

Scientific Thinking and Modernity

Meet Traditional Culture

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Introduction

This paper examines a fundamental challenge in today's world: the conflict between scientific thinking (i.e., analytic/systematic thinking) — and its accompanying notion of modernity — and traditional culture. The global conflicts concerning resources, development, and governance we see in contemporary times are really all about the meeting of modernity with tradition. That is, the basic question is this: Are we moving towards a Western analytical way of thinking and living, or a different model? The answer may be that the scientific thinking and traditional culture are irreconcilable, and so a prediction for the future may be very difficult indeed.

Cultures around the world have pursued different paths. Ostensibly, countries like the U.S. and Japan have embraced modernity wholeheartedly while places like Sudan and Afghanistan have not. Countries which embraced modernity — that is, countries which have become industrialized and urbanized — have a long history, moreover, of colonizing countries which remained agrarian and un-urbanized.

But really, the definitions are not so simple. People living in apparently modern cultures, such as the U.S., often reject scientific approaches to problems, and operate from traditional, religious, or other kinds of belief systems. Other cultures, such as the Japanese, seemingly embrace modernity, but continue to maintain a sublimated layer of spiritual and mystical thinking. Traditional cultures in Africa and elsewhere, meanwhile, must navigate the difficult path between the apparent benefits of scientific thinking, such as modern medicine, and the price to be paid, particularly the loss of traditional ways of living and traditional forms of knowledge. Finally, traditional cultures which attempt to place a template of modernity directly onto their societies often end up with chaos — the power of modern technologies without the systems to maintain and run them.

On a larger scale, understanding these complex definitions and choices can help us better interpret global conflict and deep social problems in governance, education, the environment, and so on. These conflicts and problems arise because of (a) the attempts to impose a certain kind of analytic/systematic thinking on traditional cultures, or (b) the attempt to create a synthesis of analytic/systematic thinking and traditional modes of thought. This paper defines analytic/systematic thinking as compared to traditional

thinking, looking at what happens when the two meet.

What is “Scientific Thinking”? The Analytic and the Systematic

“Scientific thinking” can be defined in the simplest sense as an analytic and systematic way of observing and interacting with the world that we observe around us. First, there is the *analytic* side. Science, in its purest form, is about examining evidence, and constructing models of the world based on that evidence. Such a practice requires a well-developed analytical apparatus, and in the West, this has a long history, dating back to the ancient Greeks. The methods of analysis, of looking at evidence, creating categories of knowledge, and so on, became more refined over time, especially during the Renaissance and the Enlightenment. This analytical thinking included the application of mathematical models to phenomena, such as the movement of the planets, in an attempt to make predictions. Always, there is the assumption in analytical thinking that the universe and everything in it is part of a vast, knowable system.

In addition to this analytic way of looking at the world, a *systematic* mode of thought was key in the break from the traditional behaviors of pre-modern societies. Of course, even some of the most ancient peoples had *systems*, for everything from agricultural practices to astronomy. Stonehenge is perhaps one of the most ancient examples of organized, systematic activity. However, systematic thinking on a large scale, where there is the belief that *all* knowledge can be systematized and categorized, is a hallmark of modernity.¹ Spiritual and mystical beliefs, which are hallmarks of traditional cultures, don’t readily fit in modern, rational systems. In such a situation, spiritual and mystical beliefs, as we shall see, apparently disappear but actually are sublimated.

Leonardo da Vinci serves Western culture as a kind of iconographic figure in this triumph of analytic and systematic thinking in the West. His notebook drawings, although apparently chaotic, actually show a technological — his engineering drawings far outnumber his paintings — genius searching to analyze and record observations, and to

¹ Moreover, Stonehenge was not built by “professional engineers”, such professional credentialing being an artifact of modernity. Also, Stonehenge was built over a vast timescale of hundreds of years, which in the modern world of engineering is unheard of.

organize knowledge on a vast scale, in everything from mechanical apparatus to anatomy.² Some who peruse Leonardo's notebooks come away with the impression that he is simply sketching out rough ideas, but careful examination of the folios show how he actually uses drawing to work out experiments, step by step.³

Particularly in anatomy, Leonardo was making a marked break from tradition, examining real bodies and dissecting them for his studies.⁴ Dissection, of course, had been practiced prior to Leonardo⁵, but he represents a very modern and systematic approach to anatomical knowledge, recording in detail various aspects of the body, including the configuration of the organs, the structure of the muscles and bones, and the range of human movement. In fact, his "Vitruvian Man" drawing, although drawing from an ancient source, has become one of the best-known emblems for the scientific, the engineered, and the rational.

In the contemporary era, the meaning and significance of analytic and systematic thinking is both broader and more subtle. In modern societies, this kind of thinking is so pervasive that it is hard to perceive — one can't see the forest for the trees. In North America, this thinking is manifested in our belief that if we put a letter in the postbox it will arrive at its destination, and that when we pick up the telephone there will be a dial tone. It is manifested in our expectation that the highway

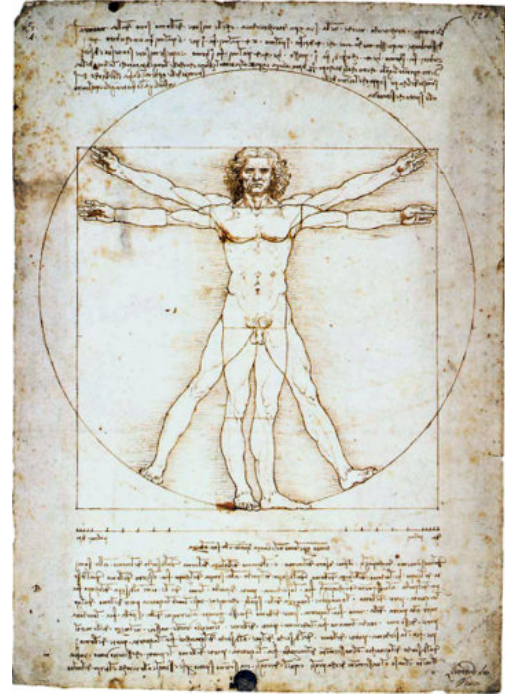


Figure 1. Leonardo da Vinci, "Vitruvian Man"

² For a discussion of Leonardo da Vinci as a systems thinker, see Kim H. Veltman, *Leonardo's Method* (Brescia: Centro Ricerche Leonardiane, 1993).

³ Part of the problem is that Leonardo da Vinci's drawings dealing with particular experiments, e.g., with weights and motion, are scattered in different places in the folios. I wish to thank Kim H. Veltman for pointing this out to me many years ago during a graduate project I did concerning Leonardo's work with machines. Note Veltman, *Leonardo's Method*, and see Martin Kemp, *Leonardo da Vinci: Experience, Experiment, and Design* (Princeton, Princeton University Press: 2006)

⁴ See James S. Terry, "Artistic Anatomy and Taboo: The Case of Thomas Anshutz", *Art Journal* 44.2 (Summer, 1984): 149-152.

⁵ Concerning pre-Renaissance dissections, see Katharine Park, "The Criminal and the Saintly Body: Autopsy and Dissection in Renaissance Italy", *Renaissance Quarterly* 47.1 (Spring, 1994): 1-33.

police won't stop your car and ask you for money.⁶ We see it in our belief that the doctor will prescribe medicines that have been researched and manufactured under strictly controlled conditions; we don't expect the doctor to burn incense or mutter incantations over us. We see it, too, in our acceptance of a small, rectangular piece of paper with numbers on it — i.e., currency — as reliably and consistently allowing us to obtain goods and services.

All of these are *systems*, and they were constructed by individuals and groups who believed that modern societies operate in this way, and that systems are the hallmarks of civilization. Given this, it is perhaps not surprising that the Canadian in charge of United Nations peacekeeping operations in Rwanda, Brigadier-General Romeo Dallaire, suffered a breakdown. He had come from one of the most peaceful and systems-oriented nations on the planet to one where chaos and fear had taken hold, where the traditional cultural elements of caste and ethnicity, and hatred and vengeance, had percolated up through the thin layer of old colonial administrative systems of social order.

Like Dallaire — and the positive, rationalist organization he represented, the United Nations — we in modern societies *believe* in the reality of systems, as strongly as some traditional cultures believe in the palpability of the spirits of their ancestors. When the British went about setting up their colonies, one of the primary activities they engaged in was the establishment of systems which mimicked their own: legal systems, educational systems, communications systems.⁷ Many of these systems live in on, even long after the disbandment of the empire.

In modern societies, we believe in these systems and live completely at their mercy: we awake to the technological chime of the alarm clock, not the crowing of roosters.⁸ In our educational system, and as an apparent marker of maturity, we use not the traditional mode of apprenticeships, but credentialing. Our relationships are sanctified not just by a priest, minister, or rabbi, but also by the system of courts — marriages are

⁶ Something the author experienced in Brazil some years ago.

⁷ Perhaps remarkably in this post-colonial era, the website of the Nigerian Postal Service proudly states: "The history of the Post in Nigeria dates back to the 19th century. The first post office was established by the British Colonial Masters in 1851." See *Nigerian Postal Service — History of the Nigerian Postal Service*, http://www.nipost.gov.ng/About_Us.aspx.

⁸ I distinctly recall awakening daily to the cries of roosters during a month of rural living in Sri Lanka some decades back.

legal entities.

The best illustration of how deep the difference is between modern and traditional worldviews can be found in the encounters that Westerners have when they enter other cultures. A clear understanding of this problem appeared in the 1950's with William J. Lederer and Eugene Burdick's *The Ugly American*, a book that served as a warning about sending overseas as diplomats Americans who didn't understand the local culture. Graham Greene's *The Quiet American* had a similar tone. One can learn the local language, and study the customs, practices, and history, but the real gap is quite profound. The customs, practices, and history — and often the language, too — are really artifacts and manifestations of the traditional culture and its worldview, which in the case of non-Western, non-industrial societies, is neither analytic nor systematic. It is alien.

In addition to systems, our modern way of life is denoted by a very clear kind of analytical thinking. When we go to doctors, we expect them to examine us, to perform tests. We would be quite surprised if they simply began uttering incantations. Equally, we expect active measures — we demand advice on health, prescriptions for medications, evidence that treatments will work. Modern societies are active, not passive. Our mode of thinking is all very rational and analytical, with an expectation of what we define as “professional practice” in our scientific culture.

More subtly, we believe that even in our emotional lives, analytical thinking can guide us. Although psychoanalysis in its classic form may be out of fashion, there is still the belief that a combination of modern chemistry and talk therapy will help people “rationalize” their approach to daily life. Moreover, a distinctly psychoanalytic “theory” has entered into the belief system of most educated people in the Western world. That “theory” is that there is an underlying “unconscious” (colloquially referred to as the “subconscious”) mind that contains our true feelings and motives. This “unconscious” mind, we believe, is the source of our behavior, motivations, fears, and so on.

This idea of two minds is a distinctly modern notion. Of course, it has roots in the Greek view of the existence of a “rational mind”. But the Freudian concept of two minds (actually three — the *id*, *ego*, and *superego*) created a peculiar dynamic in modern societies: the idea that others might be behaving in a way that they are not aware of, in a

way that they might be “cured of”. It is not unlike the equally modern Christian attempt to bring salvation “to the natives”. Moderns not only assume that they have the key to gaining knowledge through science, they also believe that they can gain *self*-knowledge through science, the science of psychology. The very term psychology, in fact, implies that there is a *logos* that can be applied to the *psyche*.

What is “Traditional Culture”?

Much of what characterizes non-scientific, “traditional” culture is magical thinking. Briefly, this is the belief in forces beyond physical reality, or that have nothing to do with physical reality. Magical thinking rejects evidential processes, and does not look for causal chains, as science does. Rather, it relies on holistic ideas — relationships based on similar patterns, homomorphism, and so on. A classic example is the Chinese superstition against giving gifts in fours. This traditional belief is based on homophony. The (Mandarin) Chinese word for “four” (四), is pronounced *si*. The Chinese word for “death” (死) is a homophone of this, as it is also pronounced *si* (although it has a different tonal value).

Some of traditional Chinese medicine is based on the similar principle of *affinity*. For example, the various organs of the body are categorized according to certain qualities, and hence treatment for those organs is similarly categorized according to the five “flavors” of the herbal drugs:⁹

<i>Flavor</i>	<i>Element</i>	<i>Related Organ</i>	<i>Effects</i>	<i>Example</i>
hot	metal	lungs; large intestine	induce sweat; balance <i>qi</i>	fresh ginger
sweet	earth	stomach; spleen	digestive tonic; distribute nutrition	Chinese licorice
sour	wood	liver; gall bladder	binding; astringent	unripened plums
bitter	fire	heart; small intestine	drying; antidysenteric	bark of amur cork tree
salty	water	kidneys; bladder	softening; laxative; diuretic	algae and seaweed

In the West, medical theory in ancient Greece operated on similar principles, but contemporary practice is based on a totally different model. Modern scientific medicine

works on theories of disease causality — usually based on bacteria, viruses, etc. — and the direct addressing of these causes.¹⁰

Other kinds of thinking based on concepts of *affinity* include a wide range of traditional beliefs and practices, including fetishes, voodoo, alchemy, and Cabbalism. By contrast, in the scientific tradition, phenomena have to be connected *causally* — that is, a physical mechanism has to be demonstrated as the source of an event or an observed phenomenon. Scientific thinking also accepts relationships that function *categorically*, e.g., through a system such as the Linnean classification scheme. In scientific thinking, organisms can have morphological and other relationships. Science, too, works with models — but the principle of *affinity* is rather unique to traditional cultures.

Certainly, traditional cultures concern themselves with an understanding of the natural world. Without an understanding of animals, plants, weather patterns, and so on, these cultures could not have survived as long as they have. But that understanding does not have the same overarching framework as Western science does. One Ghanaian writer, in a textbook for students, talks about his culture in this way:

The African people have always been acute observers of the workings of nature. Through their observations, they may well have collected a store of interesting facts about the natural world, but those observed facts were generally not given any elaborate theoretical explanations...¹¹

He goes on to note that much of the accumulated knowledge in traditional African societies

became a sort of secret knowledge, a specialized knowledge, open only to priests, spiritual healers, and others who are traditionally acknowledged as the custodians

⁹ Adapted from Daniel P. Reid, *Chinese Herbal Medicine* (Boston: Shambhala, 1987), 46.

¹⁰ For a thorough overview of magical thinking, particularly in relation to medicine, see Phillips Stevens Jr., “Magical Thinking in Complementary and Alternative Medicine”, *Skeptical Inquirer* (November - December, 2001): 32-37.

¹¹ Kwame Gyekye, *African Culture Values: An Introduction for Senior Secondary Schools* (Accra: Sankofa Publishing Co., Ltd., 1998), 106.

of the secrets and truths of nature.¹²

Of course, this is true of most traditional cultures, not just those in Africa. In modern societies, access to knowledge is more open — in a sense. No longer do we have “custodians of the secrets and truths of nature”, but we have institutions through which one must pass and obtain a credential before one’s learning is considered valid.

A very elegant example of a traditional African way of talking about knowledge is captured by the artist Ian van Coller, who grew up in Johannesburg, South Africa before setting in the U.S. some fifteen years ago. In a thoughtful mixed-media piece entitled “Ndonganazibovana”, the artist provides an image of an indigenous African plant. Below the image, side-by-side, the viewer is given the traditional African understanding of the plant and its uses, along with a modern, analytical description of the plant. The text below the photograph reads:

Ndonganazibovana

Ndonganazibovana means that the plant has a stalk that is red like blood. It is used by a man who does not trust his girlfriend. First it is cut up and ground into a fine powder which is then mixed as a drink which the man takes before he has sex with his girlfriend. If she then tries to have sex with another man, they will not be able to because Ndonganazibovana will cause her blood to run immediately. Moses Khubisa.

Drimia Robusta

Bulbs large, the flesh red purple. Leaves basal 3 or more. Inflorescence unbranched. Flowers greenish white or silvery. Seeds flat, often winged. D. haworthioides is remarkable on account of the peculiar structure of its subterranean parts. The leaves, about 4-6 in number are produced in winter; towards the summer their blades wither, but the subterranean portion of each leaf, the petiole, lengthens and its apex enlarging considerably, becomes an organ for storing water & food. Marloth 1915.

There have been recent scientific studies that show that this plant contains bufadienolides, a kind of steroid with specific medicinal properties. However, what is interesting is that the traditional culture did not analyze the plant chemically, but still had a mode of understanding the plant’s relationship to the human body.¹³ That may not be

¹² Ibid., 106.

¹³ See R.P. Luyt, A. K. Jäger, and J. Van Staden, J. “The Rational Usage of *Drimia robusta* Bak. in Traditional Medicine”, *South African Journal of Botany* 65 (1999): 291-294; also see idem.,

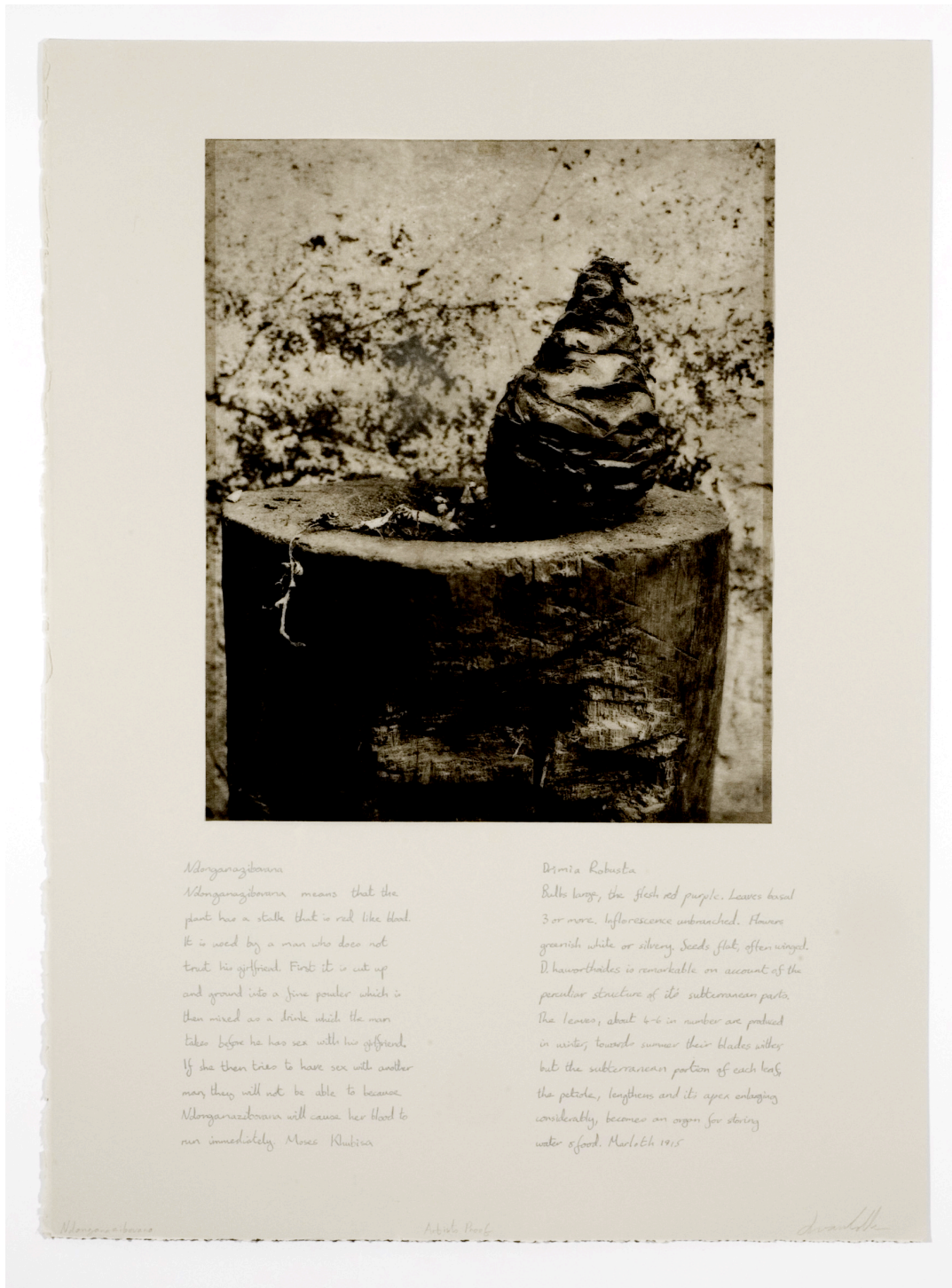


Figure 2. Ian van Coller, "Ndonganzibovana"

"Bufadienolides in In-vitro Derived *Drimia robusta* plants", *South African Journal of Botany* 65 (1999): 443-445.

“scientific” knowledge, but it is still highly functional knowledge, as one can see in the recounting of the indigenous Zulu expert, Moses Khubisa, in the text above.¹⁴ The modernist, analytical approach is given in the parallel text, quoted by the artist from the South African botanist Hermann Wilhelm Rudolf Marloth.

Much has been written about time in traditional cultures. In very general terms, traditional cultures tend to view time as circular or cyclical. Within this framework, the most important aspects of society are rituals and relationships. Development and growth, in economic or even educational terms, are less important. Preservation of a culture’s knowledge is paramount, through family, and in particular, from one’s elders. In some traditional cultures, time may even be viewed as static, or almost non-existent. Events that we would call past, present, and future are believed to exist all at once. This is closely related to the idea that the spirits of one’s deceased ancestors still exist alongside the living.

By contrast, modern industrialized societies are virtually obsessed with the idea of growth and development, and on a personal and societal level. Individuals are encouraged to better themselves, through education and job promotions, and the acquisition of bigger and better houses, the latest model automobiles, and so on. Contemporary capitalism is also reliant on a model of continual growth, sustained by ever-expanding markets for goods and services.¹⁵ Indeed, it is interesting to note that in traditional societies, such as that of ancient China, the merchant class was one accorded low social status; in modern cultures, business or mercantile entrepreneurship and the selling of goods and services is considered one of higher-status professions, above teaching, for teaching for example.

The structure or perception of time in traditional cultures affects the way time is spent. In modern societies, with our linear conception of time, we view it as *passing* — often rapidly — and so we want to “seize it”, and utilize it efficiently and productively. The idea that “once it’s gone, it won’t come back” is an artifact of this linear conception of time. In traditional cultures, with cyclical or static perceptions of time, there is less urgency, at least concerning daily activity. Any Westerner who has spent time in a

¹⁴ I wish to thank the artist, Ian van Coller, for his kind permission to use his artwork as an illustration in this paper.

¹⁵ For a recent critique of this model, see Tom Wessels, *The Myth of Progress: Toward a Sustainable Future*

traditional culture will perceive this quite readily.¹⁶

In traditional cultures, too, human relationships function according to different principles. In all non-industrial societies, the family is paramount. In the Akan culture of West Africa, there is a proverb, “The decline and fall of a nation begins in its homes”.¹⁷ In a very similar way, Confucius put forward the idea that the family was the foundational element of the state. Moreover, in traditional cultures, the family is the basis for all ethics and behavior. In fact, despite Confucius’ hierarchical model, in contemporary Chinese society, loyalty to family far outweighs loyalty to the state, or any kind of abstract sense of “patriotism”. Friendship also has a special place in traditional cultures — it must be an almost absolute bond, and the way the term “friend” is bandied about in Western culture is deeply disturbing to many Asians.

The Chinese, for example, make their friends early — in grade school and high school, and some during the university years. Those bonds then last a lifetime, and it is rare for a Chinese person to make many close friends beyond that circle of *tong xue* — literally, “classmates,” but with a much stronger meaning that the term has in English.

Why is this? There is actually a logic here, if one thinks within the framework of a traditional culture. Chinese people, like people in many traditional cultures, and *unlike* many Westerners, don’t tend to talk about their feelings openly. But of course, they go through the same kinds of things everyone does — marriage, divorce, trouble at work, and so on. And they need to talk to *someone*. That someone, though, must be very close, since “opening up” is such a rare thing. It has to be someone close, and close means someone whom you’ve known a long time. This is why it is troubling to Chinese people when they see Westerners talking about rather personal things to people who in their perception are really little more than acquaintances.

Another hallmark of traditional thinking is the emphasis on the community rather

(Burlington: University of Vermont Press, 2006).

¹⁶ The most obvious examples are chronic lateness in places like Brazil — despite that country’s high level of industrialization. The most remarkable experience for me concerning traditional views of time was as a young college student working on a project in Sri Lanka. There had been some mix-up involving a bus to pick up our group; the Americans paced back and forth nervously, or looked for something to read to pass the time. The Sri Lankans were able to sit for hours, absolutely passively, doing nothing in particular at all. It wasn’t that they were more patient; rather, it seemed to me, for them time just didn’t pass at all.

¹⁷ Gyekye, 50.

than the individual. This is not to say that traditional societies don't believe in the individual — they do — but less emphasis is placed on an individual's personal development, and more is placed on the role and function that the person will have in the community. Again, we can look at West African traditional cultures:

Communalism... may be defined as the doctrine or theory that the community (or, group) is the centre of the activities of the individual members of the society. This means that every individual member ought to show great concern for the progress and success of the entire society... Communalism, thus, appreciates and supports values that in African cultures are seen as essential to a human society membership of which is considered natural. Social life is natural to the human being because every human being is born into an existing human society. As an Akan maxim expresses it:

*When a person descends from heaven [i.e., is born], he... descends into a human society...*¹⁸

Compare this to the notion in modern, industrialized societies that the “natural” condition is one where we are born as individuals, with individual rights as such. Traditional cultures believe in “communalism” to the point where being alone is seen as something aberrant:

A person may want to lead an individualistic or solitary life, but to his or her own disappointment, failure, or grief. The dissatisfaction with a solitary form of life is expressed in the Akan maxim:

*Solitariness is a pitiable condition.*¹⁹

In Chinese, there is a remarkably similar view:

¹⁸ Ibid., 26.

[S]ome Chinese may prove incapable of understanding why an American friend prefers to spend the evening alone. For an individual to want to spend time alone is perfectly acceptable among Americans, but is viewed as a threat to group harmony to the Chinese, who equate aloneness with loneliness...²⁰

In Taiwan, I personally encountered similar thinking. I was unmarried at the time, and lived on my own. My students and colleagues there always expressed great concern that I was alone, and I was the subject of many invitations and efforts to make me part of a social group.²¹

As a result of communal thinking, traditional cultures also tend to have very fixed ideas about “in-groups” and “out-groups”. Americans, at least in the way they are socialized, are encouraged to be open or egalitarian. Groups, if there are any, ideally are based on shared interests, abilities, and so on. Moreover, since modern, industrialized societies emphasize the primacy of the individual, one can move from group to group fairly freely.²²

Part of the “group” dynamic in traditional cultures is that outsiders have a very difficult time integrating. For example, for Chinese to accept Westerners as friends, there are many obstacles. For one, it is unlikely that the Westerner will have known the Chinese person for such a long time as those *tong xue* have. And another basic problem if one is a Westerner is simply that one is not Chinese. Chinese people are convinced that Westerners simply cannot ever understand the Chinese — here considered to be an “in-group” as a whole — their culture, their language, and so on. And since they are convinced that the Westerner cannot understand these things, they certainly do not expect the Westerner to understand any personal details as a friend would.

Modern societies function on the principle of individuals living and behaving in a

¹⁹ Ibid., 27.

²⁰ Hu Wenzhong and Cornelius L. Grove, *Encountering the Chinese: A Guide for Americans* (Yarmouth, Maine: Intercultural Press), 65.

²¹ As I was a professor of design at the time, I ended up joining a group of artists and art educators who shared a studio there.

²² For a discussion of Japanese “grouping”, see Haru Yamada, *Different Games, Different Rules: Why Americans and Japanese Misunderstand Each Other* (Oxford: Oxford University Press, 1997): 41-43.

framework of “rule of law”, “individual rights”, and so on. Traditional societies, with their emphasis on the primacy on family and friends, function more laterally. As one study points out in a discussion of traditional Chinese society: “[H]uman needs are three in number, namely, sociability, security, and status. These needs are satisfied through interpersonal transactions.”²³ This difference means that in modern societies, we at least have the expectation that we will receive, for example, the same level of service from someone whether we have a personal relationship with them or not. In traditional cultures, the personal relationship can make or break a deal. This is still evident in some European cultures, especially in places like Italy and Spain, and Latin America and Japan, where a business deal might not necessarily take place until the people involved have socialized together in some way. In some very traditional cultures, of course, one simply cannot get anything done without personal connections.

The importance of “interpersonal transactions” in traditional cultures leads to another defining characteristic of such cultures. As we have already noted, traditional cultures do not adhere to the idea of a separate “conscious” and “unconscious” mind. This means that it is extremely difficult to use modern psychological tools — that is, scientific thinking — to examine the behavior of individuals in traditional societies. The same study of Chinese thinking cited above notes that in this situation, there must be an “alteration of focus”:

This alteration of focus means that scientific attention is rerouted from the individual’s ‘deep core of complexes and anxieties’ [i.e., the modern psychological model] to the relationship between the individual’s social behaviour and the ‘the interpersonal standards of the society and culture’. Satisfaction of human needs arises out of the match between a person’s behaviour and these social norms. This spider’s-web view of human reality then leads to a set of hypotheses which... [can be used] to explain a variety of contrasts between Chinese and Westerners...²⁴

²³ Michael Harris Bond and Kwang-kuo Hwang, “The Social Psychology of Chinese People”, in Michael Harris Bond, ed., *The Psychology of the Chinese People* (Oxford: Oxford University Press, 1986), 220.

²⁴ *Ibid.*, 220-221.

Not only is the traditional culture different from scientific thinking, it cannot even readily be understood by those using such thinking. But even the most modern, industrialized societies, those whose very structure is based on scientific thinking, were at some point traditional. So, how did scientific thinking — and modernity — arise?

In traditional cultures, one can speak in general terms of differences in terms of individual characteristics or personality as well. The fundamental differences concerning time, family, and relationships, outlined above not surprisingly lead to something we might call the archetypal traditional cultural personality. Some of the characteristics include a more communal orientation, and on the part of elders a more authoritarian quality, be it patriarchal or matriarchal. The individual in a traditional culture responds to the threat of shame above all as a mode of punishment, and as such tends to have a more inhibited or reserved manner.²⁵ In Ghana, West Africa, one finds an odd synthesis of a kind of post-colonial holdover British-style aversion to embarrassment, Christian morality, and the fear of shame from the traditional Ghanaian cultures. I encountered an intriguing schoolbook there entitled *Living Through Courtesy* that was a perfect exemplar of this. A section labeled “Harmful Results of Discourtesy” includes the following passage:

There are some places in our country where children, and even adults, keep pestering visitors by begging “Penny! Penny” or “*ma me sempowa*” (give me threepence). Pestering is a form of discourtesy. The visitors who are pestered in this way cannot help judging the town or village on the whole as a place of beggars.²⁶

The key admonition here is against behavior that brings shame upon the community. This kind of “shame culture” in Western societies is considered quaint or archaic.

Another characteristic of traditional culture is that anger tends to be suppressed or

²⁵ The Chinese, for example, have two quite common expressions concerning shameful behavior: *diu lian* and *diu mianzi*. Both mean, literally, to “lose face”, i.e., to be embarrassed, or even disgraced.

²⁶ Sophia Manu, ed., *Living Through Courtesy* (Accra: Adaex Educational Publications, 1998), 40.

re-directed into socially sanctioned forms, since a prime value in traditional culture is harmony, even if it seems to an outsider to be superficial in nature. The desire for and value of harmony is particularly profound in Asian and African societies. In Western societies, the preservation of rights is considered the core value, even if it leads to social discord.²⁷

It is important to emphasize here that the structures and characteristics of traditional culture described here is very old — tens of thousands of years. Indeed, one might argue that these standards and characteristics comprise the “default” nature of human beings, going back to the first appearance of *homo sapiens*, if not some earlier form of human society, e.g., Neanderthals. Of course, scientific thinking did not come from outside human societies — it is a product of the human mind as much as traditional culture is. However, scientific thinking in some sense may be autonomous, so that in its present form it is no longer a product of human beings, but rather a framework into which human beings are induced or compelled to live. At the same time, traditional culture, with all its different belief systems, lateral modes of thinking, and so on, has a much longer history. As I will argue below, this means that it would be foolhardy to believe that scientific thinking and modernity — despite their apparent power and seemingly autonomous nature — have somehow “replaced” the earlier and fundamental way of being.

The Rise of the Scientific Thinking

Citizens who live in Westernized, industrialized societies often are unaware that the entire framework of their existence is based on a rather abstract philosophical structure. That philosophical structure or premise is that the world, if not the universe, can be understood through the application of rational analysis. Science is seen as the key to making models of perceived reality, models that can be utilized to gain some degree of

²⁷ A great deal has been written on differences between Asian and Western thinking; more needs to be written on the difference between African and Western thinking. For a thoughtful study of Asian thinking patterns and its traditional roots, see Richard E. Nisbett, *The Geography of Thought: How Asians and Westerners Think Differently... and Why* (New York: The Free Press, 2003). Much more study needs to be done in examining the numerous *similarities* between Asian and African worldviews, particularly as they are both rooted in the thinking typical of traditional cultures.

understanding of the world around us. Moreover, this scientific methodology yields as a kind of by-product powerful technologies that allow us to explore, exploit, and shape that perceived reality. We have built spaceships and gone to the Moon — the Australian aborigines have not.

This Western, scientific way of thinking and behaving — one that is also found, of course, in non-Western countries such as Japan — is an artifact of a basic historical event: the triumph of Christianity over pagan beliefs.²⁸ In Christianity, human beings, existing in God's image, are portrayed as having dominion over the Earth. Moreover, since they are in God's image, they share some of God's capacity to create, to craft, and to manipulate the Earth's resources. Just as the God of the Old Testament could make a man out of the raw material of clay, so, too, can we use the resources around us to build and create things — this is the origin of the modern *Homo faber*.

The eighteenth-century philosopher and scholar Denis Diderot, in this famous encyclopedia, articulates very clearly the relationship between artisanship, systems thinking, and modernity. Indeed, the very compiling of this kind of encyclopedia was a very modern act, and modern, too, is the notion of encyclopedic knowledge:

The purpose of an Encyclopedia is to assemble the knowledge scattered over the surface of the Earth; to explain its general plan to the men with whom we live and to transmit it to the men who come after us; in order that the labors of centuries past may not be in vain during the centuries to come; that our descendents, by becoming better instructed, may as a consequence be more virtuous and happier, and that may not die without having deserved well of the race.²⁹

Here we see some of the key aspects of modernity: scientific categorization, linear time, and a belief in a rationally obtainable happiness.

In a modern reprinting of Diderot's work, the editor notes that this Enlightenment

²⁸ Japan is not a Christian society, but they adopted a structure of modernity that had been developed in the Christian West.

²⁹ Charles C. Gillispie, ed., *A Diderot Pictorial Encyclopedia of Trades and Industry: Manufacturing and the Technical Arts in Plates from "L'Encyclopédie, ou Dictionnaire Raisonné des Sciences, des Arts et des Métiers" of Denis Diderot*, 2 vols. (New York: Dover Publications, 1987), x.

tome represents an “ideology of progress and liberalism”; the editor points out that this was in contrast to a society in eighteenth-century France that was “monarchical, hierarchical, and priest-ridden”³⁰ — in other words, pre-modern. Diderot also represents a sort of modern triumph of the practical and the mechanical. Indeed, the editor of this recent reprinting goes on to comment:

Nor is the industrial dream itself a new vision. Eighteenth century experts were as aware as any latter-day technologists of the merits of rationalization, division of labor, standardization of parts, and displacement of uncertain labor by certain machines.³¹

Again, the hallmarks of modernity: systems, rationality, and standards.

One writer on Chinese culture notes that scientific thinking and its accompanying notions of modernity are products of the Industrial Revolution.³² Indeed, the Industrial Revolution may have made a certain kind of organized, systematic way of thinking necessary to run the machines, but a more fundamental change was actually in the background, one that made it possible for such a revolution to happen.

Indeed, even more relevant to the creation of analytic and systematic thinking was the triumph of monotheism over polytheistic beliefs. The very existence of a polytheistic pantheon meant that one could have competition and conflict even in the transcendent realm of the gods. But monotheism meant that there was only one divine order, and that as this order existed in heaven so might it exist on Earth. Moreover, such the uniformity of such an order meant that there were *laws* — that is, an explicit, God-given *system* for human conduct. Of course, other cultures, including polytheistic ones, had laws. But only the monotheistic West so clearly articulated that these laws were virtually a one-to-one map of human conduct as matched to the heavenly realm. In the Old Testament, the law, in the very tangible and material — indeed, *modern* — form of written text on media is given directly by God to the leader of the Jewish people, Moses. Jewish monotheism sets

³⁰ Ibid., xii.

³¹ Ibid., xxiv.

³² See Richard W. Hartzell, *Harmony in Conflict: Active Adaptation to Life in Present-day Chinese Society*

the stage for modern systems thinking: written rules for human conduct and interaction.

The scholar George Steiner has written about the deep effect of monotheism on Western culture, and we will return to his work later. He notes that its utopian demands were followed in structure by Christianity and later, socialism:

Monotheism at Sinai, primitive Christianity, messianic socialism: these are the three supreme moments in which Western culture is presented with what Ibsen termed “the claims of the ideal.” These are the three stages, profoundly interrelated, through which Western consciousness is forced to experience the blackmail of transcendence. “Surmount yourself. Surpass the opaque barriers of the mind to attain pure abstraction. Lose your life in order to gain it. Give up property, rank, worldly comfort... Make any sacrifice, endure any insult, even self-denunciation, so that justice may prevail.”³³

In practical terms, this means that Western culture is driven by an kind of idealism. What does such idealism have to do with scientific thinking, however?

Despite its analytical quality, science functions on a certain kind of idealism, one that is grounded in this monotheistic worldview. First of all, a monotheistic universe implies that there is a single, coherent plan, and that this plan can be discovered. Moreover, particularly in Jewish monotheism, God is, as Steiner puts it, so remote that he “does not allow imagining”.³⁴ Unlike the polytheistic gods of old, this new God does not play an active part in human affairs, and so mankind must rely on his intellect to explore — and explain — this vast creation. The very remoteness of the monotheistic God demands an intellectual approach. Perhaps it is not surprising that two of the very icons of this scientific or “analytical” approach, an approach that indeed became synonymous with “the modern”, were Jewish: Sigmund Freud and Albert Einstein.

(Taipei: Caves Books, 1988), 245-249.

³³ George Steiner, *In Bluebeard's Castle: Some Notes Towards the Redefinition of Culture* (New Haven: Yale University Press), 44.

³⁴ *Ibid.*, 37; in a slightly different context, but with great precision, another author describes human beings in their relationship to God as “guests of an inscrutable host”; see Gabriel Jackson, *Civilization & Barbarity in 20th Century Europe* (Amherst, N.Y.: Humanity Books, 1999), 327.

This shift to monotheism meant a discarding, or at least suppression of all that was ancient and traditional:

To speak of the “invention” of monotheism is to use words in the most provisional way. The cast of intellect, the social forms, the linguistic conventions which accompanied the change, it may be in the oasis at Kadesh, from polytheism to the Mosaic concept of one God, are beyond recall. We cannot feel our way into the minds and skins of the men and women who, evidently under constraint and amid frequent rebellion, passed into a new mapping of the world. The immensity of the event, its occurrence in real time, are certain, and reverberate still. But how the ancient concretions of worship, the ancient, natural reflexes of multitudinous animism were replaced, we have no way of knowing. The light curves towards us from across the remotest horizon. What we must recapture to mind, as nakedly as we can, is the singularity, the brain-hammering strangeness, of the monotheistic idea. Historians of religion tell us that the emergence of the concept of the Mosaic God is a unique fact in human experience, that a genuinely comparable notion sprang up at no other place or time. The abruptness of the Mosaic revelation, the finality of the creed at Sinai, tore up the human psyche by its most ancient roots. The break has never really knit.³⁵

Steiner says that this new way of thinking “tore up the human psyche by its most ancient roots”. But that doesn’t mean that the “natural reflexes of multitudinous animism”, as he puts it, disappeared. They were suppressed, sublimated, disguised: the pagan symbols of the egg and the fir tree live on in modern Christian rituals.

The rise of scientific thinking, at least superficially, has come to define the West, and the modern. Several distinguishing qualities came to characterize the monotheistic West:

- an analytical separation from the natural environment, and the idea that the

³⁵ Steiner, 36-37.

environment can be explored, exploited, and manipulated

- a belief in the power of law, and that there existed inherent rights for all human beings
- an assumption that the human mind is separated into a rational mind that somehow sits over a more primal mind — Freud’s *superego* versus the *id* — and an assumption that the rational mind must stay in control for society to remain stable

We are presented with a complex situation, however. On the one hand, as Steiner notes, with the rise of monotheism there is the marked change in the human way of thinking and behaving. A new civilization appears, one that is apparently completely rational and modern. On the other hand, other cultures, such as some in Asia and Africa, go through no such transformation. But these two parallel structures are not all there is, and therein is found the complexity of the situation. For one, the two structures have met and continue to meet, with cultures clashing as the modern, industrial societies attempt to colonize, literally or metaphorically, the traditional cultures, and as some elements of the traditional cultures seep into the modern societies.³⁶

Most profoundly, within the modern societies, the archaic, mystical ways of thinking continue to percolate and come to the surface, belying the apparent revolution and break from the past that Steiner talks about. The famous British architect A. W. N. Pugin sensed this very profoundly. In his 1841 book, *The True Principles of Pointed or Christian Architecture*, he promoted medieval art and Gothic architecture as expressions of a kind of pure, medieval Christian ethic.³⁷ He felt that the Classical architecture represented the resurfacing of a kind of impure, corrupting paganism.

³⁶ Such seepage is found most clearly, perhaps, in the visual arts and music: the “primitivism” and re-discovery of African and Oceanic art forms by artists such as Paul Gauguin and Pablo Picasso, and the rise of such Afro-European musical forms as jazz, rumba, samba, and so on.

³⁷ Augustus Welby Northmore Pugin, *The True Principles of Pointed or Christian Architecture* (London: John Weale, 1841).

Scientific Thinking and Modernity Meet Traditional Culture

When analytic and systematic thinking meet more fluid and apparently irrational traditional culture, the relationship tends to be one marked by displacement and conflict. But we can describe several specific phenomena when this meeting takes places:

1. The modern society incorporates elements of traditional cultures — particularly in visual arts and music.
2. There is an attempted complete synthesis of the two systems, where elements of the traditional culture are *consciously* preserved in a society that is otherwise modernizing.
3. The traditional culture rejects scientific thinking and modernity, and there is an overt clash.
4. The traditional culture wholly adopts scientific thinking and modernity; even in this case, the traditional beliefs and practices do not disappear — they are *unconsciously* preserved and suppressed, and appear in different forms.

The first scenario is the most innocuous; modern European societies incorporated elements of traditional cultures in the visual arts through the artistic movements of Primitivism and Orientalism. The societies remained modern, in the sense that African and Asian art objects served to influence what still remained formal European ways of making art — that is, painting and sculpture for the *salon*. Art did not begin to take on the much more integrated role that it has in traditional cultures. Related to this was the fact that the African and Asian art objects were stripped out of their contexts and placed in museums, as objects for scientific, analytical scrutiny.

In the old British Empire, there was the danger of the colonialist “going native” — giving up the rational and analytical for a life marked by a kind of timeless languor. The fear was that incorporating too much of “native” culture might change the scientific,

analytical culture that was supposed to be in control. Even when the modern societies adopt elements of traditional cultures, in the visual arts, music, or certain linguistic elements, certain fundamental aspects of traditional worldviews are never accepted, such as the cyclical conception of time. Modern societies are also loath to give up such analytical ideas as the “two minds”, and the belief in human rights, and organized legal systems for judging ethical behavior and decision-making.

The second scenario is particularly notable in contemporary behavior. The compulsion of those imbued with modern, scientific thinking to place this template on traditional cultures mean that we in the West still want to go about bringing “civilization to the natives”. But at the same time, our sense of “political correctness” and belief in the preservation of indigenous cultures means that we want traditions preserved. Sometimes the traditional cultures themselves are also compelled by historical accident to accept this duality. In Ghana, for example, the British colonial form of government has been retained in many respects, but so has the traditional power of local chiefs in the villages.

In other places, the two ways are less able to co-exist, and the traditional culture is relegated to a kind of “Disneyland” existence, a mere simulacra.³⁸ I witnessed this firsthand in Taiwan, where the aboriginal peoples live, dressed in “native costume”, in what is basically an open-air museum in a small town south of Taipei.³⁹ Other examples abound, from the islands of Hawaii to the Inuit territories. In China and Taiwan, one also sees a version of this phenomenon in architecture, where traditional architectural structures are relegated to historical sites and museums:

Classical Chinese architecture exists; however, the Chinese appear unable to define or develop modern architecture. The design of apartment buildings, office buildings, schools, etc. is often strikingly similar to structures built in large cities

³⁸ The French philosopher Jean Baudrillard talks about this phenomena at length in his book *Simulacra and Simulation*.

³⁹ I mention Taiwan several places in this paper; part of this comes from the fact that I lived there and was able to observe and participate in the culture first-hand. But Taiwan is also interesting in terms of our discussion of the modern versus traditional; one study notes: “According to the cultural-ecological perspective, the drastic qualitative change from an agricultural to an industrial economy during such a relatively short period... [has] resulted in a rapid corresponding change in Chinese social structure... From this point of view, Taiwan may be considered a unique social laboratory...”. See Kuo-shu Yang, “Chinese

in Africa, South America, Europe, etc., without a sense of “Chineseness”.⁴⁰

The only exception one might pose to this is the new skyscraper in Taiwan, “Taipei 101”, designed with Chinese motifs and symbols. But even this structure is actually Western with its “Chineseness” no more than decoration — the very concept of a skyscraper is completely alien to Chinese traditional architecture.

In the third scenario noted above, a traditional culture may choose to reject the imposition or importation of scientific thinking and modernity. Several centuries ago, Japan chose this path, keeping the Dutch, Portuguese, and other Europeans geographically restricted to certain port areas of the country. Later, of course, Japan embraced certain aspects of modernity, particularly those concerning technology and the military. Generally speaking, there are not many examples of this third scenario, because one of the necessities of scientific societies is expansion, and that means encroachment on previously isolated lands and peoples. The scientific, modern, and technologically advanced societies almost inevitably triumph in their attempts to change the traditional cultures to a more Western model, at least superficially.

One may point to the West’s current frustrations with Islam as an example of how the latter — a traditional culture, in some sense — is keeping modernity at bay. But Islam’s success is actually quite limited to certain geographical areas, and the imams use the tools of modern technology, including everything from cell phones to websites, to spread the word of Allah. Other traditional cultures, such as the Amish, live in a precarious relationship with the outside world, which is quite literally at their doorstep. They have been successful in a certain sense, but they are isolated socially, and are always in peril of diminishing numbers when their youth decide to assimilate into the larger, modern world.

The final scenario is really the most interesting, and it describes the “modern condition” rather well, if in an unusual way. In this scenario, a traditional culture has adopted, in whole, scientific thinking, with its analytical thinking, its obsession with the tangible, and adherence to complex social and technological systems. There have been

Personality and its Change,” in Bond, *The Psychology of the Chinese People*, 151.

numerous studies of cultures, their adoption of Western ways, and the results. A study cited earlier includes an interesting chart entitled “The Impact of Societal Modernization on Chinese Personality”, and notes shifts from traditional values to modern ones, such as a move from a “[p]reference for collectivistic (lineal) relationship” to a “[p]reference for individualistic relationship”.⁴¹

But while we readily accept the idea that a nation such as China is an example of a traditional culture that has adopted modernity, we have trouble believing that about some other societies. This is the case when we consider Europe, the U.S., Canada, and Japan. But as we have pointed out, what is intriguing here is that even in these cultures, the traditional beliefs and practices have not really disappeared at all.

In fact, they are *unconsciously* preserved, and the old rituals and beliefs are replaced by new ones, or given new names and iconography. What was pagan now gains a Christian label. What is still symbolic — currency, for example — we now claim to be real, since we moderns are more comfortable with *real* things. Alternatively, the symbols, language, fears, and demons of the old traditional cultures are suppressed, only to arise when given the opportunity.

In Japan, the suppression happened on a massive scale. The Western visitor there is impressed by a technology that now surpasses anything found in Europe or even in the U.S. Everything glistens with modernity. But in Japan has dissimulated the most, striving to be the most modern of modern nations, while at the same time trying to retain in various forms a connection to its past. Japan’s traditional culture pops up and reappears in all kinds of ways. There are the overt manifestations — wealthy women in traditional Japanese kimono outfits shuffling stiffly along the busy streets of Tokyo’s Ginza district in their wooden *geta* sandals; old-style restaurants with tatami mats; traditional Japanese carpenter using centuries-old joinery techniques; and so on.

There are also the strange undercurrents of tradition as well: Japanese pornography, supposedly a modern phenomenon, is actually built upon ancient themes and tropes, including fertility rites. There is still a festival in Japan, the Honen Matsuri

⁴⁰ Hartzell, 585-586.

⁴¹ See Kuo-shu Yang, Table 4.2 on p.161, and Fig. 4.1 on p.162; for a further discussion of the effect of modernization on Chinese society, note Fanny M. C. Cheung, “Psychopathology Among Chinese People,”

(豊年祭り) where model phalluses are held aloft, a ritual that hasn't been done in the West since ancient Greek times. Japanese eroticism also still draws directly from classical works such as the prints of Hokusai. In Japan, I was told that the fact that Japan never "Christianized" allowed much of this traditional culture to flourish, relatively unrepressed, through to the present era.

In his book *Japan: A Reinterpretation*, the commentator Patrick Smith returns again and again to the co-existence or layering of the modern and the traditional in Japan. Towards the end of that work, he tells an interesting story:

In 1960, a famous folklorist named Kunio Yanagita published a book called *By Way of the Sea*. Yanagita advanced the southern-origin theory [of Japanese culture] and postulated that in Okinawans the Japanese could find an authentic version of themselves, the earlier culture they buried when they sinicized and samuraized and later Westernized...⁴²

This "southern-origin theory" may not be much more than a conjecture, but it reflects the schizoid life of the Japanese, who have had modernized imposed upon them. Elsewhere in his study, Smith says explicitly:

The Japanese have always harbored a secret regret about the way they have made themselves modern... The Japanese offer an unspoken critique of the West, too — not a xenophobic rebuke so much as a regret of the habits and things Japan has taken from the West: its creeping corporatism and materialism, the animosity toward nature that displaced the ancient intimacy. That is why Japan can devastate rain forests and hunt whales while presenting itself to us as a guardian of our lost symbiosis with the natural world. We cannot look at the mess modernization has made of Japan without seeing ourselves reflected in it. Japan has merely taken the sovereignty Westerners claim over the planet furthest

in Bond, *The Psychology of the Chinese People*, 190-192.

⁴² Patrick Smith, *Japan: A Reinterpretation* (New York: Vintage Books, 1998), 283.

towards its fearsome far point.⁴³

Indeed, Japan can serve as a perfect example of the repression of traditional culture and its results. Japan embodies the psychological and cultural schism that is created when there is an attempt to syncretize the modern and traditional.

Earlier, we cited the idea put forward by Steiner that in modern cultures, all the “ancient, natural reflexes of multitudinous animism were replaced”. But again, in many cases, they were simply repressed. Steiner himself points this out, beginning by citing a line from Nietzsche: “The doctrine of a single Deity, whom men cannot play off against other gods and thus win open spaces for their own aims, is ‘the most monstrous of all human errors’...”.⁴⁴ He then goes on to argue — convincingly, I believe — that the Nazis were determined to punish the Jews for being the bearers of monotheism through to the modern age, and imposing monotheism’s “burdens” of rational thinking and ethical behavior on a Europe that was still in many ways a pre-modern culture.⁴⁵

Steiner does not cite in support of his argument, but could have, the historical fact that the Nazis explicitly embraced a pre-monotheistic pagan ethic. In a 1937 rally, Heinrich Himmler, the head of Hitler’s Schutzstaffel (SS), had said:

Which of us wandering through the lovely German countryside and coming unawares upon a crucifix does not feel deep in his heart... a strange but enduring sense of shame? The gods of our ancestors were different. They were men, and carried in their hands a weapon which typified the natural tendencies of our race, namely readiness to get and self-reliance. How different is yonder pale figure on the Cross, whose passivity and aspect of suffering express only humility and self-abnegation, qualities which we, conscious of our heroic blood, utterly deny... The corruption of our blood, caused by the intrusion of this alien philosophy, must be ended.⁴⁶

⁴³ Ibid., 177-178.

⁴⁴ Steiner, 38.

⁴⁵ Ibid., 38, also note p.452 of Jeffrey M. Perl, “The Idea of a Jewish Society”, *Modernism/modernity* 10.3 (September 2003): 447-454.

⁴⁶ As quoted in Gilmer W. Blackburn, “The Portrayal of Christianity in the History Textbooks of Nazi

Nazi textbooks for children published during the war years spoke of how the “stout Germanic folk” in ancient times had been forced into accepting the alien religion of Christianity, and how the Germans had been betrayed “by those who would shackle their minds in an alien Judaic mold”.⁴⁷

Interestingly, while the Nazis believed in the power of their pagan, traditional past, they were defeated by the twin forces of modernity: the Christian behemoth of the U.S. and its allies, and the communist forces of the Soviet Union. The Nazis’ mythical beliefs that their traditional cultural values of *blut und boden* would triumph, and their faith that the spectacular *wunderwaffen* would, like the gods of old, strike down their enemies, failed badly. Indeed, the Nazis were defeated by the brutal *modern* facts of American mass production and Soviet numerical superiority.⁴⁸

Despite such defeats, however, traditional culture is always there, bubbling under the surface, in different forms and various guises, some more fearsome than others. Again we return to Steiner, and his description of humankind’s reaction to monotheism and its strictures:

Deep loathing built up in the social subconscious, murderous resentments. The mechanism is simple but primordial. *We hate most those who hold out to us a goal, an ideal, a visionary promise...*⁴⁹

The resentment against scientific thinking and modernity is always there. It came out in the guise of Victorian and Edwardian spiritualism, and it has shown itself in contemporary “New Age” thinking and “Wiccan” beliefs. It lives on in the eternal adherence to astrological concepts, and many other forms.

We face continual conflict between the traditional and the modern on a larger scale, as well. The problems in the Middle East are perfectly framed by this conflict. For

Germany”, *Church History* 49.4 (December 1980): 433-445.

⁴⁷ Blackburn, 437.

⁴⁸ This is very clearly and soundly argued in Richard Overy, *Why the Allies Won* (New York: W.W. Norton, 1996).

⁴⁹ Steiner, 45.

example, we have the modern, secular state of Israel at perpetual odds with its traditional neighbors. Of course, Israeli politics suffers from religious lobbying, and there are other connections between a largely secular government and religious ideas. But Israel is not a theocratic state. It represents, for better or worse, modernity: “...Israel is disliked more as a modernist state... than as a Jewish state...”⁵⁰

The U.S., in turn, cannot understand Iraq because it cannot understand any state that does not operate in the sort of rationalistic, logical framework in which it believes itself to operate. More profoundly, the odd belief in an Iraqi “nation” is an artifact of British attempts to place a template of modernity — e.g., the idea of cartographically delineated nationhood — onto a geographical area that contained many different peoples and belief systems.

The U.S. itself, in fact, is deeply divided or even fractured; there are those who embrace modernity and its ideals of a rational and scientific approach to healthcare, education, and so on. At the same time, the traditional, even archaic, idea that the Earth was formed by some kind of anthropomorphic god in a period of just seven days continues to circulate, gaining sufficient respectability to be heard in courts of law.⁵¹

These phenomena indicate that the ancient ways continue under the surface, and that scientific thinking has in no way “triumphed”. While an elite may try to embrace modernity, and see it was a vital step away from a perhaps “savage” past, in fact even they cannot escape the fact that to be human may mean to be traditional, to believe in spirits and ghosts beyond this observed and analyzed world of ours:

The Middle Ages, antiquity, and prehistory have not died out, as the enlightened suppose, but live on merrily in large sections of the population. Mythology and magic flourish as ever in our midst...⁵²

⁵⁰ Perl, 450.

⁵¹ See Neela Banerjee, “An Alternative to Evolution Splits a Pennsylvania Town”, *The New York Times* (16 January 2005), and Laurie Goodstein, “Judge Rejects Teaching Intelligent Design”, *The New York Times* (21 December 2005).

⁵² Carl G. Jung, *Flying Saucers: A Modern Myth of Things Seen in the Skies*, trans. R. F. C. Hull (Princeton: Princeton University Press, 1978), 63-64.

Carl Jung wrote these words in a rather surprising book on, of all things, flying saucers. He believed that sighting of such objects simply represented a modern incarnation of earlier beliefs of spirits and apparitions. Since we live in a “modern” age, beliefs of this kind in contemporary society must have the trappings of modernity; therefore, they appear as technological phenomena. But underneath, it’s the same old traditional culture.

Conclusions

We end here with some thoughts on the nature of this strange situation we are in, living in a modern world with traditional souls. Does it mean a coming showdown, of the kind Steiner says that happened with such awful consequences in Nazi Germany? The modern society, characterized by scientific thinking, begins to break down, as traditional cultural ideas — mystical and magical thinking especially — begin to reappear. This phenomenon is very clearly described in a book whose very title symbolizes the two different ways of thinking: Carl Sagan’s *The Demon-Haunted World: Science as a Candle in the Dark*. Early in the book, he gives a warning, clearly equating science with modernity:

Science is more than a body of knowledge; it is a way of thinking. I have a foreboding of an America in my children’s or grandchildren’s time... when awesome technological powers are in the hands of a very few, and no one representing the public interest can even grasp the issues; when the people have lost the ability to set their own agendas or knowledgeably question those in authority; when clutching our crystals and nervously consulting our horoscopes, our critical faculties in decline, unable to distinguish between what feels good and what’s true, we slide, almost without noticing, back into superstitions and darkness.⁵³

What might make our society slip “back into superstitions and darkness”? Part of such a return to traditional ideas might come from a fear that modern, scientific thinking has

⁵³ Carl Sagan, *The Demon-Haunted World: Science as a Candle in the Dark* (New York: Random House,

rendered us no longer human, and that only the traditional ways can make us “whole again”. It is not surprising that the words “whole” and “holistic” appear so widely in New Age literature. But even over a century ago, Max Weber wrote of the “iron cage”; Weber used this term to refer to a rationalization of people’s lives in modern society, wherein we must live according to fixed rules and guidelines, typified by bureaucracies.⁵⁴ A reaction to this repressive aspect of modernity might well be fed by an appeal to the old ways, to freedom from linear time, and anonymous hierarchical structures.

Again we return to Steiner’s “natural reflexes of multitudinous animism” among human beings, their inner desire or propensity to return to the traditional ways. Indeed, perhaps modernity never really “took,” except among a small elite. People in general are highly resistant to new models of thinking, and perhaps our recent history of the triumph of scientific thinking is only a historical “blip.” Jung was right — mythology and magical thinking continue to “flourish as ever in our midst.”

In his book *Wholeness and the Implicate Order*, the famous physicist David Bohm talked about new ways of thinking about the physical world; he spoke clearly of the obstacles to making any kind of fundamental change in our views of the natural order:

[O]ur notions of order are pervasive, for not only do they involve our thinking, but also our senses, our feelings, our intuitions, our physical movement, our relationships with other people and with society as a whole and, indeed, every phase of our lives. It is thus difficult to “step back” from our old notions of order sufficiently to be able seriously to consider new notions of order.⁵⁵

In the case of scientific thinking versus traditional worldviews, one can easily argue that “our senses, our feelings, our intuitions”, and so on are still deeply rooted in the old ways, ready to come out at any moment. Some see this as terrifying, particularly when viewed on a global scale. With an eye to the U.S. as a paragon of modernity and order, Niall

1995), 25.

⁵⁴ Weber’s conceptions are presented in his 1905 work, *Die Protestantische Ethik und der Geist des Kapitalismus* [*The Protestant Ethic and the Spirit of Capitalism*]; also see the commentary in Arthur Mitzman, *The Iron Cage: An Historical Interpretation of Max Weber* (New York: Alfred A. Knopf, 1970).

⁵⁵ David Bohm, *Wholeness and the Implicate Order* (London: Routledge, 2002), 223-224.

Ferguson has written:

Critics of U.S. global dominance should pause and consider the alternative. If the U.S. retreats from its hegemonic role, who would supplant it? Not Europe, not China, not the Muslim world — and certainly not the United Nations. Unfortunately, the alternative to a single superpower is not a multilateral utopia, but the anarchic nightmare of a new Dark Age.⁵⁶

For now, we live in a world of constant tension between scientific thinking and traditional culture, perhaps reaping the worst aspects of both. We witness the awful results of modern technology at its most dehumanizing, along with the most irrational and violent fears of old cultures.

The tension and conflict takes place either between ostensibly modern cultures and old ones — such as what is happening with the U.S. in the Middle East — or within a society that has modernized but has traditional culture “bubbling” right under the surface. Richard W. Hartzell, a commentator on Chinese culture, notes that latter situation is most frequently found in “a society whose members ‘skipped’ the industrial Revolution”.⁵⁷ Such societies, such as those in Mainland China and Taiwan, have all the trappings of modernity, but display some distinctly pre-industrial modes of behavior:

Even though many sectors of Chinese society in the present era incorporate various machines and other products of an advanced Post-Industrial Revolution age, innumerable faces of Pre-Industrial Revolution thinking and behavior may be seen among the populace. Many western tourist, businessmen, and other observers have noted the general lack of maintenance and upkeep of equipment, facilities, housing, etc. in China, and the specific lack of preventative maintenance in using a wide variety of machinery and apparatuses. Numerous westerners have stated that this is hard to understand; however, we believe this is easily correlated

⁵⁶ Niall Ferguson, “A World Without Power”, *Foreign Policy* (July - August, 2004), 32-39.

⁵⁷ Hartzell, 249-250.

to a society whose members “skipped” the Industrial Revolution.⁵⁸

In his study of the Chinese, Hartzell devotes a very interesting chapter — entitled “Opposing Explanations & Varying Worldviews” — to the differences between traditional Chinese and modern Western ways of thinking, and the difficulties these differences cause when the two cultures meet. The focus of the chapter is that the different histories of the China and the West have led to the current cultural differences.

One can easily observe the same phenomena of the “skipped” Industrial Revolution that Hartzell talks about not just in China and Taiwan, but also in Africa and other parts of the world. When I visited Sri Lanka on a study tour many years ago, I had an old British guidebook that talked rather disparagingly about the “local peoples” and their “complete disdain for any kind of mechanical maintenance”. Similarly, Hartzell notes:

A westerner takes it for granted that the additional expense and effort required in maintaining equipment is more economical in the long run... The long term planning inherent in these notions is typical of Post-Industrial Revolution thinking. Such ideas are rarely found in a society of Subsistence Agriculture [i.e., a traditional culture]. When we speak of the Chinese views of planning, we see that their concepts are often more indicative of a pre-industrial age... It contains much go-with-the-flow reasoning and is typified by a “crisis intervention” style of management: crises are dealt with when and if they occur; otherwise, developments are left to proceed on their “natural course” in a laissez-faire fashion.⁵⁹

A visitor can witness this in any place where modernity has been “grafted” onto an old, traditional culture, including China, Brazil, Russia, Nigeria, and so on.

At the start of this paper, we commented that the two worldviews and their accompanying ways of behaving ultimately may be irreconcilable. In concluding, it may be

⁵⁸ Ibid., 249-250.

that one mode will ultimately be triumphant, and that is the mode of traditional culture. In the modernized West, we seem to be retreating from the triumphalism of scientific thinking, as we see its side-effects and repercussions. Traditional beliefs in holistic healing, the presence of aliens (a modern replacement for spirits) in our midst, the power of prayer, and so on, are on the rise — just as Carl Sagan warned.

This phenomenon is not new. After every technology-induced societal trauma, the members of society reach back, consciously or unconsciously for the “old ways”. After the devastation of World War One, spiritualism and a belief in the occult made a comeback in Britain, even among scientifically-trained thinkers such as Sir Oliver Lodge and Sir Arthur Conan Doyle.⁶⁰ The current New Age beliefs arose in the 1970’s, just as the U.S. was withdrawing from the modern military nightmare of the Vietnam War. Even some modern scientists have drifted into writing about questions of the metaphysical and the spiritual, particularly concerning the origins of the universe and the role of mankind in it.⁶¹

Another commentator, writing on the rather violent history of twentieth-century Europe — a violence facilitated by science and technology — provides this insight into modernity:

One of the crucial questions, then, concerning the European future, and the general future of the West, is whether the highly secularized societies of the late twentieth century — societies which lack any transcendent principle of legitimacy or restraint on purely human power — will be able to substitute a secular human ethic for the lost religious one... [T]his historian knows of no instance in which a nonreligious faith has ever convinced large segments of humanity that the life of

⁵⁹ Ibid., 250.

⁶⁰ For an interesting period critique of the post-World War One revival of spiritualism, see E. Leigh Mudge, “Occultism Old and New”, *The Biblical World* 54.3 (May, 1920): 287-293.

⁶¹ For a very thoughtful summary of this, see pp.27-30 of Mike King, “Concerning the Spiritual in Twentieth-Century Art and Science”, *Leonardo* 31.1 (1998): 21-31. Also note: Constance Holden, “Subjecting Belief to the Scientific Method”, *Science, New Series*, Vol. 284.5418 (21 May 1999): 1257-1259, as well as William Lane Craig, “Barrow and Tipler on the Anthropic Principle vs. Divine Design”, *The British Journal for the Philosophy of Science*, 39.3 (September, 1988): 389-395.

their fellow humans... is sacred.⁶²

We might modify this view slightly and argue that scientific thinking and modernity simply cannot offer the ethical structure provided by traditional culture.

Part of the resurfacing of the traditional, too, may come from our recoiling at the horrifying “grafts” of modern and traditional one sees in the mega-cities of the developing world — São Paulo, Mexico City, Lagos, Manila, Shanghai, and others. These are examples of modernity gone awry, grafted with the amateurishness of a hack surgeon onto cultures where they don’t belong. The cities comprise skyscrapers and shantytowns, with internal immigrants from traditional rural areas flocking there to eke out an existence far from home. Other “grafts”, as disturbing in many ways as such mismatches in surgery, Frankensteins of modernity and traditional culture, include Iraq, where the British, and later Saddam, attempted to impose technocratic nationalism and national socialism upon artificial conglomerates of geography and ethnography.

In the U.S., the lament of people for the old days of social order and safety, particularly in urban areas, seems to reflect a breakdown in civilization. But really, it is just a sign of a return of the old ways, with gated communities popping up just like the old medieval walled cities — a return to the fear of the outsider. The brittle covering of modernity has cracked, and the old ghosts are resurfacing, with the encouragement of our renewed incantations against the scientific and technological.

But in the end, there may be a final twist to all this. We have argued here — and Steiner, Sagan, Ferguson, and others have implied the same — that modernity is a thin layer, underneath which rumble the ancient ways of thought. Yet perhaps modernity never arose at all. Perhaps even modernity is just a playing out of the old human psyche as much as the fearsome gods, spirits, and ghosts of the traditional cultures were. The nightmares and primal fears now manifest themselves not in fearsome headdresses and loud drumming, but in the massive and terrifying industrial plants that are like the dark and fearsome forests of old. The vast parking lots stretch before us like ancient *terrae incognitae*, and metropolitan skyscrapers and underground nuclear shelters are standing

⁶² Jackson, 327.

in for the medieval castles and Neanderthal caves of the past.

We thought that scientific thinking and modernity are at peril. Rather, we are waking up to find that no scientific revolution ever really happened. As Jung said, the “Middle Ages, antiquity, and prehistory... live on merrily”, and modernity is only an apparition. We are still in a dark age, surrounded by not by spirits, but by their frightening technological equivalents, all spinning out into consciousness, becoming manifest, from the same deep and dark recesses of the human mind, a mind *primitive* — as it always has been.
