but in a less desirable territory (e.g. the eskimos). At the decision point, small events (such as a good or bad growing season during a crucial year) may shift the balance one way or another, but once launched down a path it becomes much harder to shift to another track.

The essential feature here is that the unstable phase of a non-equilibrium system contains a lot of unstructured energy that is available to amplify small events into major changes. This can only happen, however, if that small event is a "seed" of one of the potential structures that the system *could* settle into. As a non-equilibrium system moves from one stable structure to another, its history is determined by which "seeds" are available to be amplified as the system reaches its critical "decision point."

Filling In The Stages

We can now use this pattern of "stability-transition- stability" to provide a framework for summarizing the process of cultural change.

Preparation Cultural history is in some ways like a journey along a road. As long as the culture is basically stable, it moves on its set course with few major choices. Only occasionally does it reach a true crossroads. However, *unlike* a physical journey, cultures are not just passive travelers through a predetermined landscape. During their normal times they are constantly making small changes that are *creating* their future crossroads, that are the seeds of their future possibilities.

The changes that have real impact in this way are the creation of new *pathways* and *tools* - from new stories and ways of looking at things to new hardware and institutions. There is no particular evidence that humanity's basic needs, values, and even potential has changed in the past 100,000 years. What has changed are the ways that we express these needs and values. We do what we have the "tools" to do - spiritually, mentally, emotionally and physically. Thus the most effective way to genuinely change a culture is to create new ways to address basic needs. During the time of preparation, this means getting the components of the new culture developed, functioning in small ways, and ready to be assembled into a new synthesis when the crossroads is reached.

The combination of the availability of new pathways and the pressure of changing environmental circumstances will create the crossroads and the viable alternatives that branch out from it. The alternative that has the best developed and mutually supportive

set of new pathways, that can be most easily jumped to from the old patterns, and is most in harmony with the new circumstances has the best chance of becoming the new road.

Transformation The crossroads, the unstable zone of a non-equilibrium system, is a special place. It is made up of all the roads that come into it, but it does not belong to any one of them. The lesson of the crossroads is that we can not get off the old road and on to the new without going through this intermediate place. In cultural terms, this means that dis- integration always precedes reintegration. The historian Arnold Toynbee spoke of this process as "withdrawal and return" and noted that many deeply innovative cultures, such as the Greeks, seemed to jump directly from a cultural phase of quietude and obscurity to one of major impact. Studies of individual creativity show the same pattern - major insights often follow periods of rest or distraction that permit the weakening of old fixations.

The transformation itself is like reorganizing your living quarters. You may get rid of some of the old furniture and bring in some new, but by and large you will work with what is available. While you may discover a missing piece that needs to be built, generally this is *not* the time to be creating the components of your new arrangements. Rather this is the time to create a new synthesis of your existing components.

In a culture, this transition is not a simple single step. The cultural historian William Irwin Thompson speaks of four major overlapping stages: religious, artistic, scientific and technical, and finally political. Frequently there will be a variety of competing alternatives in each of these areas, with people making the transition from the old to *different* potential futures.

Individuals and groups pass through this process of transition at different rates and with different styles. Those at the center of the old culture, those who led the way during the old stable phase, tend to go in two different ways. Some of these are the first to sense the coming change. If they, in some way or another, withdraw from the old center, they may contribute significantly to the creation of the new. Many at the center, however, will be shielded by the power of the center and thus kept from experiencing the pressures building up around the edges of the culture. The result is what cultural historians refer to as the phenomenon of the "lagging center" - the old leadership becomes so entrenched that it fails to keep pace and soon finds itself outflanked (for example, Britain's experience during the 20th century).

Within any society there are also "learning style" differences. Some people easily catch hold of new ideas or beliefs, and because of these are motivated to change what they do. Others (probably most) learn best by doing, and their changes in beliefs follow their changes in experience.

The time of transition can be a period of considerable chaos and confusion, and at a certain point events within it can rush ahead with dizzying speed. It is all too often mistakenly thought of as *the* cultural transformation, where in fact it is the climax, the birthing, after a long period of preparation.

Elaboration Eventually, order emerges out of the chaos. A point is reached where one of those potential futures gains enough workability and support so that it clearly becomes the new framework, the new consensus. Those who thought the future would go somewhere else may be bewildered, but they either adjust or fade. At this stage the new culture has finally been born, and the task shifts to enabling it to grow and mature. There is a lot of cultural development, for example of large scale institutions, that can not happen until this period. It can be a time of great exhilaration and joy *if* there are few scars left from the time of transition.

The fundamental lesson I draw from this is that timing, and understanding the stage the culture is in, are vital to being an effective cultural midwife. There is a time for quiet preparation, a time for bold synthesis, and a time for snowballing communications and a time for broad-scale implementation. If we stay in harmony with the needs of the times, the process can move smoothly and powerfully, and our efforts will be well spent.

I'll explore how all this applies to our present cultural situation in a later article, but first some other perspectives on cultural change and the challenges we are facing.

Bibliography

Cohen, Mark Nathan, *The Food Crisis In Prehistory* (New Haven: Yale University Press, 1977).

Kuhn, Thomas S., *The Structure Of Scientific Revolutions* (Chicago: University Of Chicago Press, 1970).

Prigogine, Ilya and Isabelle Stengers, *Order Out Of Chaos* (New York: Bantam Books, 1984).

Wallace, Anthony F.C., *Culture And Personality* (New York: Random House, 1970).

Wendorf, Fred et al., "An Ancient Harvest On The Nile," *Science* 82 (November 1982, p 68).