Reflections

Culture, Science, and Technology:
How To Respond to
Contemporary Challenges

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The Case

The Ummah was built on the foundation of *tawhid, istikhlaf,* the pursuit of knowledge, and personal and communal responsibility. Although it was once a leading creator of and contributor to human civilization, over the last few centuries it has become weak and backward to the point of crisis.

The awareness of the Ummah's regression is almost 1,000 years old, dating back far beyond the challenges of European colonization and westernization. We can trace this back to Abu Hamid al-Ghazali's *Ihya' `Ulum al-Din* (Revival of the Knowledge and Sciences of Religion) and *Tahafat al-Falasifah* (The Incoherence of the Philosophers). Since then, the Ummah has produced dozens of revivalist personalities and movements, such as Ibn Hazm, Ibn Taymiyyah, Ibn 'Abd al-Salam, Ibn 'Abd al-Wahhab, the Muwahiddun, the Murabitun, the Mahdis of Sudan, the Sanusis of Libya, the Ottoman sultan Salim III, Khayr al-Din al-Tunisi, Muhammad 'Ali, Jamal al-Din al-Afgani, Rashid Rida, Muhammad 'Abdu of Egypt, Shah Waliullah and Muhammad Iqbal of India, Amir 'Abd al-Qadir and Ben Badis of Algeria, and many others.

All of these individual efforts and movements helped minimize and slow down the Ummah's deterioration, and without them the Ummah's condition and chances of survival could have been much worse. Despite

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these benefits, however, the Ummah's desired successful revival, confrontation with the western challenge, and progress as a creator of and contributor to civilization has not been fully achieved.

We must ask why the goals were not achieved. What was missing? How can we restore the Ummah to its role as a creator of and contributor to a spiritually, morally, and materially balanced civilization?

From the spiritual and moral standpoint, Muslims cannot confront the challenge of a contemporary materialistic and atheistic civilization until they can deal with its scientific and technological challenges. Although there are many ways to do this, the priority is to discover the real reason for our civilizational crisis and poor performance. Again, what is missing? Why are we unable to revive and motivate the Ummah, to confront and successfully deal with these challenges, and to rebuild our public institutions and achieve excellence in economic performance, science, and technology?

The most vital task is to concentrate on the real reason, for dealing with symptoms and side-effects will not resolve the problem. Only after determining the real reason can we lay sound plans and order our priorities.

If we are serious, we should not simplify issues and answer our questions with other questions, such as saying that our failure is a result of neglecting our religion. The question remains: Why have we neglected our religion, even though outwardly we profess our adherence to it and accept it as the source and reason for our success? We have to search for the basic reasons of what has happened, as well as why and how it happened.

As usual, we can guess and continue guessing the answers. However, if we want an accurate answer we must begin from the facts and the real issues facing us. Simply put, we are in a crisis because the Ummah has failed to deal successfully with western science and technology.

This leads to the real question: Why, since the eighteenth century, has the Ummah failed to confront this challenge and acquire the knowledge and mastery of science and technology? Our technical and academic institutions strive for scientific and technological excellence, import machines and factories, and open their countries to foreign companies and investors in order to build and use their knowledge in their imported factories. The Muslim world's urban upper classes know and use modern machinery. But most Muslims do not participate in mastering and developing them, and so they remain strangers to these concepts and facilities. This explains why our rich Ummah of 1.2 billion people produces only one-fourth of what Japan produces. We produce raw materials and establish assembly plants. For example, one ton of iron may be worth several thousand dollars.

However, the 120 million people of resource-poor Japan export the same iron through Sony, Mitsubishi, and other companies in high-tech and electronic products worth millions of dollars.

Our brilliant civilization's history shows that the Ummah can acquire and master important contemporary means of `imran and developmental science and technology. In fact, the methodological foundations of modern science and civilization were developed by Islamic civilization.

The question remains: Why has the Ummah failed to enter the fields of science and technology? What happened to the Ummah to cause such degeneration and destroy our civilization? What more can we do to master these fields? We send our young people to study in the West, build modern universities and research centers, and import all kinds of machines and tools from cars to computers. We hold endless conferences to discover what more we should imitate and import. What are we missing?

We should realize that science and technology cannot be bought or imitated. Nor do they simply mean tools, machines, and laboratories. Rather, they are based on mental and psychological qualities and cultural attitudes. Mere imitation and importing will never help us acquire these qualities. Tools, machines, laboratories, and factories are products of scientific and technical abilities, and they help in their continuing development. Mere imitation and memorization is of no help in acquiring and mastering them.

So, do our people have the mental and psychological scientific and creative attitude? Our scholars and intellectuals know and use scientific procedures in their classes and laboratories. We translate many books and hold many conferences about creativity, simply because it seems particularly commercial and sells better than books and other ideas. Yet we know that we are not creative, and so we closely copy and follow western ways.

We should stop imitating and look inward to understand why we are backward, and then deal with these issues scientifically instead of blindly following and imitating others. We must understand ourselves, our peoples, and our cultures, as well as other peoples and their cultures. Peoples and cultures, like all other parts of creation, are systems with rules and limitations that, if ignored or abused, are likely to bring about collapse and destruction. Our mistake is that we do not look inward at ourselves. We do not try to understand our inner self, its nature, motivations, and the sources of our inner power so as to discover what has gone wrong. But doing so is a precondition for real reform, revival, and change. We need to apply the same strategy to understand others in a holistic and analytical manner. We

need to learn how they deal with their own characteristics so that we can learn from their experience. Blind imitation and importing could be harmful or even fatal, like injecting one cubic centimeter of oxygen into a vein instead of breathing it through the lungs.

To develop or reclaim our scientific and creative intellect and attitude, we must establish them in our culture and then internalize them in our present and future generations. To achieve this, we have to study carefully our history, culture, psychology, and character to discover what went wrong, where, when, and how. Only then we will be able to understand the problem and find the right way and means to deal with it, reverse the process, and cure the disease.

The Causes of the Crisis

To understand our current crisis accurately, we need to return to the revelation of the Qur'an and its basic concepts of *tawhid*, *istikhlaf*, individual and communal responsibility, `*umran*, and pursuit of knowledge. This supreme and civilized message to humanity transformed the early Arab Muslims into a great people, the bearers of a great religion, and the creators of great civilizations and history. They sought guidance from the Qur'an and developed their means through reason and knowledge of Allah's natural laws (*sunan*). For the first time in history they developed the foundations of scientific and experimental methods – the same foundations that gave contemporary materialistic civilization its power of science and technology. However, Islamic civilization was not materialistic, for it was centered on *istikhlaf*, responsibility, and action to create a balanced way of life: spiritually, morally, and materially.

Islam and the early generations of Muslims represented a distinguished and dynamic power in the Ummah's history. This powerful Islamic guidance remains responsible for preserving the Ummah and most of the goodness in Muslims' lives and consciousness.

Unfortunately, the Ummah has retained remnants of old traditions, philosophies, and racial and tribal practices that continue to impact the lives of its people. Over time, this caused the Ummah's degeneration and influenced new Muslims, as they did before Islam, thus weakening the religious enlightenment. Over the centuries, separation and confrontation within the Ummah's intellectual leadership developed – a truly disastrous result. In other words, Muslim scholars and the political and intellectual ruling elites confronted each other.

This development weakened both sides and caused serious harm to their social roles and to the Ummah. Thinkers and scholars were isolated from the everyday lives of ordinary people, and their dynamics and concerns became increasingly theoretical. This situation prevented the growth of the social sciences and gradually drove scholars (ulama) to pure imitation and memorization. Students of ancient and alien philosophies did not truly benefit from the early scientific, experimental, and action-oriented Islamic principles and methods, but continued to follow the theoretical path. This added further harm and confusion to the Ummah's intellectual life.

In their isolation, the ulama developed a distorted view of Islam's universal vision, one that was no longer ummatic and positive. They were no longer concerned with the Ummah's life, and its public institutions were no longer part of their agenda. This led to the marked deterioration of the Ummah and its public institutions. The ulama concentrated on Islam's ritual (private) aspects (e.g., *salah*, *siyam*, and Qur'anic recitation), which they called `*ibadat*, although the Qur'anic terminology refers to them as *dhikr*. They called the jihad of life to pursue a *halal* lifestyle, the jihad to seek knowledge, the jihad to spread *da`wah*, and the jihad to defend the Ummah. They focused on *mu`amalat*, mere dealings and contracts almost devoid of spiritual value.

This distortion of Islam's universal vision was largely responsible for distorting Islamic life and institutions and giving Muslims a negative attitude toward life and civilization. The Muslim masses and societies were no longer the strong *muwahidin* and *mustakhlafin*, but weak and submissive. In short, the average Muslim was transformed into a person that concentrated on survival and thus showed little interest in pursuing an important civilizational role in history.

The isolation of intellectuals and scholars fragmented the sources of Islamic knowledge. The knowledge was either religious, and therefore based on the Qur'an and Sunnah and supported with linguistic tools in a historical context. Or it was human knowledge, and therefore related to foreign cultures and civilizations, and alien to the Islamic worldview, values, and Muslim psychology and culture.

The opposition and confrontation between Islamic scholars and the corrupt political, tribal, and aristocratic elites weakened the rulers' position in two ways. First, it continually raised doubts about the legitimacy of their rule. Second, they were deprived and alienated from the intellectual base that could provide the intellectual support and ability to deal with Ummah's changing circumstances.

As a result, due to the weakened state of the Ummah and the rulers, both the ulama and the rulers turned to the "lesser evil" of oppression and violence to control the people in order to avoid political and social chaos.

The rulers and the political elites imprisoned or executed their opponents, while the ulama threatened spiritual and eternal punishment to suppress intellectual dissatisfaction and revolt against their arbitrary authority and interpretations of religious text. The crushing of intellectual expression and the oppression of corrupt rulers polluted the national culture and created a negative and superstitious mentality that finally influenced the development of the Muslims' "slave mentality." It is, therefore, not surprising that Muslims appear to be fearful, negative, and lacking in initiative and creativity.

The end result was a distorted universal Muslim vision, deficient knowledge, a corrupt public life, a superstitious mentality, and a damaging slave mentality. After losing their scientific and creative mentality, Muslim scientists turned to memorizing scientific procedures or imitating and importing scientific and technological tools and systems. In so doing, they hoped to achieve the ability to carry out research and development that would help the Ummah to catch up with the developed nations.

But we must do more than this – we need to correct our mental, cultural, and psychological distortions; adjust our world vision in order to regain our ummatic outlook; rectify our epistemological view in order to reunite religious and human knowledge; cleanse our culture from all distortions and superstitions in order to restore our Islamic scientific mentality and methodology; and reform our parental and educational methods.

We need to return to the Prophet's methods of child development and education. The Prophet used love, care, respect, patience, wise guidance, effective communication, and supervision when dealing with children. For example, when he spoke to children (such as Ibn ʿAbbas), he did not address them in the same way that the Qur'an addresses its enemies, nor did he threaten or frighten them. Instead, he created an atmosphere of love and mutual support between the children and God, and taught them courage. For example, he told Ibn ʿAbbas:

> Now, boy, care about God, for God cares about you. Remember God in your good times, for God remembers you in your hard times of need. If everyone wants to harm you with something that God has not decided would happen to you, they cannot harm you. Likewise, if they want to benefit you with something that God has not decided for you, they cannot benefit you. The pens have been dried, and the records have been closed.

The Prophet used such words to teach Ibn `Abbas courage, because courage is the real basis of a strong character and all virtues. On another occasion, the Prophet addressed the mind and reason while replying to a man who asked him if he could leave his camel untethered and trust in God to protect it while he prayed. The Prophet told him to tether the camel and then trust in God.

The Prophet was very careful and thoughtful in dealing with his grandson, al-Hussain, who once climbed on his back while he was leading the prayers in the mosque. The Prophet made an unusually long *sujud*, which caused his Companions to wonder if it was a revelation. He told them that he did not want to rise (from *sujud*) hastily, for that would not allow his grandson enough time to enjoy his ride. The lesson here was not that he loved his grandson, but that he was the grandfather of a small child who knew nothing about *salah*, *sujud*, or *iman*. All he could understand was that his grandfather was on the ground, so he climbed on his back to play. The Prophet had two choices: put him down in a hurry without saying a word to him because he was praying, or give him some time to play and enjoy himself and then put him down carefully and continue the prayer. His constant thoughtful and careful nature, which precluded his hitting a child, enabled him to succeed as a father and a grandfather.

Reversing the Process and Facing the Challenge

Based on our analysis, our problems began with the distortion of Islam's worldview and the epistemological concepts of knowledge. This weakened the political elite (such as the sultan) and the intellectual elite (the ulama), and was followed by the destruction and distortion of Islamic culture, *tarbiyah*, and education. The final results were political oppression and terrorism, as well as intellectual and spiritual oppression and terrorism coupled with threats of eternal hellfire. When added to a damaged psychology and a distorted concept of knowledge and culture, a slave mentality was a natural outcome. The strong Muslim *mustakhlaf* psychology was replaced by a weak mentality and psychology. Reduced to a pathetic and negative struggle for survival, the Ummah lost its will to seek knowledge, to realize civilizational ambitions, and to pursue development and creativity.

Terrified and hostile people usually withdraw into themselves and do the minimum necessary for survival. Only those who live in an atmosphere of mutual love and kindness are usually positive, patient, resilient, and

active. This explains the negative imitative attitude, inertia, and lack of creativity that we find in the Ummah today.

To transform the Ummah into a positive, action-oriented, and creative force that can meet the challenge of scientific and technological development, we need to reverse the process and restore the true, strong Muslim character. The right psychology and character should be our ultimate goal. But what must be reversed, who is going to do it, and how can it be done?

First, we must regain our *tawhidi, istikhlafi,* and positive worldview; integrate our revealed and human knowledge (the scientific *sunani* methodology of thinking); cleanse our culture from superstition; reform the intellectual religious address as a positive and motivating message; and include a constructive approach within our concept and methods of *tarbiyah* and education.

Before we can determine who is going to do it and how it should be done, we must understand that this process seeks change and renewal. Our aim is to bring constructive change into the Ummah's nature and character so it can face the contemporary world's challenges, especially those of science and technology. Only then can we use Islam's moral and spiritual forces to improve the quality of modern life.

Societies and their changes in attitude resemble cars. While driving a car, we want its wheels to turn around so that the car will take us where we want to go. In the case of societies, we want them to perform better and more constructively in all of their moral and material aspects, as well as in their political, social, economic, scientific, technological, and military matters.

Changing a society is like turning the wheels of a car. You do not make a car run by turning its wheels with your hands; rather, you find the starter and turn it on to begin the process. The starter produces a spark, which ignites the gasoline, which causes the cylinder to set the gears in motion. The gears turn the wheels, which enables the car to move in the desired direction.

To change a society, first you must find the driver, who then has to find the starter to set the process in motion. Our negative slave mentality causes us to look to public institutions, including the government, to initiate change while we sit back and do nothing. However, such institutions usually seek to manage change so that the status quo is maintained. Real and serious change has to start in a society's individual members. Institutions exist to respond to and carry out desired change through their members' good qualities and actions. Therefore, we have to search for those who are naturally motivated to improve the Ummah and its members.

Since the problems are essentially intellectual, the drivers are likely to be our thinkers, intellectuals, ulama, and educators. These people provide the vision and guidance, and are responsible for the quality of the Ummah's thought, culture, methodology of thinking, and methods of *tarbiyah* and education. Our intellectuals have failed to guide the Ummah and to reform its thought and culture, for the dominant culture is one of following and imitating traditional models of thought or those of alien cultures and models. Our intellectuals need to be enlightened and guided in the right direction so that they can find the correct solutions and apply them with sincerity and courage. Muslim thinkers and reformers must reach all intellectuals, especially teachers and educators, who have a deep-seated wish to serve the Ummah and prepare the young generation for a better future. Our thinkers and ulama have to work hard to restore our positive worldview; reform the Muslim mind, as well as our Islamic thinking and methodology; continue Muhammad `Abduh's lead to cleanse our culture from negative and superstitious elements; and reform our styles and methods of *tarbiyah* and education to enable parents and teachers to raise a new generation that is spiritually, psychologically, and morally better and stronger. They must be grounded in science, creativity, and the ability to meet all challenges.

The key element in the process of social change is identifying the starter and the ignition key. The starter should have a genuine interest in instigating change. Addressing the starter is the first priority for any successful strategy of change.

In society, the starter is the natural and *fitri* motivation of parents who want to prepare their children fully for the future. While parents usually want the best for their children, they need to be convinced of the cause and be able to practice its principles. Nowadays, western culture has convinced Muslim parents that they must work harder to provide more material possessions for their children. This is what they know best: to make money and gain material success is the goal of this life, rather than the means for a good life here and in the hereafter.

Muslim parents, with their deficient culture and conditions, know very little about their children and their spiritual, intellectual, and psychological needs. Very few people read and learn about children's growth and development stages, their requirements, and how to fulfill those requirements. Other nations and cultures give *tarbiyah* and education high priority, and produce scientific books and research works to inform parents, teachers, and societies of the latest discoveries, discussions, and developments in these fields. Very few such scientific Islamic works are available in the lan-

guages of Muslim countries. Rarely has anyone dealt scientifically and courageously with the real roots of our cultural and *tarbiyah* problems. Only when our thinkers and intellectuals do their job properly and reach parents with the message will we be able to begin the Ummah's revival.

Parents have an innate motivation as well as a strong influence on their children's psychology and attitudes. If they know how to use it, they can effect a natural change in the young generation's psychology and minds. Young people usually behave and develop according to the standards and goals upheld by their parents. *Tarbiyah* and education in childhood are like engraving on stones; advising and telling in adulthood are like drawing in water. The former will never change, while the latter will be forgotten quickly and only affect adult behavior.

Once parents and society change the young generation's mentality and psychology, the new way of thinking and behaving will permeate one's life and produce the desired results peacefully. Teaching and working on the parents and educationists (who must be able and well-armed with scientific Islamic knowledge) is a prerequisite for real change in society and the Ummah at large, if we are serious about developing a new generation with the right spiritual and psychological qualities. The new generation will naturally be scientific, creative, and able to master and produce scientific knowledge and creative technology. But they can do so only if our intellectuals comprehend their role and guide the parents to save their children, rather than continuing to develop and maintain our generation's poor culture and psychological qualities.

The following example illustrates how parents can help change their children's attitudes and behavior even if they cannot change their own. My father smoked the hookah, and my mother smoked cigarettes. Yet I never thought of smoking. If my father had sat and smoked silently or glorified smoking, as many parents do, I would have followed his example. However, he often admitted his mistake indirectly and prayed for the strength to stop smoking. Indeed, he frequently stated that smoking was a mistake and a weakness. Once when I was cleaning the hookah with a long rod, he looked at the black tar on the rod and said that a similar tar would be filling his lungs. Although he could not change his habit, in this *tarbiyah* manner he could help me avoid making the same mistake.

The Qur'an describes Moses' experience with Bani Israel in Egypt, where they had acquired a slave mentality and psychology. He led them to Sinai and told them to enter and conquer the land assigned to them. However, they answered him as if they were still slaves. Slaves have two

distinct characteristics, the first of which is fear. Therefore, they said to him: "In this land are people of exceeding strength. Never shall we enter it until they leave it" (5:22). The second characteristic is inertia and lack of initiative. Thus they added: "You go with your Lord and fight while we sit here" (5:24). The adults would never change their psychology, and so God ordered them to roam the Sinai wilderness for 40 years: "Therefore would the land be out of their reach for 40 years. In distraction will they wonder through the land [of Sinai]" (5:26).

Forty years was the required time for giving birth to and raising a new, free, and courageous generation that had the right attitude and psychology needed to take the initiative to build its Ummah and civilization. Only after acquiring this new attitude, psychology, and mindset could David slay Goliath. Thus this new, free, and courageous generation, which showed great *iman* and patience, defeated their much larger and stronger enemy.

We should stop imitating, performing the wrong actions, and addressing the wrong people. It is time to return to the right beginning, perform the right actions, and effect the right changes by raising our new generation correctly and freeing them from the shackles of fear and our own lack of creativity. We have lost much precious time already, and should lose no more. This new right attitude and mentality will enable us to respond to the challenges of science and technology with a scientific, creative, free, and courageous mind and psychology. Without the right attitude and mentality, tools and equipment are useless and meaningless.