On Intercultural Interactions

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Abstract

In this article, *physical* models and ideas are invoked to describe some overall aspects of intercultural interactions. It is emphasized, however, that *actual* intercultural interactions are much more complex than any physical or mathematical model can encompass. They constitute, in fact, just one more example of what scientists call *complex systems.* These ideas are applied to the following examples: (1) Stuart Hall's *The West [versus] the Rest* and Samuel Huntington's *weltanschauung*; (2) interactions through Science and Technology as well as *Science Diplomacy*, focusing on Silk-Road interactions. The article is concluded with a partial list of *necessary* conditions condusive to constructive intercultural interactions, although these cannot possibly be *sufficient*. The wider implications for Cosmopolitan Education are also underlined.

Keywords: Physical models; complex systems; "The West versus the Rest"; Huntington's 'weltanschauung'; science diplomacy; implications; the two cultures; third culture.

Introduction: Theoretical framework

The concept of *interaction* is pivotal in physics, among other disciplines. Physical systems are, in general, interacting: their constituent particles interact with each other in some manner that can often be determined satisfactorily. However, in the mid-1990s, it was discovered that under extreme low-temperature conditions in the laboratory, gases became *ideal* systems, that is, noninteracting. The point is that if one starts hypothetically with an ideal system, then 'switches on' the interaction, *emergent* properties and phenomena arise.

Other potent ideas can be imported from the physics of waves – in particular, how two waves, that 'differ' from each other in some way or another, interact. There may be *constructive* or *destructive interference* between two waves. One wave could annihilate almost entirely another, or at least suppress it. Depending on the attributes of the two interacting waves, one could end up with very interesting, and sometimes bizarre, results.

However, whether one conjures up the above 'particle model' or 'wave model', one should beware of an obvious caveat – namely, any model is only a first approximation to reality. Intercultural interactions are much more complex than what any mathematical or physical model can encompass. For one thing, any culture embraces a multiplicity of subcultures. A 'culture' represents the *resultant* of quite a few ethnicities, each with its own history, language(s), religious beliefs, folklore, and so on and so forth. For another, a culture is a living 'entity'; it is dynamic, changing all the time. This is compounded by the fact that different subcultures within the same culture evolve at different paces and in different ways – in general, *nonlinearly*.

The implication is that intercultural interactions constitute just one more example of what scientists call *complex systems.* Climate is another example. These systems have recently risen to the fore of the world's attention, thanks to the 2021 Nobel Prize in Physics. This prize was awarded with one half jointly to Syukuro "Suki" Manabe (1931-), a Japanese-educated American meteorologist and climatologist, and Klaus Hasselmann (1931-), a leading German oceanographer and climate modeler, "for the physical modelling of Earth's climate, quantifying variability and reliably predicting global warming"; and the other half to Giorgio Parisi (1948-), an Italian physicist, "for the discovery of the interplay of *disorder* and *fluctuations* in physical systems from atomic to planetary scales" (as cited in *NobelPrize.org*). To appreciate the complexity involved in intercultural interactions, consider the following hypothetical model: Suppose 'culture A' includes four subcultures, and 'culture B' five subcultures. Then the two cultures may interact through all possible permutations and combinations of their constituent subcultures. The number of ways in which this could occur is quite large indeed. Each way will have its own time-evolution track. Such interactions may even have "unintended consequences".

How do such interactions occur? The foremost interaction develops through direct, physical contact. This enables the ordinary people, as well as the *intelligentsia*, of each culture to interact with their counterparts in the other culture, on the basis of the principle: Give and take! This will lead to 'constructive interference'; the net result will be to the benefit of both cultures. Each will necessarily become richer and more profound, exploring hitherto unprobed intellectual and 'practical' territories. Another powerful interaction materializes through the translation of the best representative works. Such works usually have an aura of universality; for example, *The Arabian Nights: Tales of 1001 Nights*, Shakespeare, Goethe, … . Of special importance are mercantile and scientific-technological interactions.

This, then, is our theoretical framework. The ideas involved are quite abstract. They will grow wings in the next section through concrete examples from different cultures and different historical epochs. Finally, in the closing section, it will be attempted to draw some, hopefully 'universal', conclusions.

Representative examples

1. "The West [versus] the Rest" (Hall, 1992)

Whether we agree or disagree with Samuel P. Huntington's *weltanschauung*, we must admit that its impact on the political and cultural discourse in the past three decades has been considerable. According to his worldview, the present and future conflicts will occur between different cultures, rather than different states. In his *The Clash of Civilizations and the Remaking of World Order* (1996), developed from an earlier *Foreign Affairs* article (1993) and an even earlier lecture (1992) **[any connection with Stuart Hall's seminal work just cited?]**, Huntington classified the world's cultures into eight "major cultures", including: Western [Catholic-Protestant] culture, and [Arab-] Muslim culture. Each non-Western culture is responsible for pondering its own interaction with the West. A common factor among these cultures *vis á vis* the West is the latter's repeated attempts to assert its hegemony on each and every one of them. Here, I am concerned with just one example: the intercultural interaction between the West and my own Arab-Muslim World.

First, allow me to give a brief autobiographic note whose relevance will become clear shortly. I was born a Roman Catholic in a predominantly Muslim country. Although I was never a practicing Christian in the full sense of the word, I was influenced by Roman Catholicism through and through. Above all, I fell in love from Day One with the solemn liturgical mass and with Gregorian chants. Yet, at the same time, I fell under the spell of the Holy Qur'an. My culture was Islamic; I was a member of the *Umma* (i.e., the Muslim Nation). Soon, I began to realize that there was only a thin line separating Gregorian chants or Beethoven's *Missa Solemnis* or Bach's *B-minor Mass* from a Qur'anic recitation. Each represented for me, and still does, an intense "testimony of faith". And I was the entranced recipient in all cases. Two more points: (1) I was educated in the West (England); and I have been a frequent visitor of the West, including a sabbatical leave in the United States (Cornell University). (2) My skin is "white", like many other people in the Levant (including Syria, Lebanon, Jordan, and Palestine).

Why do I say all this? Well, I want to dispel any notion that I am plagued with some inferiority complex towards the West, so that I would harbor nothing but resentment and hate of anything Western. On the contrary, during my formative years, I spent countless hours reading with zeal and passion numerous masterpieces of European and American literature, philosophy, scientific classics, and other spheres of knowledge. I followed the same pattern in Western art and, above all, classical music. I know my Beethoven, Bach, Brahms, Mozart, … quite well. For me, this whole heritage belongs to humanity at large. This is the 'civilized West', 'West 1', if you will. My personal experience informs me that its interaction with my own, Arab-Muslim culture has been enriching, uplifting and a paragon of 'constructive interference', to invoke my foregoing 'wave model'. I have already mentioned the profound 'merger' of a Qur'anic recitation with classical liturgical music; other examples are the mergers of, say, Beethoven's late string quartets with Andalusian *muwashahat*, or Sufi songs, or many compositions of Arab 'classical music'. In addition, I communicate my research in English, this being of course the *lingua franca* of science. However, as expected, I enthusiastically

use Arabic in all other communications; specifically in popularizing science and in teaching. In particular, my active membership of the Jordan Academy of Arabic means a lifelong commitment to contributing as much as possible to scientific writing in Arabic, with special emphasis on technical terms. One of the common factors between the two cultures, Arab-Muslim and West 1, is the system of values – above all, the sanctity of life, empathy towards fellow humans, and the fundamental equality among all human beings, regardless of race or color or creed or whatever.

But there is another West, call it 'West 2', which is ruthless, conceited, domineering, and very aggressive. *This* West seeks perennially to impose *its* "values" upon the rest of the world. From an Arab-Islamic perspective, this is irrefutable: Actions speak louder than words. Just look at what West 2 has done in Palestine, Iraq, Syria, Yemen, Sudan, Afghanistan,… ! There is always some pretext or another for West 2 to invade an Iraq or a Syria – "lack of democracy" or "violation of human rights" or even a 'concocted' pretext. Does this West need a UN license to go ahead in its invasion? This is, of course, a rhetoric question. Most readers will undoubtedly be already offended by the mere act of posing such a question!

West 2 is vengeful; it has wreaked havoc and wrought destruction and vengeance of biblical proportions in countries such as Iraq, Syria, Libya, and Yemen (all Arab countries, of course). Mentioning Iraq as an example, let us for a moment forget about politics – the 'new conservatives', the fake intelligence reports that Iraq had weapons of mass destruction (WMD), and the *dramatis personae* of this heinous epic, among other details. Thus, adhering just to cultural matters, we observe that West 2 wanted to annihilate Iraq, literally speaking: Not only its present and future; its age-old artefacts and museum treasures, representing its past as the oldest civilization on Earth, were stolen and shipped to museums in Europe and America! This satanic act was not done at the spur of the moment; it was carefully planned and executed. In terms of the 'wave model', we have here a wave annihilating another – 'destructive interference' *par excellence*. In today's parlance, it was a case of "cancel culture". Having demonized Iraq, West 2 found no moral difficulty or hesitance to destroy the country. It was ironic that Americans kept asking: "Why do they (meaning Arabs, Muslims, and many others) hate us?" That is because Arabs and Muslims were, and are still, thinking: "Why do Americans hate *us*?" Yes indeed: Why does West 2 have so many phobias – Islamophobia, Russophobia, xenophobia, … ?

Am I simplifying matters too much? After all, one would expect to see some interaction between the two 'Wests'. One's first impulse is to invoke Joseph Nye's concept of *softpower* (1991): West 1 represents softpower; it should boost West 2's military forays. The outcome would be *smartpower* (Armitage and Nye, 2007). But this is not really the case here. In my opinion, West 1 is the 'civilized' West whose interaction with other cultures is bound to result in 'constructive interference', with the *emergence* of new innovations and creative ideas for humanity at large. I believe that the softpower that boosts West 2 is the mainstream media. While there may be some differences between one medium and another, by and large these act as the trumpet that blows West 2's propaganda and sings its tunes and praises. Time and time again these media demonize "the enemy" as a first step, so that it becomes almost morally imperative to annihilate this "demonic enemy"! To this Machiavellian end, it is legitimate to lie and lie again and continue lying, until you start believing your own lies! You can even invent your own pretext for invading and crushing a country, killing even women and children. Whenever West 2 thinks fit, its mainstream media abandon their 'objectivity' and use every tool and technique at their disposal to go, say, after an Iraq or a Russia. News coverage often gives way to hysteria. It is no longer pure reporting; rather, specific opinions are injected, openly or with some subtlety, to pass certain messages.

Am I exaggerating? I think not! Here is a most eloquent Huntington quote (1996, Chapter 2, p. 51): "The West won the world not by the superiority of its ideas or values or religion [and I may add: languages] … but rather *by its superiority in applying organized violence* [my *italics*]. Westerners often forget this fact, non-Westerners never do." Yes indeed: through applying organized crime, or in Dorothy Thomson's phrase (1940) "bureaucratized violence". Huntington's 'West' is my West 2. In this regard, West 1 is almost voiceless and toothless. Its Noam Chomskys, Jeffrey Sachses, and quite a few other 'spokespersons', speak and write noble material of a truly universal appeal. But alas! This

all falls on the deaf ears of West 2, whose superiority complex is so gargantuan that its 'allies' are more like satellites, or colonies, **or vassals, or minions,** or minnows; but definitely not partners!

One might ask: Why don't you apply this classification scheme of type 1 and type 2 to other cultures, including your own? Why not indeed? However, the point is that type 2 of the Arab-Islamic culture is far from being the hegemonic culture that West 2 most emphatically is. At any rate, as a general rule, constructive interference occurs only in type 1-type 1 interactions; it is always a win-win situation. Mixed-type interactions are generally destructive: it's a win-lose situation, in the sense that the vanquished often loses its 'soul', dignity, self-respect, and its authentic identity, as poignantly expressed by the great Arab historian and encyclopedist Ibn Khaldun in his *Muqaddimah* (*Prolegomena*), written in 1377: "The vanquished always want to imitate the victor in his distinctive characteristics, his dress, his occupation, and all his other conditions and customs. ..."

In short, then, the interaction of the Arab-Islamic culture with the Western culture has been ambivalent. There is a strong current of opinion in the Arab and Muslim worlds that nothing emanates from the West but evil and darkness. This is in contrast to another current which views the West as an incomparable source of good and light. The truth surely lies somewhere in between. I have attempted here to articulate this acute ambivalence in my West-1-and-West-2 model. This ambivalence has been a main theme in some well-known Arab novels in the twentieth century. In passing, I have highlighted a spectrum of concepts and ideas that emerges in intercultural relations.

2. *Intercultural Interactions through Science and Technology (S & T)*

This is a very broad topic. Prior to approaching it in a meaningful manner, it is in order to state the obvious observation that, although we may communicate the wonders of S & T (to which is frequently added "innovation") to our cultural partners in our own mother tongue(s), there exists a universal S & T culture – complete with its *lingua franca*, symbols, methodologies techniques, values, and standards. There may be sharp inequalities among various regions and countries, regarding the availability of advanced laboratories and industry, infrastructure, financial resources, and other prerequisites. We even use in this context terms such as '[advanced] North' and '[less advanced] South', let alone the relation of all this to the economy, climate change, environment, sustainable development, and a plethora of other concepts and terms. But these are quite irrelevant to our main theme here.

What *is* relevant is the elucidation of how S & T contribute to intercultural relations. To this end, we should examine and define one or two basic terms. The first is *Science Diplomacy*: This apparently innocuous term is replete with implications, nuances, and subtleties. Basically, it refers to diplomacy exercised through formal or informal scientific and technological exchanges. It includes diplomacy in science, science in diplomacy, and diplomacy for science. This is usually carried out through regional and international scientific agencies, such as *UNESCO*, the *International Space Station*, and the *ITER nuclear fusion experiment*. Ongoing international collaborations in global matters embrace climate change, pandemics, space exploration, health challenges, nutrition, and other crucial areas. No wonder that much is being written, and even special courses are designed in academia and elsewhere, on Science Diplomacy. In fact, this is viewed as bridging the whole world through S and T and as *global policymaking*, notwithstanding the all-too-familiar schism between the "haves" and "have nots".

Another most prominent international S & T organization is *CERN*, the *European Organization for Nuclear* [and High Energy] *Research*. [Actually, the acronym is derived from the French name.] It is the largest particle-physics laboratory in the world, and was the birthplace of the *World Wide Web* [*www*]. Established in 1954, it is located on the border between Switzerland and France. With its superlarge annual budget [1,230,200,000 Swiss francs in 2018], large number of European member states [23; with many non-European countries being involved in one way or another], large number of employees [2635 in 2020], and large number of visitors [scientists from some 608 institutes and universities around the world use its facilities], CERN is an archetype of *Big Science*. This is the second term needed in this context. It was coined by scientists and historians of science to describe large-scale projects emerging during and after World War II.

Through science diplomacy and big science, then, international collaboration in S & T can, in principle, bloom and flourish. This would lead to the nearest thing we might have to a *universal culture*. After all, S & T are part and parcel of the all-comprehensive concept of *culture*. One can proceed to elaborate the implications in detail. But this is not my *main* objective here. True, it is out of order to approach intercultural interactions in general without touching on S & T. However, my intention behind the foregoing is, first and foremost, to claim that a semblance of science diplomacy and big science did exist between major cultures along the *Silk Road* centuries ago. This becomes more relevant in view of China's ambitious project to revive this "group of routes" under the name "the Belt and Road Initiative" (BRI) [formerly, "One Belt, One Road"]. This is "a global infrastructure development strategy adopted by the Chinese government in 2013 to invest in nearly 70 countries and international organizations". Its vision, geopolitical implications, geography, and other details are readily available. Perhaps its preliminary import can be glimpsed by its full title: "The Silk Road Economic Belt and the 21st-century Maritime Silk Road". Briefly speaking, then, it seeks to boost China's economic and *cultural* connectivity with the world through taking full advantage of the geography.

To return to the historical, 'original' Silk Road: First, the geography. Just imagine! This road stretched out from China in the far east, on the shores of the Atlantic Ocean, all the way (a total length of a little less than 6500 km) to the Horn of Africa and beyond, and to the shores of the Mediterranean. In between, it passed through the Indian subcontinent; Eurasia, including vast expanses of Russian land and its vicinity; Persia; and the Arabian Peninsula. Add to this a myriad of land, maritime, and waterway routes and subroutes. It also extended to Korea and Japan. The Mediterranean – the "Great Sea"; or, to the Romans, "Our Sea" (*Mare Nostrum*) – connected Western Asia, North Africa, and Southern Europe. It was, and still is, one of the busiest trade regions in the world. At the hands of Emil Ludwig (1881-1948), it was transformed into a living being (1929; 1942)! Not far from its Eastern edge, there was the great Baghdad. To the West, there was the bewitching Andalusia. Clearly, it was a natural extension to the Silk Road. So was the "Great River" – the Nile Valley, with its varied cultures and peoples. Once again, Emil Ludwig paid homage to this amazing valley in another tome of a book (1937). Thus, hardly any niche in the "Old World" was not hugged warmly by the grand Silk Road.

Next, the history: The beginning came some 200 years BC. The Road lingered on till 1453 AD, when the Ottoman Sultan Muhammad al-Fateh (Muhammad the Conqueror; Mehmed II) entered Constantinople, and called it *Islambol* or *Astana*. It immediately became the capital of the Ottoman Empire. (In 1930, Ataturk changed its name to Istanbul.) The twilight of the Road came with Christopher Columbus, to whom is attributed the discovery of the "New World" (America), 1492. The Road was still in its heyday when the Venetian merchant and explorer Marco Polo (1254-1324) took it in a marathon journey to China. Soon after, he returned to Venice, and set off again two years later back to China, where he was appointed a regional governor for 17 years. His fascinating narrative of the constructive Sino-European intercultural interaction, which he mediated, was recorded in his renowed *Travels of Marco Polo* (*circa* 1300) [*Livres des merveilles du monde* (i.e., *Book of the Marvels of the World*)]. This is worth reading very carefully to savor how two major cultures, including S & T, interact most constructively.

Three decades later, in 1325, another great traveler made history through his explorations, lasting 27 years, of numerous countries surrounding the Silk Road and its extensions, covering in the process more than 121,000 km. He was *the Prince of Muslim Travelers* (as named in the publications of the University of Cambridge), Muhammad ibn Abd Allah ibn Muhammad al-Lawati al-Tanji, known as Ibn Battuta. His starting point was his hometown Tangiers, the renowed old city lying majestically in the north of Morocco, between the two coasts of the Mediterranean and the Atlantic Ocean on one hand, and between Europe and Africa on the other. All the vivid details of his adventures, observations, insights, and analyses were collected in a masterpiece titled *The Marvel of the Beholders in the Oddities of the Lands and the Wonders of Travels*, also known simply as *Ibn Battuta*'s *Journey*. This is a gold mine of invaluable information on the broad spectrum of cultures that were kicking in those days. It bore witness to the constructive interference between 'equal' cultures (peer-to-peer, as it were).

On his way back home, the Great Plague (*Black Death*) had already ravished the Levant and the Arabian Peninsula, among other parts of the world. Thus, the Silk Road was a conduit not only for trade among various countries and for intercultural interactions; it was also a vehicle for spreading pandemics. Is it an exaggeration to claim that this Road helped create a sort of globalization in those days?!

Back to two remarkable early examples of science diplomacy and big science that epitomized the best of the Silk Road in the mid-13th till the mid-15th centuries AD.

The first is *Maragheh Observatory*, established in 1259 – one year after the fall of Baghdad under the horses' hoofs of the Mongols, led by the infamous Hulago Khan, Genghis Khan's grandson. The Observatory was located west of the city of Maragheh, which is situated today in the East Azerbaijan Province of Iran. Founded by the renowed Muslim scientist and astronomer Nasir al-Din al-Tusi, under the patronage of Hulago himself, the Observatory was considered in its day "the most advanced scientific institution of the Eusasian world" (Blake, 2016). Everything related to it was "big":

1. From its ruins, one can deduce that it consisted of multiple buildings, spanning a total area of 150 m by 350 m. One building was a gigantic library containing hundreds of thousands of volumes related to astronomy (and astrology). The main building was circular. So were five other buildings which were replete with state-of-the-art observational instruments for astronomical research. There was also a tower – not to mention mechanical workshops, and even living quarters for the scientists and supporting staff working there. In fact, every corner in the Observatory was carefully designed and structured to reflect its grand stature as the foremost center of scientific excellence in its day.

2. Its generous annual budget was commensurate with its stature. It came from the *waqf* (endowment) revenues.

3. Astronomers who worked at the Observatory were among the top-notch scientists of their day, although they are hardly household names in our unjust world. This is unfortunately true of practically all great scientists of the Arab-Islamic civilization. But this is a different story which deserves another article. Among the stars working at the Maragheh Observatory were: the founder Nasir al-Din al-Tusi, Muhyi al-Din al-Maghribi, Shams al-Din Muhammad al-Wabkanawi, Qutb al-Din al-Shirazi, Najm al-Din al-Qazwini al-Katibi, and Mu'ayyid al-Din al-'Urdi. These great scientists managed to blend theoretical and experimental skills. They were at home with both ideas and gadgets! They worked in accomplished teams. They also hosted visitors from different regions of Eurasia along the Silk Road. It would make a worthy research project to explore further the mechanisms and practicalities of scientific collaborations as well as the daily atmosphere in the workplace, and precise achievements. Here was a shining example of constructive intercultural interactions for more than fifty years, with glittering results. The Maragheh Observatory served as a model for later observatories, including the 15th-century Samarkand Observatory to be visited in the next paragraph.

The second example, then, is the Ulugh Beg or Samarkand Observatory, built in the 1420s, in Samarkand, Uzbekistan, by Ulugh Beg, the grand son of sultan Teymur. Here, again, everything was truly "big" – the Observatory itself, the annual budget, the number of scientists (astronomers and mathematicians) invited by Ulugh Beg to undertake first-rate research (theory and observations) as well as teaching, the library, and the state-of-the-art instrumentation and technology. The scientists included celebrities such as Ghiyath al-Din Jamshid al-Kashi (the first director), Mu'in al-Din al-Kashi, Salah al-Din Qadi Zada Rumi (the second director), and Ali Qushiji (the third and last director). For a while, it was a bustling center of frontier science, with a blooming scientific community. But – alas! – it did not last long. Around 1449, Ulugh Beg, who had by then become the sultan for two short years, was assassinated by his eldest son! His Observatory was destroyed, and an exodus of its scientists ensued. These intellects and talents were scattered thin over so many locations, that they could hardly start a 'renaissance' *á la* Constantinople's scholars four years later!

The irony is that both of the foregoing examples could flourish in fairly turbulent times. They were shining illustrations of constructive intercultural interactions. Two more examples, exhibiting similar traits, spring to mind, namely: (1) *Al-Andalus*, or "Islamic Iberia" (parts of Spain and of

Portugal), where over almost eight centuries (711-1492 AD), the Arab-Islamic culture reigned supreme. During this long time, there were certain periods where positive intercultural interactions transpired among the various cultures there, with glittering outcomes in literature, arts, architecture, science, and technology. Even the Andalusian garden manifested stunning grandeur, based as it was on Qur'anic verses, scientific principles, and technological dexterity. (2) The Kingdom of Sicily, which was founded by the Norman King Roger II in 1130. He reigned until his death in 1154. Actually, he began his rule as Count of Sicily in 1105; the County of Sicily began to form during the "Christian reconquest of Sicily" (1061-91) from the Muslim Emirate, established in 965. He soon became one of the great kings of Europe. Thanks to his enlightened administration and his respect of the several creeds, races, and languages of his realm, Sicily became the cultural jewel of the Mediterranean. At Palermo, he surrounded himself with distinguished men of various races, including the famous Arab-Muslim geographer, cartographer, and Egyptologist Muhammad al-Idrisi (1100-1165). Al-Idrisi created for King Roger II the *Tabula Rogeriana*, one of the most advanced world maps in Medieval Europe. No wonder that the Polish composer Karol Szymanowski wrote an opera about him (1926) entitled *King Roger*, and the Pakistani-British journalist and noverlist Tariq Ali wrote a well-read novel (2005) about the last months of his life entitled *A Sultan in Palermo*.

Both Al-Andalus and King Roger II's Kingdom of Sicily were cultural oases in the midst of, by and large, spiritual deserts. Their legacy is still alive and well. They never cease to amaze and delight us. Each merits a profound study from which wisdom might be gained.

Closing remarks: Any 'universal' conclusions?

Back to the closing statement of the **Introduction**: Can we draw any *universal* conclusions from the foregoing theoretical framework and the illustrative examples? Perhaps the word *universal* is inappropriate here; after all, this is not physics or mathematics! It may be more fruitful to think of at least some *necessary* conditions conducive to constructive intercultural interactions; but these will not – cannot possibly – be *sufficient*.

Here is, then, a partial list of these necessary conditions:
1. Mutual *respect* between interacting cultures. Yes, genuine respect; not tolerance! Because the word *tolerance* has a condescending air about it; it implies that one party A thinks the other one B is somehow flawed; thus, A will feel it is superior to B, as if it were doing B a favor merely by interacting with it. This is usually a cardinal sin committed by a majority towards a minority within the same culture!
2. At least one enlightened ruler or ruling class. We have seen how Roger II's legacy lives on. One can mention several, even more influential, figures in the Arab-Islamic civilization. One legendary figure was Harun al-Rashid, the fifth Caliph of the Abbasid Dynasty, who ruled during 786-809 AD. Harun heralded the dawn of the Islamic Golden Age. He established the famous library *Bayt al-Hikma* ("House of Wisdom") in his capital Baghdad, then the center of the world not only in political, economic, and military grandeur, but also in knowledge and culture. He interacted very positively with his Frankish counterpart, Charlemagne, a renowed leader in his own right. Harun's son, al-Ma'mun (813-833), the seventh Caliph of the Abbasid Dynasty, surpassed his father in at least one aspect: the promotion of one of the most ambitious translation movements in history from Syriac, Persion, and Greek into Arabic, with emphasis on science. Thus, the Arabic language was transformed from a language of poetry and literature to a language of science as well. Also phenomenal was his encouragement of astronomy, cartography, mathematics, and medicine. There was indeed a scientific renaissance during his reign. He himself contributed to astronomy, including the invention of the astrolabe, among other technical instruments. These achievements were recognized by the international astronomical community by naming one of the craters on the moon *Almanon*.
3. 'Equality' of the interacting cultures. Each culture should feel this equality and should make sure, by its words and deeds, that its counterpart also has this feeling. This is the ideal environment for constructive intercultural interactions. Any feeling of superiority by one culture over the others, for whatever reason such as military or material superiority, will lead to morally degrading, even heinous, consequences – including ethnic cleansing, genocide, and hegemony over the destiny of entire populations! The example of 'West 2' keeps staring us in the face.

To repeat: These are "necessary but not sufficient conditions", quoting an all-too-familiar mathematical adage. Why do I say this? Because the world sometimes moves in mysterious ways, and history is often irrational and not quite inevitable. This means that we can never be certain that "necessary" is indeed necessary at all times and places. One should approach such matters with a pinch (perhaps two or more pinches) of salt; a little humility is needed! Occasionally, one sees two strange bedfellows, culturally speaking, interacting in almost perfect harmony, if only for a relatively short time – for example, King Richard III's occupying Crusaders interacting positively with Salah al-Din al-Ayyoubi's [Saladin's] Arab-Muslim forces, and the King receiving medical advice from Salah al-Din's personal physician, thanks to the great Muslim leader's magnanimity!

What are the wider implications for Cosmopolitan Education, at all levels? For teaching and learning? Here again is a partial list:

1. First and foremost, there is the *human factor*, meaning that no intercultural interaction can be constructive without each culture having to learn how to be deeply compassionate and empathic towards the other. Each educational system should be based, in a fundamental manner, on maximizing commonalities among fellow human beings and respecting differences. Otherwise, human communication would be futile. All of us should be thoroughly taught that each culture, however alien and strange it might seem to us, has its own history, geography, ecology, creed(s), and character, as it were; its survival, therefore, is essential to our world, making it all the richer. We are not born compassionate and empathic towards the 'other'. On the contrary, it is common to be highly suspicious of the 'other', even within the borders of the same nation. The solution to this dilemma, thereby creating a truly compassionate community, lies in a mature and humane system of education, at both school and college levels. Is this a utopian idea? Maybe; especially because it will succeed only when all world cultures aim at achieving more or less the same level of maturity and empathy. Humanity has no other route but to keep trying in this regard. Great models and examples from different histories and geographies, such as those outlined in this article, should be invoked for this noble pursuit in our educational systems.

2. Interdisciplinarity, cross-disciplinarity, and transdisciplinarity should play an increasingly pivotal role in our educational systems. For, this seems to be the path of the future. Radical, and even revolutionary, changes are mandatory. This cannot be achieved by each culture in isolation of the other cultures; transcultural exchanges are indispensable here. Perhaps multilateral exchanges are to be preferred to bilateral exchanges; they seem to be more effective in reaching a consensus.

3. The world can do with more creative thinking and more diverse or alternative ways of understanding the universe. A *third culture* is needed to bridge the gap between the two cultures: the *humanities* and the *sciences*. All of this should be formulated in clear, practical terms that can be incorporated in our educational systems. Therein lies the real challenge which will chart our track for the future.

One final thought: I do not know whether we will ever see one motherly culture encompassing so many subcultures, including robotic culture(s), on Mother Earth *vis á vis* another major culture – this time alien and extraterrestrial. How will these interact?! But, then, science fiction has suggested several scenarios. My guess is that, yet again, reality will be stranger than fiction!

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About the Author

Humam B. Ghassib was born in Amman, Jordan, on 27 April, 1948. He grew up in Amman and received his primary and secondary education there. He pursued his higher education at the University of Manchester, UK, 1968-74: BSc Hons in Physics, 1971; PhD in (Theoretical) Physics, 1974. He is a man of the *two cultures* (humanities and sciences), and often writes about a *third culture* bridging the two. He joined The University of Jordan on 11/10/1975, where he is now Professor Emeritus – one of the pillars of the School of Science and the doyen of the physics community in Jordan. He has been widely recognized as a top-notch researcher, a founder of a school of thought, an inspiring teacher, a gifted popularizer of science and the Arab-Islamic scientific heritage, as well as a talented writer and editor. He is a firm believer in the unity of knowledge. Added to this is a profound appreciation of the arts, especially music. He is the recipient of several awards and honors, both local and international.

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