CHAPTER SIX

Bioethics and Moral Imperialism

_Siti Nurani Mohamed Nor_

This chapter reminds the reader that one must be careful when adopting any educational system to ensure that such systems do not inadvertently impart foreign values. In particular, my concern is bioethics and bioethics education and how it has been disseminated indiscriminately and has in turn challenged traditional value systems which provide moral decisions in response to socio-cultural dilemmas raised by biomedical research and technological capacity.

Bioethics is a new academic discipline that was introduced in the seventies in response to the growth of new biomedical technologies. Assisted reproductive technology such as ‘in vitro fertilization’, for instance, has overturned public thinking regarding traditional modes of human reproduction. The introduction of organ transplant technology, in particular heart transplant seemed to require a re-examination of the traditional definition of death. It can be said that bioethics has gained the reputation as an overwhelming system of thought that displaces cultural notions regarding the family unit (father, mother, and child to father, mother, child, and surrogate mother); notions regarding when life begins (traditionally thought to be at first sign of quickening within the womb to microscopically detected strands of ‘life’ as given from the appearance of the brain stalk within a simulated petri dish-womb); and, regarding the idea that a person ceases to exist even though his or her chest
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can be seen physically heaving while the electrocardiogram shows no signs of brain function, to name a few examples.

The philosophy of bioethics; A Western construct

Bioethics has not only been utilized to make medical decisions such as the ones discussed earlier but it has also been adopted around the world as a new subject on moral education. It is claimed to be a structured theoretical framework that offers a clear, logical, and guided decision-making tool. It defines for the learner the theoretical framework of how to judge ‘right’ from ‘wrong’ or simply, ‘what is ethically good’ and ‘what is ethically bad’. Among the basic principles or values that may frame thought processes when deliberating a morally laden action, bioethics champions the concept of ‘informed consent’ and a set of ‘American mantra’, namely, autonomy, beneficence, non-maleficence, and justice.

Bioethics think-tanks developed between 1969–1971 at The Hastings Center, New York; Society for Health and Human Values, Philadelphia; and Kennedy Institute of Ethics, Georgetown University, Washington. The institutions consist of a group of philosophers, physicians, theologians, and legal scholars. Their groundwork agenda initially included controversial biotechnologies such as ‘in vitro fertilization’, genetic engineering, cloning, and organ transplants. Later with the advent of incidences of abuse of human subjects in clinical research projects, Research Ethics began to fall under the purview of bioethics. Similar to the way that economists have advised governments, corporations, and universities about how to make decisions under uncertainty, by the use of coherent theories, bioethicists are gaining reputation as experts who can provide the best advice to governments on morally-laden scientific experiments as forwarded by the
biosciences. Edmund Pellegrino, a well known bioethics expert from the Kennedy Institute of Ethics, for example, had sat in on the pre-Obama President’s Council to offer advice on the perils of stem cell research. Following the Council’s decision, research on stem cells in the US was banned based on the belief that the human individuals must be respected right from their cellular beginnings.¹

Some scholars have argued that bioethics is the antithesis to innate societal value systems. Protests forwarded included “why do bioethicists coming from Western theology, philosophy, and ethics ignore the significant religious/spiritual and philosophical systems that developed in other places and cultures? Is it ignorance or is it ethnocentrism? Have bioethicists unconsciously divided the world into the ‘Western’ and the ‘Oriental’.”² Other notions, such as the argument that the preoccupation of bioethics with enhancement technologies can only benefit the ‘wealthy-few’, have also been forwarded. It is argued that ‘such pre-implantation genetic diagnosis and nanotechnologies have steered them away from issues such as social inequality in health services, poverty, basic health care for the poor and needy, and AIDS-stricken communities. It is time for us to listen to ‘words of despair’; “you know, they have the power, they have money, they set the agenda”.³

¹. It would interest readers that the Council has just been disbanded and the members were told that their services were no longer needed. It has been told that the Bush-appointed council had been ‘a philosophically leaning advisory group’. See Obama disbands bioethics council, BioEdge News, Thursday Nov. 4, 2010.
A sense of ethical imperialism has also been noted: “[US bioethicists’] view that other cultures are morally deficient to the extent that they have not recognized the primacy of patient autonomy and so the duty of US educators was to bring them up to date by insisting upon autonomy as a central feature of bioethics universally”; “Is it politically desirable for society to credit a designated group called ‘bioethicists’ with expertise in resolving the most difficult moral questions? If so, what is it that gives ethicists a more legitimate claim to wisdom about right and wrong than the rest of us?” South–East Asian culture, for instance, objects to the use of bioethics in reasoning about matters regarding the family, life, and death. The issue of organ transplant from brain dead people must not be exclusively seen from rational principles.

Moreover, even the concept of autonomy or the absolute worthiness of the individual person in itself is seen as problematic when introduced into non-Western cultures. This concept gives prime consideration of the rights of the human individual with little and/or no consideration of the ummah or the general society. This chapter opens discussions of imperialism as found in the discipline of bioethics and how research ethics training programs for scientists around the world are being shaped and organized.

**A standard research ethics curriculum for all?**

It has been acutely observed that bioethicists are beginning to sound like activists who are out to change the world. A ‘one

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A ‘size fits all’ curriculum is claimed to be able to deliver the world from unethical and corrupt practices. Roberta Riviera and colleagues proposed a standardized, universal curriculum for research ethics. The Family Health International (FHI) a US-based international research organization “mandates that all researchers [ought to] receive basic training on research ethics’ using ‘up-to-date, standardized training on ethics of research involving human subjects’ specifically designed to target international and multidisciplinary audiences involved in different levels of the research process. Furthermore, the curriculum was reportedly developed with financial support from the US Agency for International Development (USAID), the US National Institute of Health and the Andrew Mellon Foundation.

The curriculum development team was discerning enough to (or rather as a winning strategy decided to) choose a symbol that would appeal to Asian countries – the lotus flower. They stress that the symbol reinforces the message of purity and perfection that ought to be the focus of all research. The major source of reference comprised of the Council for International Organizations of Medical Sciences (CIOMS) International Ethical Guidelines for Biomedical Research Involving Human Subjects; World Health Organization (WHO) Operational Guidelines for Ethics Committees; the Declaration of Helsinki; and the Belmont Report. Interestingly, it was disclosed that the curriculum was field-tested and accepted in Mumbai, India, Manila, Philippines, Harare, Zimbabwe and Nairobi, Kenya.

It is common to find articles such as ‘Is bioethics an American plot?’ that observes that those basic ethical

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principles, popularly known as ‘principlism’ has ‘spread with the explosion of the bioethics industry, like a virus through the world, transmitted through a textbook, and thousands of students returning from by quick courses from Georgetown University’.8

**Moral imperialism**

To be fair, this analysis must also take into account that proponents of bioethics have noted with dissatisfaction that the field of bioethics as a reputable discipline of learning has itself been tarnished with the drafting of the Universal Declaration of Human Rights (UNDHR). Schmidt wrote on *Bioethics and the UNESCO Declaration on Human Rights* which he coined as a ‘troubled relationship’.9 The UNESCO document was adopted in October 2005 and has since met with criticisms from around the world. Schmidt observed “a hostile editorial ‘in the 2005 Issue of the *Journal of Developing World Bioethics* where the editors viewed that UNESCO had ‘overstepped the boundaries of its portfolio within the UN organization’.”10 UNESCO, according to the editorial, had made a ‘misguided’ choice in deliberating and/or advancing ‘an ideological framework [of human rights] that did not feature predominantly in professional bioethical analyses. They protested that “bioethics is an academic

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discipline and not a playground for government-appointed politician-experts to muse in an unconsequential and arguably not very sophisticated manner about ethics”.¹¹

While bioethicists continue to defend their esteemed field of study, the subject itself continue to creep into the minds of citizens of lesser developed countries such as Colombia, Cuba, Brazil, Peru, Puerto Rico, and Panama. For example, writers wrote that the preoccupation with bioethics had actually begun in Brazil since 1992.¹² Colombian writers observe that bioethics has “developed quickly, changed so greatly the way individuals who study it see and deal with current reality’ and ‘been called to have greater influence in public life”.¹³ Bioethics has, therefore, been appreciated in these parts of the world nonchalantly and has silently encroached into the domains of the private and social lives and the socio-political sphere of countless communities in huge ways.

One can, therefore, not fail to see the evidence of imperialism in what was originally intended to be a tool for scientific and medical decision making. Bioethicists continue to urge that bioethics be classified as a new discipline in its own right. They, however, were insensible to not see it as an instrument of subversive intentions. An instrument that proved to be more powerful than a guided missile, that would wipe away inherent traditional values of Eastern communities

such as filial piety and putting others before oneself and more alarmingly it displaces from the community of believers, God as the focus of all life activities.

Bioethics is moral imperialism in essence and in form. Garafa and Lorenzo defined moral imperialism as the attempt to impose moral standards from one particular culture, geopolitical region or culture onto other cultures, regions or countries. They argue that ‘direct’ moral imperialism can be seen in various recurrent events involving multi-centric clinical trials promoted by developed countries in poor, developing countries, particularly projects related to the theory of double standards in research. They echoed concerns that the US had begun to promote regional seminars in developing countries with the aim of ‘training’ researchers on ethical perspectives that reflect America’s best interests. Individuals who received such training became unknowing transmitters of these central countries’ ideas across the peripheral countries, representing a form of ‘indirect’ moral imperialism. 14

**International ‘agents of change’**

There is the belief that moral perceptions which bring about responsible behavior must be developed by improving skills in moral assessment. An ‘agent of change’ which aspires to train groups of ethically-conscious individuals is the Fogarty International Center. It organizes and coordinates the yearly International Bioethics Education and Career Development Program. The program seeks to tackle and/or correct ethical misconduct and resolve ethical issues that arise in clinical research.

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research in developing countries, in short, to develop capacity in research ethics.

As of 2005, the Center has reportedly trained approximately 1500 trainees from 38 developing countries which include the Asian, African, and Latin-American region as well as the Middle East, Eastern Europe, and former Soviet Union. A Strategic Plan that was included reads; ‘to strengthen research bioethics expertise in low-and middle-income nations by increasing the number of developing country professionals and academics with knowledge and experience in bioethics.’ The Center fully funds and later ‘recruits’ biomedical and behavioral scientists, clinical investigators, nurses and other health professionals, and academics, enculturating them with state-of-the-art knowledge of ethical considerations, concepts and methods in research involving human subjects. The Center unbendingly believes that such training would enhance the career development of individuals from developing countries as well as strengthen bioethics knowledge and experience at the trainees’ host institutions. The achievements that the Center has proudly acknowledged include the following:

• One graduate has set up a national ethics review board in his home country, Nigeria, for which he received a Presidential medal.
• One graduate is first author of publications on bioethics in prestigious scientific journals including *The Lancet*, *Nature*, and *Science*.
• One graduate is a faculty member on a Bioethics program training grant in Nigeria.
• In India, the Bioethics program has trained every bioethicist working in the country and one graduate is now the principal investigator on her own Bioethics program in India.
• In South Africa, one graduate is now the leader in ethics and law for the regional Fogarty AIDS International Training
and Research Program (AITRP) and ensures that all material that passes through his institution is in accordance with NIH ethical guidelines.15

It is maintained that graduates of the program have since returned to their countries but have continued to maintain a close relationship with the Fogarty Center. Generous grants were continuously provided to such candidates to help disseminate and, hence, promote and develop the ethics curriculum in their home countries. For example, graduates have continued to develop the ethics curriculum through projects ranging from Research Ethics Survey and Application of International Ethical Principles and Guidelines for Human Subject Research in Cambodia, to Development and Teaching of Medical Humanities Course, focusing on bioethics in Nigeria. One may wonder if the curriculum has seriously considered how Cambodian or Chinese or African traditional values and ethics may be blended with Western ethics. Ethics curriculum is evidently and greatly couched in Western moral concepts such as rights, confidentiality, privacy, informed consent, and justice, to name a few. Non-Western values such as obligation-based ethics, collective interests rather than individual interests, and humanitarianism versus utilitarianism must receive adequate, if not equal, attention.

How, then, do we ensure that the spread of bioethics education may be handled vigilantly in the Muslim world? For a start, Muslims who are trained in bioethics ought to incorporate into the curriculum relevant concepts from the Shariah. The Maqasid al Shariah, or the objectives of Islamic Law, for example, provide an excellent theoretical framework from which we may assess morally-laden scientific research.
activities within the Muslim world. Instead of adopting Western research ethics per se, we may utilize the Maqasid. Instead of giving focus to the supremacy of the individual, we may deliberate ethical issues from the light of the protection of life, the protection of the intellect, the protection of property (or the environment), the protection of family lineage (or family ties and values), and the protection of religion.

International instruments such as the Ethical Code of Conduct for Scientists must be interpreted and reconstituted at the national level in every Muslim country. Muslim scientists ought not to consider these instruments as binding even though they are forwarded as ‘internationally-binding’. They have to articulate among themselves that there are cultural and societal implications of such guidelines and this fact cannot be treated flippantly. In particular, they ought to remind themselves at all times that such *rules of convenience* do not make them dissociate from God-given values.

**Tackling imperialism in bioethics: Malaysian initiative**

Is there a distinctive Islamic approach to bioethics? To begin, we may recall the Islamic Code of Medical Ethics:16

*The Muslim Medical Profession should be conversant with Islam's teachings and abiding by them. It should also thoroughly study at first hand the data, facts, figures and projections of various parameters actually existent in Muslim societies. Upon this should be decided what to take and what to reject from the experiences and conclusions of other societies. Reconciliation with a policy of uncritical copying of alien experience should be stopped.*

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It can be established from the above passage that 30 years ago, caution towards the influx of foreign approaches in healthcare and the threat it posed on Muslim societies had been anticipated. The Document was therefore prepared to arm Muslim Professionals, here in particular, medical doctors who frequently encounter an avalanche of new biotechnological treatment and discoveries often laced with latent risk of secularism. The very first lines of the Document read:

Current progress in medical and life sciences has acquired revolutionary features and heralds breath taking developments in medical technology and human engineering. Like any force, biosciences need to be harnessed for the welfare of humanity, and be so guided as never to stray to be a destructive power, as happened to nuclear fission in the near past. In the wake of application of modern discoveries in human reproduction, heredity, recombinant DNA and synthesis of behaviour-influencing drugs, our generation is witnessing a radical shaking of our heritage of moral values and codes of behaviour. [And] In an attempt to keep human knowledge on the proper track prescribed by God as HE declared Man as HIS viceroy on this planet, colonizing earth, searching for God’s laws and putting them to beneficial use...

The method of Islamic jurisprudence that gives absolute consideration of the Quran, the ways of the Prophet (s.a.w.) and ijma of the jurists has been and would be the correct way to deal with matters that may imperil innate values of the ummah.

The first encounter with bioethics in Malaysia began in 1989 when a well-known gynecologist expressed concern that the adoption of new human reproductive technologies by medical practitioners had occurred before any local code of
ethics was formulated to act as guidance that would safeguard the legal, religious, and social norms of the country.\textsuperscript{17}

If there was any indication of efforts taken by government ministries tasked with overseeing scientific activities, it would be the establishment of the National Bioethics Committee.\textsuperscript{18} Such a committee is regarded highly practical and, not to mention, urgently required to provide consultation service which would assist with identifying and resolving ethical, cultural, or social issues in the planning and conduct of research in the realm of bioscience and medical innovation. Bioethics committees have been known to assume roles as mediators between scientists and the public so as to maintain scientific integrity and foster public trust. In forming such committees the make-up of the committee or representation would be a pertinent consideration. There ought now to be emphasis on the inclusion of members of the Muslim organizations besides representatives from other faiths in Malaysia, a notion that is seldom considered as important in the Western world.

In the West and, evidently, in most institutions of higher learning in Malaysia, bioethics committees (also known as IRBs or Institutional Review Committees) would consist of twenty percent laypersons, including teachers and lawyers. The majority of members would be scientists, clinicians and medical practitioners, traditionally thought to be able to offer expert advice and deliberate complex scientific concepts surrounding a specific technology. I strongly argue that it is time that we release ourselves from colonial impediments

such as ‘what makes an ideal and fair representation of an ethics committee entrusted to oversee and manage for the common people of most nations’ [including developing countries] matters that affect the welfare of Muslims and/or people of developing countries who have innate social and cultural values.\textsuperscript{19} After all, the objective of establishing such committees is to share in the deliberation of complex bioethical issues not only with colleagues, such as bioscientists and health specialists, but also with other stakeholders, most important of all, the public. The introductory section on \textit{Pre-Condition for Bioethics Committees} as given in the Guide Book no. 2 of \textit{Bioethics Committees at Work: Procedure and Policies}\textsuperscript{20} suggested that Bioethics Committees should first and foremost, respect human rights and secondly, to acknowledge the dignity of citizens.

Some writers have noted that advances in medical technology are emulated in the name of pragmatism, and that Muslims’ attitudes to ethical issues such as abortion, organ transplant, artificial insemination, cosmetic surgery, doctor-patient relations including the use of medicines containing alcohol, “often seek a compromise between Islamic heritage and the achievements of modern medicine, as long as basic Islamic dogma is not violated”.\textsuperscript{21} Other writers more recently noted that American secular ethical principles that are usually used in attending to patient treatment and end-of-life issues,

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\textsuperscript{20} Guide No. 2 published by UNESCO, Division of Ethics of Science and Technology, 2005, p. 7.
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do conflict with Islamic ethical principles.22 It is encouraging to see Muslim ethical discourse, even though sporadic, are becoming much more wary and cautious of Western ethical guidelines and more heartening to see that such reflections have become more critical. This in no small way assists the ummah against any moral intervention that may displace the complete moral ‘way of life’ that Islam has bequeath the Muslim community temporally and spatially.

While defenders of the four principles of bioethics or healthcare ethics, namely, autonomy, beneficence, non-maleficence, and justice, continue to acknowledge such principles as both universal and prima facie in nature, others declare that “it is some form of moral imperialism (in the form of moral objectivism) that will provide the only satisfactory construal of the four principles as prima facie universal moral principles”.23

Conclusion

I have tried in this chapter to give evidence of academic and moral imperialism as given in education and training endeavors in the discipline of bioethics imposed in the developing world that may (or may not) threaten the sustenance of the Islamic value system. In Islam, all decision-making, including matters of controversy that arise from

scientific research, are derived from a combination of principles, duties, and rights, through the broad teachings of the Quran, the traditions of the Prophet Muhammad (s.a.w.), and through the interpretation of the Islamic Law. In short, it provides a complete set of ethical guidelines that is available for any Muslim, the professional or the lay, who encounters moral dilemmas, whether in private or public life. I end this account of bioethics and imperialism by quoting Haseltine below:

The historical development of medical ethics has led discourse related to advancements in reproductive technology to be framed frequently within the Judeo-Christian context that dominates the West. However, it is equally important to examine reproductive technologies within the framework of Islamic ethics. Islam is particularly well positioned to provide ethical guidance concerning reproductive technologies because embryological development is extensively addressed in the Qur'an, the central textual authority and source of law in Islam. In fact, discussion of embryological development appears more in the Qur'an than in the texts of other major world religions. Additionally, the application of Islamic law is generally accommodating to multiple views. There is no universally accepted method for distinguishing, interpreting, and applying the specificities of the law. For this reason, jurists are an essential component of Islamic law, and they provide varying interpretations and teachings. Jurists and the law itself have historically been perceptive and flexible with regard to both communal needs and current realities.24

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CHAPTER SEVEN

Ending Academic Imperialism in Hard Sciences:  
A Beginning

C. K. Raju

Western education has been promoted on the grounds that it would help to ‘catch up with the West’ in science and technology and thus obtain parity with the West in hard power. This belief makes the non-West imitate the West. On the other hand, today, a scientific innovation is not treated as credible until it has been endorsed by the West (e.g. published in a prestigious [meaning Western] journal). This practice ensures that the non-West can never out-innovate or catch up with the West in science, for the West is always the first to know about any major innovations, well before they become public. The two beliefs combined (that Western education is needed for science, and that Western endorsement is the best test of scientific truth and expertise), thus, actually are a recipe to ensure perpetual inferiority of the non-West, and to make the technology gap permanent, with the non-West always following in the footsteps of the West, but trailing behind, and never able to catch up.

Unlike ordinary imperialism, in Iraq or Afghanistan, say, which is resisted, and drains the imperialist, academic imperialism is self-perpetuating. Common people, too, seek Western education for the economic benefits it might entail at the individual level, through proximity to the rulers. Thus, they acquire the attitudes and values the West wants them to have. The real strength of imperialism is this soft power.
Thus, the hard power of the West depends upon a slender lead in technology. This point cannot be overstated. Sending a man to the moon or building a supercomputer look like formidable tasks but they are actually quite easy to do as I learnt by doing. They can even be done in a short time, provided one is allowed to do so, without external interference. And if political pressure is the real means by which the technology gap is maintained, then how can that gap ever be overcome by imitating the West? Because the technology gap is so slender, the West needs soft power to cement the vulnerabilities in its hard power. Imitating the West only enhances its soft power, without diminishing its hard power.

The present-day soft power of the West originated during colonialism. Unlike ordinary military conquests, colonialism involved a cultural conquest; through a conquest of the mind. In India, the Britishers themselves wondered how a handful of people from a small nation coming from so far overseas could control so vast a population. Indoctrination through the colonial education system played a key role here. The aim of colonial education was to create a Western educated elite class of Indians who would be loyal to the British and help them to rule the masses. This loyalty was ensured by the education system which implanted the desired attitudes and values, and also instilled an unshakeable belief in Western superiority. This understanding of the origin of Western soft power is needed for any actual attempt to dismantle it.

**Why hard science?**

There has not been any attempt to decolonize the pedagogy of ‘hard science’ so far because it is generally harder to understand how academic imperialism functions in mathematics and science. This is so for two reasons. First, the vast majority of people have too little knowledge of science or
mathematics to judge the validity of a scientific claim on their own; they rely on authority – clearly, Western authority. If a scientific claim is published in *Nature*, say, or has been endorsed by people in Harvard or MIT or Cambridge, then people will judge it to be true. Journalists will report it. Otherwise they may well judge it to be false or suspect. In general, scientific experts are believed to be only those who are socially recognized in the West, and even governments decide on the advice of such experts.

Second, scientists too use this method of ‘proof by Western authority’. In fact, in complete contrast to the image of science and scientific method as based on reason and experiment, scientists rely heavily on authority. This happens because scientists today are compelled to specialize. As specialists, they are unsure about any matter even marginally outside their narrow field of specialization, and prefer to rely on authority. Further, scientific research and experimentation today requires large funds. Funding agencies judge the performance of scientists using *publications*. Hence, the most important part of a scientist’s activity today is not thinking or doing (experimentation), but *writing* (publication). Funding agencies do not judge the value of publications by reading them or applying their mind to those publications. Instead, they proceed mechanically (‘objectively’) by using such yardsticks as the ‘number of publications’ or they claim to assess the ‘quality’ of a publication by its social popularity among other scientists (‘citation index’) or the proximity of those journals to Western scientific authority (‘impact factor’), etc. The net result is that science has come to mean dependence on Western authority, since scientific truth needs certification, and the West is the ultimate authority to certify it. What is involved is not quality control but mind control.

On the other hand, there is a great demand for science in the non-West. Many people in the non-West have long
believed the story that the West dominates the world just because of Western science. They therefore argue that the way to escape from Western dominance is to do more of science, and thus beat the West at its own game. The irony is that this strategy coexists with the belief that any innovation must first be certified by Western authority. The combined result of both beliefs is to ensure that the non-West is perpetually following the West, and perpetually behind, making the technology gap permanent. This is what actually happened in India. Western education in India was promoted using the argument that this would help India to ‘catch up’ with the West. But even in 175 years, it has not been able to catch up.¹

Thus, the search for parity with the West in hard power drives the non-West into the arms of Western soft power, which is self-perpetuating, and prevents the non-West from achieving parity. Because ‘hard science’ (and the associated hard power) is the carrot at the end of the stick, the fight against academic imperialism must begin by attacking the academic structures surrounding hard science. A key such structure is that of education, and the first point of attack must be mathematics which is at the base of hard science.

Colonial indoctrination and the history of science

In India, Western soft power and the colonial education project began with Macaulay in 1835. Contrary to what was stated in the BJP election manifesto of 2009 and is widely found on Google, Macaulay, a racist to the core, and an admirer of other racists like Locke and Hume (both of whom

¹. Even India’s much vaunted space program, for instance, is still more than 40 years behind the West. The cryogenic rocket technology used in India poses no military threat to the West. The West is happy to have a billion people following it at such a safe technological distance.
he cites in his infamous Minute of 1835), had nothing nice to say about Indian civilization or the then-prevailing system of Sanskrit and Arabic education in India.

...higher studies... [need a] language not vernacular...

What then shall that language be? One-half of the committee maintain that it should be the English. The other half strongly recommend... Arabic and Sanscrit...

I have no knowledge of either Sanscrit or Arabic... I am quite ready to take the oriental learning at the valuation of the orientalists themselves. I have never found one among them who could deny that a single shelf of a good European library was worth the whole native literature of India and Arabia.

The added emphasis is intended to indicate that Macaulay wasn’t just stating his personal opinion, but claiming that everyone agreed with him on this point. He goes on to pinpoint what he regards as especially superior:

...when we pass from works of imagination to works in which facts are recorded and general principles investigated, the superiority of the Europeans becomes absolutely immeasurable.

That is the West has excelled in science, therefore worthwhile education must necessarily be Western. Macaulay, a Whig historian, is quite untrustworthy, but, in this case, he was only restating the very sentiments that Indians like Raja Ram Mohun Roy had articulated a decade earlier. In a letter of 11 December 1823 submitted to the same Viceroy (Bentinck) Roy had argued in favor of teaching ‘European science’, and against Sanskrit schools.

Roy was perhaps carried away by a Western myth: that science originated in the West. Even in 1825 Indian calculus

2. T. B. Macaulay, Minute on education, 1835. The Minute may be found online: www.languageinindia.com/april2003/macaulay.html.

texts were already known to Britishers, but false history prevailed over facts. Newton’s physics depended on the calculus copied from India in the sixteenth century, by Jesuits based in Cochin, just as much as Copernicus’ astronomy was copied from the earlier Arabic works of Nasiruddin Tusi of Maragha and Ibn Shatir of Damascus. The details of that history are published in extenso in my writing elsewhere.4

The point here is only this: the moment it is admitted that science could have had a non-Western origin, and that Western science started off by appropriating non-Western science, the arguments of Macaulay and Roy for Westernized education fail with a resounding crash. Why then should we continue to follow today the course of action they advocated? Let us reconsider it.

This is an abject lesson in the massive soft power that flows from distorted history. The Indian elite was taken in by this false history, and led by the nose. Their extreme gullibility was exploited to change the education policy of a vast country, and to maintain that change for 175 years (62 years after independence). India could hardly have been ruled for so long by the British without the active cooperation of the Indian elite, and indoctrination through colonial education played a key role in ensuring that cooperation. And distorted history was the tool used to initiate that indoctrination. India was colonized by a lie – by the false history skillfully used by Macaulay, not the battle of Plassey (which, was also won by bribery and deceit, and not any technological superiority).

Western education consolidated the grip of the West over Indian minds. It deeply reinforced this terrible superstition about Western superiority, especially in science. (I use the

word *superstition*, for what else can one call a false belief which is not based on direct knowledge, and leads to a ruinous course of action?) Indians educated on this education policy were so overawed by the West, and learnt to trust it so implicitly, that they never considered it necessary to check any of the purported facts of history of science on which this policy was based. They haven’t done so till now.

Even more remarkably, the Indian elite, with their canine loyalty to the West, won’t tolerate anyone else challenging their absurd superstitions. They preserve their superstitious faith in the West by insulating it with thick layers of prejudice. If anyone questions the basis of that faith in the Western history of science, this protective layer of prejudice is instantly activated. The typical response may go like this ‘(1) we don’t know the relevant science, (2) we don’t know the evidence for that Western history which you challenge, (3) we haven’t read what you have written, (4) and we won’t read it, but (5) if we do we won’t believe it’. Why not? Because it is so easy to brand the challenger as a Hindu or Muslim fanatic (no evidence needed, of course).

It is on this very premise ‘we don’t know, we don’t want to know, but we trust the West’ that similar false history continues to be taught in Indian schools to this day. This ensures that children grow up in awe of the West, so that the trust in the West is perpetuated. An explicit example of such indoctrination may be in order. School texts produced by the Indian government, today, emphasize that mathematics (and science) originated in the West, including, of course, ‘Euclid’ (p. 80). When challenged to produce evidence for the bogus genetic history of Euclid (shown as white-skinned), or even to produce evidence that Euclid at all existed, the authors of

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these texts could not produce any evidence.\textsuperscript{6} The key government official responsible for coordinating these texts asked what was wrong in relying on secondary sources.\textsuperscript{7} So, they merrily retain bogus white-skinned pictures in Indian school texts to the detriment of millions of Indian children.

One cannot help noticing the uncomfortable fact that the comfortable life of these officials and authors depends solely upon the recognition and political support they have from the West, and not because their science was of any practical value to anyone in India. It is sad that the government of a billion people has no other way to judge truth except to rely on experts, and no other way to select experts except by the criterion of Western recognition. And Indian industry follows suit. And so, India remains prey to the soft power of those imperial forces even today, with the help of the indoctrinated elite, exactly as the British had planned. This extreme anxiety for Western recognition is itself a consequence of the feelings of collective inferiority that prevail to this day. That feeling is generated not merely by imperialism but by indoctrinating people with racist history; and that history, propagated by Western historians, was used to derail the entire agenda of education in India, and to consolidate imperialism. Academic imperialism is being used to maintain real imperialism.

The aim of the colonial education policy was to create a class which would help the British to rule India – a class which would look like Indians, but would think and act like Britishers, and be loyal to the British imperialist, and promote British interests over those of the masses. It is through such \textit{education} offered today that this class perpetuates itself. As then so now, the clamor for Western education is based on this

\textsuperscript{7} Symposium on Mathematics in Relation to History, Culture and Technology, India International Centre, New Delhi, November 2007.
sort of false history (accompanied by bad philosophy of science) both of which the Indian elite class parrots without knowledge and without understanding.

So what?

The other sort of question that can be asked is this. So what if the calculus originated in India or the Copernican model originated in Maragha and Damascus? So what if Euclid or Claudius Ptolemy never existed? What difference does it make today? One difference is clear. Better history would reduce anxiety about racial inadequacy. For example, I was taught in school that Marconi invented the radio, and learnt much later that this was the work of J. C. Bose, as is now acknowledged in the West after a century. The work of another physicist, S. N. Bose would have similarly gone to Einstein, but for a lucky intervention by Dirac.

More importantly, would revised history change the way advanced physics or mathematics is done, today? Indeed, it would, but I will not elaborate on advanced physics or mathematics. Here I will look only at the effect on the education system, and I will focus on math education, at the early undergraduate level. To understand the changes I advocate, it is helpful to know the real history. Current school mathematics (arithmetic, algebra, trigonometry and calculus) is not native to Europe, but was imported. For arithmetic and algebra, this is clear from their very names.

Arithmetic algorithms are so called because Al-Khwarizmi’s Latinized name was Algorismus, or Algorithmus, and those arithmetic techniques triumphed over the native European abacus technique. Al-Khwarizmi’s book

8. I have done so elsewhere. See C. K. Raju, Cultural foundations of mathematics, cited above. Also see http://tinyurl.com/yeygejb.
*Hisab al Hind* (of which only Latin translations exist today) was written in the House of Wisdom in Baghdad. Though Arabs learnt this technique from Indians, Europeans learnt of this way of doing arithmetic, from Arabs; hence they also refer to ‘Arabic numerals’. The terminology is misleading. The real issue is that elementary arithmetic algorithms (for addition, subtraction, multiplication and division) require the *place-value* system, while the Roman numerals are adapted to the abacus, and are *additive*. The particular signs used for these numerals are of no consequence whatsoever.

Likewise the word ‘algebra’ is derived from the Arabic *al-jabr* (used in the title of another book by Al-Khwarizmi), which solves algebraic equations by force (*jabr*), by putting them on two contesting (*muqabala*) sides of an equation. When these arithmetic techniques reached Europe, they were not properly understood by Europeans. Why not? Because of cultural differences in ways of doing mathematics. The European abacus allowed only integers, and mainly permitted only addition. Because the abacus tied numbers to concrete entities (the counters used for counting, called jetons), it was not possible to represent negative numbers, so that subtraction presented difficulties. Multiplication had to be done by repeated addition and division by repeated subtraction. The abacus provided no way to represent general fractions and Romans knew of only a few common fractions and could not add or subtract fractions with different denominators.

European difficulties with elementary arithmetic were manifested in various ways. For example, when Gerbert imported the algorithmus techniques from Cordoba around 967 CE, he inscribed the Arabic numerals on the back of jettons! Gerbert had not invented a novel way to do algorithmic arithmetic on the (Roman) abacus: he simply did not understand the fundamental difference between abacus and algorithmic arithmetic, and blundered as a consequence.
These difficulties were manifested in other ways. For example, the Florentine merchants who traded with Arabs in spices quickly learnt that arithmetic algorithms provided a practical and commercial competitive advantage. Accordingly, they learnt algorismus, and treated it as a sort of trade secret. However, other Europeans were uncomfortable with zero. The reason was that the Roman system of numeration is additive: XII means 10+1+1. On the place value system, however, it is not valid to interpret 10 in the same way as 1+0=1. Europeans hence found zero mysterious, that ‘it has no value, but adds any amount of value to its preceding number’. Even more difficult was the issue of rounding of fractions, or zeroism, which had just no counterpart in the Western tradition of mathematics. These historical difficulties are reflected in the present way of teaching arithmetic, which copies the Western method. Thus, students first learn the abacus, and then arithmetic algorithms; they retrace the European history of assimilation of arithmetic. The historical difficulties that arose in the minds of Europeans, such as Gerbert, in the transition from abacus to algorismus, are now replayed in the minds of the students. Typical difficulties relate to subtraction, division and fractions. Similar comments apply to trigonometry. Today Western historians say that trigonometry originated in Greece, with Ptolemy. As in the case of Euclid, nothing is known about this Ptolemy beyond the twelfth century accretive text of which he is asserted to be the sole author. The date is fixed in the second century by referring to four ‘observations’. In fact it is known that these observations were not carried out, but the values were put in by back-calculation at a later date. Those fake ‘observations’ should not therefore be used to date the manuscript.

The text was clearly begun in Persia after the sixth century, for it begins by addressing a Cyrus. The repeated calendar reforms in the Roman Empire never used the *Almagest* value for the length of the year. As a practical text on astronomy, the *Almagest* had to be an accretive text, and this is manifest from its star list, headed by the present-day pole star. Now, the very word ‘trigonometry’ shows how notions which relate naturally to the circle were instead related to triangles (with which Europeans were more familiar). This creates difficulties today in learning it, for example with the natural, radian measure of angles. Indians and Arabs traditionally defined an angle in a better way, using a flexible string to measure the arc of a circle.

Europeans, accustomed to the straight line, had difficulties with measuring the arc of the circle. Descartes, a leading European geometer, dismissed the possibility of such measurement as beyond the human mind. European navigators, similarly, had a major problem with curved lines (loxodromes), since they were accustomed to the straight line and a rigid straight edge to measure it. There was a great demand for trigonometric values (tables of secants) in the sixteenth and seventeenth centuries, in Europe, just because these helped to map loxodromes to straight lines.

These European difficulties with trigonometry are again reflected in present-day school education. As a relic of the European navigator’s paraphernalia, a geometry-box or compass-box is essential part of the equipment of most students. The setsquares are ritualistic, and rarely used or even understood. The protractor cannot be directly used to measure real-life angles, such as the angle subtended at the eye by a tree. The scale cannot be used to measure curved lines. A string or a measuring tape could be used for that, but is not included in the Western compass box. In fact, a string
could replace the entire compass box. All this shows that present-day math teaching is not based on any well thought out strategy, but merely on blind imitation of the West.

Similar remarks apply a fortiori to the calculus. Not only was the calculus taken from India, it was not properly understood by Europeans such as Newton because of cultural differences between Indian and European mathematics. Because of its false history, the calculus is taught today the way it was absorbed in the West, and not the way it was discovered (or invented) in India. Consequently, those historical European difficulties with the Indian calculus are again replayed in the classroom today.

Philosophy of mathematics

The preceding claims regarding algorithms, trigonometry, and calculus raise an interesting question: can there be cultural differences in mathematics? Those educated in the Western tradition, even if they do not know any mathematics, have been taught to believe that mathematics is universal; not merely global, but universal. As Huygens said:

…no matter how inhabitants of other planets might differ from man in other ways, they must agree in music and geometry, since [music and geometry] are everywhere immutably the same, and always will be so.

Now, if mathematics is indeed universal, then it should have sprung up the same in all places. However, the West has also long claimed that only the ancient Greeks correctly understood mathematics! Here is what a “classic” book on the (racist) history of mathematics says.

The history of mathematics cannot with certainty be traced back to any school or period before that of the Greeks... though all early races knew something of numeration...and though the majority were also acquainted with the elements of land-surveying, yet the rules which they possessed... were neither deduced from nor did they form part of any science. 12

That is, the fact is that different cultures did math differently, but in the opinion of Western historians what other cultures did was ‘land-surveying’, not geometry. They maintain that only the Greek race understood geometry (because their genes were different). The slightest commonsense suggests the absurdity of believing both the two statements, ‘mathematics is universal’, and that ‘mathematics originated only in Greece’: if mathematics is a genetic or cultural achievement why should it be universal? However, people brought up on Western education tend to be devoid of commonsense on this issue, for they have believed both statements for centuries; both ordinary people and the leading thinkers in the West. Such falsehoods may be the key to Western imperialism (through the claim that Western knowledge is universal). In fact, both statements are false.

In fact, mathematics is not universal, and can be of different kinds, as it historically was. For example, the non-West accepted the empirical as a means of proof, while Western mathematics has emphasized metaphysics from the twelfth century. Further, non-Western mathematics focused on calculation (hisab, ganita) which has practical value, while Western mathematics focused on deductive proof. This is also the case with present-day formal mathematics (which involves proving theorems), and its practical value is very uncertain.

An oft-cited, but naive example of the universality of

mathematics is the claim that \(2+2=4\). Let us examine the simpler claim that \(1+1=2\). As a piece of practical calculation this is fine. But is it a universal truth? Millions of logical circuits on a typical computer chip implement a different arithmetic where \(1+1=1\) (or gate) or \(1+1=0\) (exclusive-or gate). Symbols such as 1, and + do not have any intrinsic meaning. They obey the rules we assign. If I take two stones and add another two stones, I have four stones. But if I break one of them I get 5 stones. Does that mean \(2+2\) may possibly be 5? On the other hand, if I have 1 big fish, and 1 small fish, how many fish does that make; 2 big fish or 2 small fish? Might it not be better represented by 1.5 big fish or 2.5 small fish? The point once again is that we have to specify the rules. We have to specify that we are dealing not with computer circuits or with stones, or fish, but with integers.

But, can we specify that we are dealing with integers? Let us try adding two numbers using a computer program. If we use a computer language such as C, we will certainly get \(2+2=4\). But we could well get \(20,000+20,000= -35,528\). (The C language is not platform independent. So, we may need to try \(2000000000+2000000000= -29496796\). This is the answer we would get on all platforms with the Java programming language.) Of course, it is possible to add much bigger numbers on a computer, using what is called floating point arithmetic. In this case, however, one gets into a different sort of problem. We could get \(1+0.00000001=1\). This means that the so-called associative ‘law’ for addition does not hold, for we would have \(-1+(1+0.0000001)=0\) but \((-1+1)+0.0000001=0.0000001\). So if we add three numbers, the answer depends upon the order in which the numbers are added. It is also possible to do what is euphemistically called ‘infinite-precision arithmetic’ on a computer. In this case, all that changes is this: the number of zeroes in the above sums can be made very large (say, a trillion zeroes). But there is just no
way to do integer arithmetic on a computer, because there is no way to tell a computer what a mathematical integer is.

I would emphasize that all of this makes very little practical difference. For any known practical problem (such as sending a man to the moon), computer arithmetic is perfectly adequate. However, this practical (computer) arithmetic does not agree with the formal arithmetic taught to mathematics students. Formal arithmetic is based on what are called Peano’s axioms, for which the associative ‘law’ is sacrosanct and inviolable, and cannot be broken as it is in computer arithmetic. This is usually expressed by saying that computer arithmetic is (forever and inescapably) erroneous. Computers are mathematical criminals since they break the universal laws of arithmetic laid down in the nineteenth century by Peano.

Another way to put matters (and the way I have put them using the philosophy of zeroism) is that formal arithmetic, such as Peano’s arithmetic, though a possibly useful simplification, is an unrealistic and erroneous idealization for it can never be achieved. As the name ‘Peano’s axioms’ suggests, historically, all other cultures did arithmetic differently. The bottom line is this: mathematics is not universal. The claim that ‘Western mathematics is universal’ (but that it originated in Greece) only furthers imperialism.

Infinity, mathematics, and religion

I hope the nature of the difficulty, in the above examples, is clear by now. It concerns infinity. The integers are infinitely many, while a computer has only a finite memory, so it cannot store all the integers. Even specifying what an integer is really requires an infinity of instructions. Therefore, it is not possible to specify to a computer what an integer is, because such a specification would take an infinite amount of time.
Therefore, a computer can never do arithmetic in the way the West has wrongly declared to be universal.

Cultural differences regarding mathematics become especially acute in mathematical questions about infinity, since that involves metaphysics. I have tried to bring out the pivotal role of those cultural differences in mathematics by pointing out the historical difficulties regarding infinity which plagued the calculus when it first arrived in Europe. Fundamental to the calculus is a way to sum infinite series. What is the sum of $1 + 1/4 + 1/8 + 1/16 + \ldots$? Indians had a simple formula for this geometric series. But European mathematicians of the seventeenth century thought that the only way to obtain this sum was to physically perform an infinity of sums, that is, add $1/4$ to $1$, then add $1/8$ to the sum, and so on. Doing such an infinite sum is a supertask; an infinite series of tasks that needs infinite time. So, the European mathematicians of the seventeenth century thought the answer to this sum was known only to God. Descartes explicitly said so\textsuperscript{13} and Galileo broadly concurred\textsuperscript{14}; *infinity related naturally to theology.*

Now, Western mathematics was already deeply associated with religious beliefs. The very word ‘mathematics’ shows this. It derives from ‘mathesis’ which means ‘learning’. For Plato, *mathesis* meant the recollection of knowledge of previous lives. He believed that people have had past lives, and that mathematics helps them to recall the knowledge of those past lives. This belief in past lives was directly related to beliefs about the immortal soul which survives death, and linked past lives to the present. In Plato’s *Meno*, Socrates


\textsuperscript{14} For a review of Galileo’s arguments in his letters to Cavalieri, see Paolo Mancosu, *Philosophy of mathematics and mathematical practice in the seventeenth century*, Oxford University Press, 1996, pp. 118–122.
demonstrates a slave boy’s knowledge of elementary geometry, and triumphantly concludes that he has proved the existence of the soul.\textsuperscript{15} Plato, in his Republic, prescribed the teaching of mathematics for the good of the soul.\textsuperscript{16}

This belief linking (‘mystery’) geometry to the soul began long before Plato, in Egypt, and it persisted for at least eight centuries after Plato. We find Proclus, in the fifth century CE, writing a commentary on the Elements to explain why Socrates used geometry (and not geography, for example) to demonstrate the slave boy’s innate knowledge. Proclus explains the term ‘mathesis’ in explicit detail. His explicit aim in his Commentary is to bring out that mathematics, irrespective of its practical applications, is a religious activity for the good of the soul which “leads to the blessed life”.\textsuperscript{17}

Apart from countering the key alterations to Christian doctrine, made by post-Nicene theology, Proclus’ belief in the eternal truths of mathematics, hence an eternal cosmos, angered the church in various other ways. For example, it went against the doctrine of creation, as interpreted and emphasized by the post-Nicene church. One could say the first creationist controversy started in the fifth century, and it concerned the teaching of mathematics, not biology. Philoponus’ argument against Proclus was that the world could not be eternal since adding a day to eternity would leave eternity unchanged. This was a bad argument. Two things made this argument worse: first, Philoponus’ did not even grasp the essence of Proclus’ notion of eternity, and (deliberately?) confounded Proclus’ notion of quasi-cyclic time with his own notion of time (which I have called

\textsuperscript{16} Plato, Republic, 527, The Dialogues of Plato, cited above, p. 394.  
superlinear time). Second he had double standards about eternity, for he continued to believe in an eternity (in ‘linear’ time) of torture in hell for non-Christians of any sort.

The point of bringing in Philoponus’ arguments is twofold. First, to show how ideas about infinity have long been mixed with theology (and notions of eternity), in the West, and, second, to point out that infinity easily leads to paradoxes, and double standards. After the military failure of the Crusades the church switched from hard power to soft power. Muslims did not accept the Christian scriptures, but they accepted reason, as in the aql-i-kalam or Islamic rational theology. Hence, the church now sought to use reason to convert Muslims. Church theology was adjusted for this purpose, and this post-Crusade theology has come to be known as Christian rational theology. In line with this theology, it was claimed that ‘Euclid’s’ Elements was concerned with reason, and metaphysical argumentation, and not with self-realization (or mathesis) as Proclus had stated. This post-Crusade reinterpretation of the Elements was supported by the false history that it was authored by an unknown ‘Euclid’ who, strangely enough, had the same beliefs as those of post-Crusade theology. This false history of Euclid also allowed the church to claim ownership of ‘universal’ reason, and the ‘universal’ way of doing mathematics as metaphysics. If we discard this history as incorrect, we must also reject the present way of doing mathematics.

Now, we must recall, at this stage, that the set of symbols we have written down, namely $1 + 1/4 + 1/8 + 1/16 + \ldots$, does not have any intrinsic meaning (let alone a ‘universal’ meaning). When the calculus first arrived from India, Europeans did not understand the Indian way to sum infinite series. They mistook it as a process of numerical approximation (which it was not; formally speaking it was closer to a process of
discarding infinitesimals in a non-Archimedean field; but it was based on a different philosophy). Because of the religious background of Western mathematics, Europeans thought mathematics ought to be exact, and should not neglect any finite quantity, however small. Therefore, while they readily accepted the practical value of the numerical approximation, they were not willing to grant that (what they regarded as) numerical approximation could be called mathematics.

Accordingly, Europeans looked for an exact way to do infinite sums. This is evidently not possible physically. So they sought metaphysical ways to do it. These metaphysical ways of handling infinity naturally got entangled with their other metaphysical beliefs, for example about time. For example, Newton’s doctrine of fluxions introduced a serious error in his physics. Believing this would make the calculus rigorous, he made time metaphysical, declaring that this was more important than being able to measure it physically. (This error was corrected only some two centuries later.) \(^{18}\)

Limits were later the answer Western mathematicians provided, but limits required formal real numbers, and formal real numbers required set theory. The critical importance of set theory is that it makes it possible to perform supertasks metaphysically. The metaphysical ability to perform supertasks made the mathematician feel powerful, and opposition to such things (by a group called Intuitionists) was squelched (since truth in such metaphysical mathematics can only be decided by social authority). Limits require set theory, which is beset by a variety of problems. Many mathematicians were initially apprehensive about the paradoxes of set theory. Those were believed to have been resolved by the

axiomatic set theory which developed in the 1930’s. However, the set-theoretic way to handle infinities involves similar double-standards: one standard of proof within set theory, and another for talking about it. (This double standard of proof is how set theory really avoids being shown to be inconsistent.)

Of course, limits don’t make any practical difference to the answers. Amusingly, even before limits were acceptably formalized, with set theory, they had to be discarded. Many cases where limits do not exist are important for physics. This led to the theories of Sobolev, Schwartz, and Mikusinski (which allow one to differentiate discontinuous functions) which apply to a range of phenomena from shock and blast waves to singularities, and the renormalization problem of quantum field theory. These latter cases make particularly clear that metaphysics alone is not enough for mathematics.19

Even if we neglect all these issues, the metaphysics of set theory can lead to unacceptable physical conclusions, such as those of the Banach-Tarski paradox. Nevertheless, set theory is used as the basis of all formal mathematics today. And this is taught in schools around the world, so that from an early age students learn to trust and value it and distrust any critiques, especially those coming from non-Westerners who lack authority. The net effect of all these complexities is that mathematics has become very hard to learn. One must not make the mistake of thinking that Western theology is inflexible; but it is relatively harder for the West to eliminate these difficulties, for those beliefs are central to the Western tradition for the last several centuries. So, the non-West has a competitive advantage here. This, therefore, seems a good point to begin the attack against academic imperialism.

The solution

From the above it is clear that academic imperialism is maintained by (a) a huge war-chest of lies about the history of science, (b) by using those lies to impose and maintain Westernized education which indoctrinates impressionable young minds into awe of the West, and (c) by making Western certification as the key test of all scientific truth.

It seems to me the Western lies about history have sprung a major leak with the exposure of the fictions about the Copernicus, and now the calculus and the purported Greek origins of science. Undoubtedly, the West employs an army of priests who will try to plug those leaks, and maintain each lie, by telling a thousand more, as they have done in the past. However, it seems to me only a matter of time before Western history of science is accepted as a major fraud and the ship sinks. The Internet has played a key role in this. For example, Whiteside’s attempts to continue to suppress Newton’s secret writings on the Bible were swiftly exposed, in a day, and he was left abusive and ranting. Presumably the Internet will be eventually controlled, but the damage to Western history is already done, and is irretrievable in my opinion.

Nevertheless, today we are moving towards greater Westernization of education, at least in India. The economic carrot that is being dangled is that Indian knowledge of English (and the fact that most Indians are young) helps in call-centre jobs. This is the same old argument that acquisition of science and technology requires Western education — apparently the examples of China, and, to an extent, Japan, can be argued back and forth.

Therefore, I feel it is very important to have an example which demonstrates clearly that de-Westernization of knowledge can aid the acquisition of science and technology. This is precisely what a revised pedagogy of mathematics
makes possible. This would also provide a lasting demonstration of just how bad government decision-making can get, even at the highest level, in matters related to science and technology. The details have been explained in other places, and here I will only summarize the highlights.

First, as regards trigonometry, the ritualistic compass box associated with Western geometry needs to be changed. Curved lines are allowed to be measured using a flexible measuring tape. This allows the definition and measurement of an angle as the length of a curved arc. Note that this is an empirical process (possibly subject to errors, for mathematics need not be, and cannot be, any more exact than physics).

Second, the notion of limits and formal real numbers, and the requirement of set theory is dropped from the calculus. All those notions are a needless burden. They add nothing to either the practical or the theoretical value of the calculus. Historically these notions arose because Europeans did not understand the imported Indian calculus.

Third, formalism is replaced by the philosophy of zeroism. This is a practical philosophy which recognizes that it is impossible to represent anything (integer, person,...) exactly, in a constantly changing world. Therefore, in any representation, whatsoever, it is always necessary to discard something as ‘inessential’. For any practical application of mathematics, it is already recognized that numerical approximation is unavoidable. These three steps would already be a fundamental blow to the idea of mathematics as deductive, exact, and universal metaphysics, an idea which has been central to Western culture for several centuries.

Fourth, instead of symbolic manipulation, students are taught calculus as it historically developed, as a way to numerically solve ordinary differential equations. Practically, this allows the easy definition of a wide variety of functions as the solutions of ordinary differential equations. This
approach naturally enables the solution of a wide variety of nonlinear ordinary differential equations which arise in practice, and greatly extends the scope of the practical problems that the students can solve.20

Fifth, should symbolic manipulation become necessary at some stage, all that students need to know is an appropriate package for symbolic manipulation.21 All these elements can be quickly taught in five days instead of the usual three year routine.

Conclusions

The process of dismantling Western soft power must start by correcting history, modifying philosophy, and revitalizing education. The process, presented in following steps, must eventually be extended to change the present-day methods of validating science: The first step is to undo the falsehoods of Western history of science. Far too many people incorrectly think this can be done just by highlighting some scientific contributions of the non-West. Certainly, it is important to highlight the contribution of the non-West, but that, by itself, is not enough, and past attempts to do so have repeatedly failed to change ‘mainstream’ history of science. For example, it has been known for at least the last sixty years that Copernicus, a mere priest, only translated the works of Ibn Shatir and Nasiruddin Tusi from their (Byzantine) Greek versions to Latin. Yet the mass of people still believe Copernicus was a revolutionary scientist. Most Western historians of science go on talking about the ‘Copernican revolution’, pretending as if nothing happened. People have

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20. Especially with the aid of a computer package such as CALCODE for the solution of ordinary differential equations.
21. Such as MACSYMA (nowadays called MAXIMA). For further information, see http://maxima.sourceforge.net.
been indoctrinated to believe that any attempt to correct Western history is necessarily chauvinistic. This latter belief has been greatly helped along by the more extreme elements in the non-West who have often made wild claims. Present-day academic imperialism is based on the formula ‘trust the West’. This formula is the key to the Western indoctrination and propaganda, so critical to ordinary imperialism. Thus, the right thing to do is, first, to expose the falsehoods of Western history of science.

Hence, also, it is important to demonstrate that the deliberate falsehoods of Western history of science are not limited to isolated instances in the past; those falsehoods are widespread, and systemic, and extend into the present. This can be demonstrated by exposing also contemporary Western icons at the highest level, such as Einstein. Hence, I have started the series of books, ‘False Gods of Science?’, a summary account of which is in my book *Is science Western in origin?*. While exposure of Western falsehoods is necessary, it is not sufficient. The West has lived off the most absurd lies for so long that it has developed a defense mechanism against such exposures, and tries to maintain those lies by inventing further lies and inculcating prejudices. So, the exposure of Western falsehoods also needs to be propagated as vigorously as possible. While individuals may uncover the falsehoods of history, the propagation of such exposure has to be a collective effort.

The second step is to understand and undo the way bad philosophy has been used to support false history. For example, it has been claimed that the Western way of doing mathematics is the only right way, and must be imitated. On the one hand, this philosophical demand to imitate the West has a retrospective effect on the history of ideas, for it allows

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22. Cited above.
an easy way to dismiss non-Western contributions as insignificant, since non-imitative (For example, the pre-Newtonian Indian calculus is today dismissed as ‘pre-calculus’, just because it does not imitate the present Western way of ‘limits’). On the other hand, this demand for imitativeness allows science itself to be used as a key weapon to run down beliefs in other cultures. A pet argument of Christian missionaries was that Hindus and Muslims and all non-Christians, in general, were superstitious, unlike rational Christians. More to the point is the way Western-educated people, even those with the best intentions, have swallowed this belief. In any case, the subterranean message underlying the missionary position is to adopt Western (indeed post-Crusade) values suited to the imperialist. The whole issue is a bit complex, and as I have discussed it extensively elsewhere, so I have not entered into this issue (of science as a source of imperial values) here, and have only indicated why it is better to teach de-theologized mathematics.

The third step, and a key step, against academic imperialism is to dismantle the colonial education system which indoctrinates people. The need to decolonize education has so far been understood only in the context of political history and social sciences. In hard sciences, imitation of the West remains the norm. So it is here that it is most important to decolonize education, and to demonstrate alternatives. Since mathematics is at the root of science, it is a good idea to

begin by decolonizing math education. Because imitation of the West has been painted as progressive since colonial times, it is important to demonstrate that decolonizing mathematics education is not a regressive step but leads instead to gain of practical value, and the only loss is that of Western indoctrination. A key aspect of that indoctrination is to implant the belief in the conflicting claims that (a) ‘mathematics is universal’ but, at the same time, that (b) ‘mathematics began with the Greeks’ and other cultures had no real clue as to the right way to do math. To reiterate, it is elementary commonsense that if (a) is true, and mathematics is indeed universal, then (b) must be false, for mathematics should have sprung up the same in all places. So, it is remarkable how many people who know neither mathematics, nor its history, or philosophy, adhere to both these claims, contrary to commonsense. Such contradictory convictions based on ignorance are the hallmark of superstition and indoctrination. The solution, thus, is to break such superstitions by practical pedagogical demonstrations.26

The fourth step is to dismantle the Western academic power structure at the level of higher education and research, for this exerts continuous pressure on school and undergraduate pedagogy. Many people, even in the West, find stifling the existing power structure used to control journal publications. Although blind peer review is portrayed as a system of quality control, it is open to much misuse, like Roman Catholic confessionals, and has been rightly described

26. All these elements (a new history, philosophy, and pedagogy,) are captured in my five-day course on ‘calculus without limits’. The basic point is that de-theologizing math also makes it very easy to teach. Such demonstrations need to be replicated widely, advertised, and absorbed into the ‘mainstream’ education, to destroy the superstition that there is no alternative to imitating the West. For further information about this course, see http://ckraju.net/papers/calculus-without-limits-background-paper.pdf.
as pre-censorship. Systems like the arXiv\textsuperscript{27} which provide an alternative way to disseminate knowledge have long been in place. Even these alternative systems have been challenged as too restrictive, leading to the formation of more recent alternatives such as viXra\textsuperscript{28}. Quality control, especially in a digital age, should ideally take the form of post-publication public debate. Such debates can be encouraged by inviting comments by referees (and rejoinders by authors), within a system like viXra. The referees would not be spending any more time (if they were serious, in the old system), but the quality of debate would improve.

Side by side, the hold of commercial journal publishers in science needs to be broken. Why should scientific information produced by public-funded research be turned into the private property of these publishers through copyright? If those publishers are charging only to meet operational costs, why should they hide the extent of profits they make in the process? Why should government agencies encourage the superstition that the prestige of a scientist is best decided by publications in such commercial journals? Why should public funded scientists be allowed to work for free for these commercial journals, as referees? In particular, copyright laws should be amended to enforce free public access after a short delay for all public funded research articles which are published even in commercial journals.

The ultimate Western endorsement is the Nobel Prize and the politics of that endorsement is widely recognized in the case of the peace, literature and economics prizes. This endorsement is believed to be weightier in the ‘hard sciences’, although very similar processes operate also in those cases. However, as far as I know, there has never been any non-

\textsuperscript{27} For further information, see http://arxiv.org
\textsuperscript{28} For further information, see http://vixra.org
Western attempt to *study* those processes. Such a study might at least lead to the realization that Western endorsement ought not to be the key to scientific achievement, and alternative prizes instituted elsewhere may then look for more transparent means of decision-making. Another common system of endorsement is the so called ‘impact parameter’, related to the *ranking* of the journal. This is just another seemingly-objective way to say that mere peer review is inadequate, unless the peers are Westerners who count (or their affiliates). The citation index is at best a *biased* measure of social popularity in the West. Publication in these ‘high-impact’ journals depends upon endorsements by referees and editorial boards predominantly from the West, so social networking with Westerners is critically important.

Also a scientific theory ought to be judged by its impact on the *society* at large (and not just consumers of journals) over a longish time period. New ideas often involve complexities which the scientific community takes a long time to grasp. A further issue is that it is desirable that international journals and conferences and societies should have internationally *representative* selection committees. This rarely happens today. Discussions about this, in the context of the ethics of science, need to be encouraged.\(^\text{29}\) Perhaps it would help to have a ‘fairness index’ (or ‘ethical index’) for various methods of rating academic activity.

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\(^{29}\) The sequence of the steps is important. If Western history and philosophy of science are not first (and continuously) challenged, there will be resistance to changes and until the education system is changed, and Western indoctrination in elementary science is eliminated, those who grow up with it will resist any changes in higher education and research.
PART III

PEOPLE-IN-COMMUNITY IS THE HOPE
CHAPTER EIGHT

When We Discover that We Have Been
‘Cultural Imperialists’ in Our Own Homes

Munir Fasheh

The drive among Americans to go to other countries to save the world (to educate peoples, civilize them, and help and serve them) is very strong. This ‘disease’ is so contagious that even Palestinians who study in American universities (whether in the US or outside) are usually contaminated by it. I did. I believe that this attitude is so fundamental in the American psyche and character that, without it, the US would lose a most important factor in its conquest and domination of the world. It is a basic element in its imperial design – in paving the way for domination at other levels (military, political, and economic). In this article, I will focus on the educational dimension of this drive. Colonization at the educational level starts with forming perceptions within the colonized – the most important of which is their sense of lesser worth. The ‘secret’ element in succeeding in this regard is using numbers (grades) to measure the worth of people, and stressing needs, weaknesses, and what is lacking, and ignoring the sources of strength and what is beautiful, abundant, nurturing, and healthy in societies.

I will give an example I am familiar with, and which is related to a most well-meaning and well-intentioned group: the Quakers. They refuse to take money from governments so as to have as much independence as possible in deciding what to do. They came to Ramallah, Palestine and started in 1869
putting the foundations for what became the Friends Girls School; later they established a school for boys. They sincerely wanted especially to help educate girls in Ramallah and neighboring villages, starting with what they wear and with using forks and knives in eating. All seems well. What they never questioned, however, is the assumption that education in its western form is good for all peoples, regardless of cultures, realities, and consequences. That myth is still firmly rooted in their consciousness and actions – and among the vast majority of Palestinians. What we see on the ground, however, tells a story different from intentions. Today, for example, more than 80,000 Ramallah people live in the US while only 2 to 3 thousand still live in Ramallah. Driving people out of their homeland – through education – was effective, smooth, and subtle, without a single shot. Remember, I am not talking about intentions but about perceptions and consequences. Also, I am not saying that people should be forced to stay if they wish to leave. All what I am saying is that we often do things with best intentions but worst consequences.

There is another myth which is embedded in the above one: that it is possible to measure the worth of students by comparing them along a vertical line – what is referred to as evaluation or grades. I strongly believe that using numbers to measure the worth of people has been a most destructive virus of communities everywhere. One assumption that the Quakers seem to have internalized before coming to Palestine was that peasants have no knowledges or that their knowledges and ways of living are obsolete or of much lesser value. They seem to have internalized that Western knowledge is not only better but also a ‘universal’ – the only path for progress and getting ahead. Their readiness to help and serve was unsurpassed; it was genuine and sincere. [It is interesting that the same word is used to describe what American soldiers do:
they are there to ‘serve’ the underprivileged, the underdeveloped, etc. This is even true of most Palestinians who study in American universities: we return to Palestine “to serve our country and help our people”. Very few put it the other way, ‘Enough of this nonsense that I am getting in these universities, I want to go back and heal, and learn again what useful meaningful knowledge is’. Few people in Palestine today bring out the issue that education (in its dominant form) may have done more harm than good to people and communities, and that it may underlie much of the problems that Palestinians face today. Communities and the ability of nature to regenerate itself cannot be created through plans and minds. The spirit of regeneration is part of creation, and communities are formed over hundreds of years. Dignity rather than rights; hope rather than expectations; mutual support rather than self-serving; self-rule rather than ruling or being ruled; giving rather than demanding; and being attentive to life rather than to distractions are what characterize community. This is not confined to Palestine but seems to be true everywhere. One of the fiercest critics of western civilization (including education) was Gandhi. He described the English civilization as the ‘Kingdom of Satan’ polluting everyone it touched.

What British education did to Palestinians is rarely discussed among Palestinians today. There are plenty of books about the harm the British did through political and military means, but rarely about the deep harm done by spreading their education throughout Palestine. It shattered the inner world of people and tore apart the social-economic-spiritual fabric in society – mainly through values and tools that govern actions, such as competition, measurement, winning, and control. Even those who are very critical of western civilization in other fields, including culture (such as Islamic groups), they embrace education as savior and treat
grades as true measures of students’ worth. Grades are treated as idols to be worshipped, never to be questioned. This deception seems to spring from looking at the 10 percent of the population who gain at the personal level, and ignoring what happens to the majority of people and to communities.

I was one of those who carried the virus and its myths. I studied math and physics and taught them to my students without ever questioning my actions or the assumptions and consequences. Living in Palestine and realizing my illiterate mother’s math eventually healed me from dominant myths (although I feel some remnants are still there dictating how I think and what I do). I internalized the myths and was eager to teach my students how to think scientifically and logically (in their dominant meanings). I told them what I was told: that anything that cannot be measured is not worth knowing. I carried within me the myth that math is for smart people, requiring more intelligence than other subjects.

One of the early exceptions among Palestinians was Khalil Sakakini, who seems to have seen the damage and the destructive impact of western schools on Palestinian children at a deep level. He saw it as early as 1896 and wrote his first book: *Wearing Someone Else’s Shoes*. It seems he saw how children were turning into copies of an alien culture that had no roots in the community and no relevance to Palestinian life. What he seems to have noticed was that the use of numbers to measure children’s worth is inherently violent. Shifting the source of a person’s worth from deeds and relations to numbers that claim to be objective and universal, and legitimized in London, led to conquering us from within. London matriculation became (in the 1920s, 1930s and 1940s) the main measure of the worth of Palestinian students. Curricula and grades were Trojan horses the British left behind, which helped dismantle our communities and defeat us from within. It is worth mentioning that Sakakini did not
criticize foreign education in words only but also in action. He based the first school he established in Jerusalem in 1909 on principles radically different from western schools: he did not start with goals and objectives but with values, the main one of which was students’ dignity. He translated that into action by refusing to give grades and prizes or punish students in his school. He did that a hundred years ago, under the Ottoman rule. It became very difficult under British education. Today, a Palestinian principal who would even dare think of not using grades in his school will be expelled immediately, and the community would support his expulsion. Grades are a drug that penetrated society very deeply.

Three years ago, Claude Alvarez handed me a publication which included a short story *The Parrot* written 85 years ago by Tagore. It describes in an amazing way the essence of education. It revolves around a king who wanted to care for the bird and ordered his men to educate it. The rest of the story is how that care was translated, in practice, into improving the cage and ignoring what was happening to the bird. Over the years, I became increasingly aware that the main division in the world is between those who work hard to protect life and those who (for greed and control) are consciously destroying it. Education faces this parting of paths: it can contribute to protecting life or destroying it. For 12 years, education seduces students to sit on their behinds and live in a make-believe world and become active participants in the harm done to themselves, their communities, and to physical nature – believing all the time that they are learning and that all is done for their own good.1

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1. The role of ‘elite’ universities in creating current crises, in the US and UK as well as around the world, cannot be ignored. Most decisions that were taken in the various fields – politics, economy, finance, food, agriculture, education, military, raising children, health – were taken by graduates of elite universities.
As Wendell Berry says, harm that was done to the world prior to modern times was done out of ignorance or weakness; today, the ‘rape and plunder’ of the world is done with full awareness and where the role of sciences and education is central. For Berry, this is a ‘new thing under the sun’.

My first awareness of this parting of paths was when I became aware of my illiterate mother’s math. The kind of math I studied and taught was more in line with the values of greed, power, and control, while my mother’s was embedded in life, inseparable from it. My awareness happened in mid 1970s when I was in charge of improving math teaching in the schools of the West Bank (in Palestine). It took me several years to realize that my math and my mother’s do not intersect; they belong to different worlds. That helped me understand the meaning of plurality of knowledges. My math could not be reduced to hers and hers could not be reduced to mine; nor was it possible to produce a synthesis higher than both. What is interesting is that the educated see the inability of my mother to understand my math but not my inability to understand hers. We even hear them say that we don’t know what true math/science is. They don’t see that if I study math for another 10 years in universities, I still wouldn’t be able to do what my mother was able of without curriculum, tests, and grades. Such plurality of knowledges is not acceptable in universities, which propagate the myth of one and only one kind of math.

That realization was a most profound turning point in my life. It touched and dismantled basic myths I held as given. Questions that never left me since then include: ‘Why is my kind of math considered valuable and worthy of being taught in schools and universities (almost all over the world) while

my mother’s kind of math is totally ignored? Why my kind of math is considered knowledge while hers is not? Is it because it is superior or better, or more modern and thus supersedes all other kinds, including hers? Is it because it is more useful? What is the cost we pay as a result of my kind of math winning over and wiping out hers?’ Slowly I started realizing that the triad which was manifested by educational missions in Palestine – despising people and their ways, monopolizing what constitutes knowledge, and being ready to ‘help’ move people along the dominant path of ‘progress’ – has been fatal to Palestinian society and its ability to regenerate itself. Gradually, I realized that the math I studied and taught suppressed and won over my mother’s math through bullying – by devaluing, ignoring, and belittling her math and providing another that claimed to be neutral and universal. It won not because it is superior but through being a tool serving interests of dominant political and economic powers, helping them in controlling people, tearing communities, and suppressing knowledges. What frightened me was the fact that I was an active participant in that process and doing it with good intentions, believing all the time that I was helping Palestinians move along the path of progress. I feel that I was given a degree, with all its privileges, once they were sure that I will carry this subtle weapon, not only into my classes but also into my home, and use it to wipe out people’s know-

3. What happened to my mother’s math happened to her Christianity. Missionaries from the US came to our home to ‘convert’ my Christian family into their Christianity! My mother was one of the last Christians that carried the spirit of Jesus as it was lived over 20 centuries. It is hard to find Palestinians today who carry that spirit in their daily lives. Religious missions conquered my mother’s Christianity the same way educational missions conquered her knowledge. Just like I could not see my mother’s math, missionaries could not see her Christianity, and educators could not see her wonderful way in bringing up children.
ledges, sense of self-worthiness, and biological abilities such as learning. My reflections on the above questions made me rethink meanings of crucial words related to life. I started in a spontaneous way (what later became a most important conviction in my life) perceiving people (including children) as co-authors of meanings of the words they use, hear, or read. I started with words which my interaction with my mother’s world triggered such as learning, knowledge, the worth of a person, pluralism, progress, and humility. I realized that there are many worlds that inhabit this world and that life is much richer than what the mind can comprehend and what languages can express. In contrast to my math which was aloof, my mother’s math was embedded in life like salt in food: it can be tasted but not seen. Her math was useful, beautiful, meaningful, and fitting; no woman would have accepted a dress if it lacked any of these qualities. Her work was an art which consisted of main scientific aspects: experience, observation, experimentation, and making sense.

It was scary for me to realize that I was playing the role of ‘cultural imperialist’ in my very home. I was a tool in conquering my mother’s math and her world through living the myth that there is a single undifferentiated path for progress which I acquired in schools and universities. I was a tool in this violent conquest where one kind of knowledge wiped out another – a violent act difficult for schooled minds to see. That’s why I believe that fundamentalism in the modern world did not start in religion or politics but in relation to knowledge. I was spreading the ‘virus’ of believing in a universal source for learning and knowing –

4. Those who hold high degrees (consciously or not) hide this fact and blame religions and politicians for the mess in the world. It wasn’t Roosevelt who convinced Einstein to build the atomic bomb but the other way round: it was Einstein who sent letters to Roosevelt convincing him to support making (and using) it!
contaminating my students the same way a man with AIDS spreads his disease without knowing. Like him, I was spreading the virus through wanting to please and be pleased.

I enjoyed teaching math and my students enjoyed math as I was teaching it. It was difficult for me as a product of American universities (the American University of Beirut, Florida State, and Harvard) to think otherwise. The belief in a universal path to learning and knowing was very strong. My encounter with my mother’s world helped me see that the struggle in the world has always been between people-in-communities\(^5\) and those who actively tear apart the inner world in each person and the social-cultural-economic fabric of communities. Community as I use the term here stands on three pillars: local soil, local culture, and local economy. They are the source of community’s inner strength and the basis of its regeneration. They are absent from education. Every child is nurtured by the land soil and the cultural soil. However, these two local soils would be mere slogans without local economy. The three form the fabric of community. Once children become rooted within local soils, they can be enriched and nurtured further by other cultures.\(^6\) Without these pillars, children would lose their roots, and their source of nurturance and inner strength, and community would gradually wither away. Without protecting these pillars, freeing self from cultural imperialism would be mere talk.

The British brought into Palestine three tools (presented as tools for progress) which destroyed these three pillars: education destroyed local culture, flush toilets destroyed local

5. There is a word in Arabic al Ahaali which does not have a synonym in English. Briefly, it means people who are connected to a place, history, and to one another through a social-cultural-economic fabric.

6. A Palestinian anthropologist, Sharif Kanaaneh, uses the analogy to grafting fruit trees on bitter almond trees. Bitter almond trees provide strong basis against any diseases that can hit the trees.
soil and wasted local water, and the state destroyed local economy. In all three, no questions are asked about consequences, and in all three math is a main ingredient: grading in schools, designing a devise to transfer excrement, and using productivity and national income to measure economic activity. In this sense, math has been an effective tool in cultural imperialism. The two ‘crimes’ mentioned above – my math wiping out my mother’s and using numbers to measure students’ worth – are manifestations of such imperialism. The corruption that happens to children, the soil, and economy took a sharp increase when Palestinian Authority was installed and the World Bank allowed in. There was more ecological sustainability and social equity before 1993. The development which accompanied the Oslo accords has been disastrous to communities. One manifestation is transforming land and people into commodities. Land – that was for 4000 years a source of living and dignity for Palestinian peasants – became a pure commodity.

I was a ‘cultural imperialist’ in the sense Bacon conceived science: “having the power to subdue and conquer”. I exercised such power in contributing to the disappearance of my mother’s math and to tearing the fabric in community. The power I had can be likened to a person who has a loud-speaker; people would listen not because his voice is necessarily nicer or what he says wiser. The ‘loudspeaker’ I carried was the degree I held and the grades I could use to inflict harm on those who refused to follow my instructions.

It was me, not she, who was colonized. The only aspect where she was colonized was her perceptions – believing, for example, that learning in schools is superior to learning from life. However, her knowledge, behaviour, actions, and what she was able to do, remained intact. Above all, her ability to manage daily life and family affairs without having to refer to any authority was not hindered at all. Her reference was her
inner integrity and her relation with people related to the task: the women she was making dresses for; us (me and my sisters) in matters of upbringing; and religious values she lived in harmony with (loving one another and not harming or hating). In other words, she was more liberated than managers of institutions who have to report to a Board that usually has no interest or knowledge of what goes on in the institution. An important aspect of her management is related to making sense and constructing meanings.

Talking about liberating women while at the same time they remain subordinate in relation to managing their lives is a delusion. On the surface, it seems I am more liberated and equipped to manage my life: I had university degrees, high-profiled jobs, was invited as keynote speaker to international conferences etc, but, in almost all aspects of life I had to obey a boss and report to an authority. In my doctorate I had to follow regulations which I was not party in formulating. In bringing up my children, I was not able to create an environment similar to the one my parents created for us; I lost the natural wisdom (that comes from the depth of history). In relation to religion, I was influenced by missionaries who know Jesus through words rather than through living. Intellectually, I didn’t know why I was teaching what I was teaching or the source of knowledge I acquired. While it was common for me to use words that I had no idea what they referred to, my mother never had such a problem; she never used a word that she did not know the source of its meaning, or cut a piece of cloth not knowing where it fits within a whole which was a dress that fits a particular woman.

7. The British textbook that I studied included shares. I got full grades in all tests but up till now I never owned a share or experienced its meaning.

8. It is interesting in this regard, to mention an example in a totally different domain: my mother never knew the meaning of a ‘good citizen’ but she had a deep understanding of what a good human being is.
Some personal ideas in overcoming cultural imperialism

**Healing from measurement:** No matter what we say against cultural imperialism, if we go on measuring the worth of people and communities using numbers (or the like), we would be deluding ourselves and acting as local cultural imperialists, shattering the inner worlds of people and tearing apart social-economic-spiritual fabrics in community.

I once read in a math book, ‘If you can’t measure what you are talking about, you don’t know what you are saying’. I was fascinated by it and enthusiastically taught it to my students. I can’t believe I was so blind not to see that most of what is valuable in life cannot be measured. It is the same when productivity is considered the sole measure of agricultural activity, not caring about the cost at other levels (such as what happens to soil and the ability of regeneration). Using numbers to measure human and community aspects helps distract us from fundamental aspects in life. Arab Human Development Reports sponsored by UNDP are excellent examples of how we are drugged from seeing the source of strength in our communities. Their purpose seems to be to make us perceive ourselves as ‘less’, which would compel us to sink deeper into consumption in order to measure higher on the development scale.

Using numbers to measure worth of people, cultures, and countries marked the beginning of the falling apart of societies, whose manifestations we witness around the world.

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9. An old Palestinian woman once said, ‘Anything that can be bought with money is cheap’. This is so true about education: anything we can measure is not significant. Aspects such as happiness, well-being, dignity, compassion, responsibility, and wisdom cannot be measured.

10. It is worth mentioning that the World Bank’s first priority (when it entered Palestine after Oslo) was education. Once control is accomplished over minds, other kinds of control become easy.
today. Our enemy becomes perceptions and lifestyles that rob us of natural abilities such as learning, healing, walking, conversing, and making sense of experiences. The first step in dealing with cultural imperialism, thus, is to stop the poisonous practice of measuring people and communities along a vertical line. Luckily, an alternative exists in the Arab Islamic culture – but totally ignored. It resides in a statement said by Imam Ali 1400 years ago (which I will elaborate on below).

**Stopping focusing on the cage... and looking at what is happening to the bird:** The second step in unplugging ourselves from cultural imperialism is to remember Tagore’s story and focus on what is happening to people. It is worth mentioning here that what can be measured belongs in general to the cage and treats people and knowledge as commodities; what cannot, belongs to what happens to people, communities, and nature.

**Healing from universals and regaining wisdom:** Analysis and searching for universals are very strong within western culture. This, no doubt, was beneficial at many levels. However, it has reached today a dangerous level which the world cannot ignore anymore. Today, it is not treated as a search that adds to our understanding but as absolute truths to be imposed on people. We need to regain wisdom, part of which is having a pluralistic attitude towards life and realizing that universals are contrary to humanity and nature. This means, in practice, retrieving part of education’s budget and using it in diverse settings where people can learn. One positive aspect of the internet is making isolation more difficult and pluralism more obvious. It can help in pulling us out of our provincialities, without dumping us into a single global culture. We need to stress the right to *educations* (in
the plural). Western civilization is not the only one that believes in universals but the only one that succeeded in producing tools (such as schools and grades) that claimed to be universal, objective, and neutral.

Living in harmony with physical and human nature is part of living wisely. Wisdom was imprisoned when the mind was elevated to the power of the throne. The situation in the world today compels us to dethrone the mind and set wisdom free. What underlies the need to regain wisdom is the fact that it is much easier to destroy than to build. In addition, part of wisdom is to build on strengths in society, and not on what is lacking.

Co-authoring meanings: Another act in encountering cultural imperialism is perceiving people as co-authors of meanings of words they use, read, or hear. Independent investigation of meanings in light of our experiences, reflections, and conversations is fundamental in learning. Without it, learning would be seriously deficient. One word is central in this regard, and in encountering cultural imperialism: the worth of a person. Shifting the source of one’s worth from a universal measure controlled by institutions back to the person and community has been a main struggle for me since the early 1970s. However, it was in 1997 (as part of trying to find guiding principles for the Arab Education Forum which I established in 1998 at Harvard University’s Center for Middle Eastern Studies) that I came across Imam Ali’s statement. It made much sense to me that I chose it as the title of the Forum’s vision and publications. I find it relevant in today’s world. In Arabic, the statement is:

11. We need to ask why this fundamental right and natural ability is absent from the Universal Declaration of Human Rights, the UN Convention on the Rights of the Child, and institutions in general.
The worth of a person is what s/he yuhsen. Yuhsen, in Arabic, has several meanings, which together constitute the worth of the person: the first meaning refers to how well the person does what s/he does, which requires knowledge and skills; the second refers to how pleasing what one does to the senses, the aesthetic dimension; the third refers to how good it is for community; the fourth refers to how much one gives of self; and the fifth refers to how respectful of people and ideas one is. According to the statement, a person’s worth is not judged by professional committees or ‘objective and universal’ measures but by the five meanings embedded in the word yuhsen. I keep being amazed by its depth, simplicity, profundity, insight, and embodiment of diversity. It has been a main principle guiding my thinking and work. It is a statement about taking a stance in the effective presence of others; it perceives people not as isolated individuals but as webs of relations.

Reading Tagore’s story (in 2005) made me feel the same way as when I read Imam Ali’s statement in 1997. Both were like a ‘magical pen’ that helped draw a clear ‘painting’ of my experiences as well as of education in my mind. Imam Ali’s statement exposed shallow and harmful aspects of current evaluations and replaced them by a principle whose essence is dignity. Tagore’s story provided a map that helped me see whether what I do is related to improving cages or to the well-being of children and communities. Both helped me heal from distractions that appeared good on the surface but were destructive at a deep level.

Using Arabic language and culture as healers from cultural imperialism: Arabic language has many characteristics that are enriching and nurturing. First, it is built on patterns, which means once you know the three-letter root of
any meaning, one can form other words according to patterns. In addition, when two words with different meanings have the same root, it means that Arabs in ancient times saw connection that can be meaningful today. For example, ‘discussion’ and ‘chiseling’ have the same root, which seems to reflect that Arabs saw that the purpose of discussions – just like in chiseling a rock – is to beautify what you are interacting with; for the two persons to come out more beautiful as a result of the discussion. Second, al-muthanna: it has no synonym in any European language (except for ancient Greek). It loosely means dual. It embodies logic different from Aristotle’s and Hegel’s. Whereas everything is either A or not A and not both in Aristotle’s logic, and whereas A and not A can form a synthesis higher than both in Hegel’s, al-muthanna can be thought of as a triad where A remains A and B remains B but a relation between the two develops that is very important to both. This is relevant to the concept of the ‘other’ which is popular in today’s world. Third, Arabic poetry falls into 16 basic patterns. Fourth, Arabic script has harmony and beauty that brings out the aesthetic dimension in life. Fifth, the sounds of reciting the Koran reflect enchanting patterns which are usually lost in a recording.

Current situation in Palestine

In schools, we become conditioned to care only for ourselves, against others. This ideology of “each person for oneself” is the worst that can happen to people-in-community. This was the worst outcome of the Oslo agreement which took place in 1993 between the Israeli government and the PLO. The spirit of the 1970s and the first intifada were replaced by personal greed. Before 1993, competition was confined to schools; after 1993, it permeated all aspects of life and spread ‘each man for himself’. Competition (in the form of comparing
people along a vertical line) can never be in harmony with the well-being of people, communities, and nature; it turns people and communities into agents of their own destruction. Since the British occupation of Palestine in 1917, nothing was able to tear society apart except elections.

Fragmentation and tearing apart the social fabric among people necessarily accompany fragmentation in politics, geography, and knowledge… all of which started by the British and French occupations of the region after WWI. Borders have been increasing and tightening over the years at all levels: physically as well as in thinking, perceiving, and relating. This logic led to the age of information where every piece of information stands alone. Today, when young people interact through language, their ideas hardly intersect. Fragmentation and borders are always connected to conquest. The concept of identity (which we now experience as Palestinians) is a very good example that combines borders, fragmentation, occupation, conquest, distraction, and shallowness.
CHAPTER NINE

Academic Imperialism and Community Knowledge: 
The Way Back to Respect

*Jorge Ishizawa*  
*Grimaldo Rengifo*

As a result of the excessive cold... none of the lands of the high sierra can be used to grow fruits and vegetables... Because of the composition of the soil, there are lands which, although they have a good climate, are yet unsuitable for cultivation... because some of these mountains have numerous crags and rough, brambly ground covering many leagues. Other mountains have good soil, but they are so rugged and lofty that they cannot be worked. All of these causes make most of these Indies impossible to cultivate or live in...  

In this quote, Father Bernabé Cobo, a seventeenth century Spanish chronicler and a remarkable naturalist, puts in writing, perhaps for the first time in history, one of two possible reactions at considering life in the Andean highlands¹. From this viewpoint, the extraordinary ecological diversity present in such lands (eighty percent of life zones in the planet) is seen as an obstacle not only to progress and well being but even inimical to life itself. Rather, it was the

abundant presence of minerals in the Andean mountain range that attracted the attention of the invaders and made the country known in Europe through the expression ‘It’s worth a Peru!’ to refer to a wonderful bounty of gold and silver. Thus, during the time of the Spanish colony, the central Andes were mining areas. A flourishing civilization was thwarted in its development and replaced by a colonial rule that decimated the native population in the territories of the Americas. It is reported that one out of ten survived in the central Andes, while one out of twenty five in Mexico and Brazil. This colonizing gaze has persisted during the past five centuries and has become the official view held by governments even after Independence from Spanish rule in the early nineteenth century down to our days.

As a part of Latin America the central Andes have been a generous continuous provider of means for the development of capitalism since its inception. They still are. More recently, the development project, led and globalized by the US during the second half of the twentieth century, enthused and galvanized the minds of university graduates all over the globe, including ours. What had remained invisible to the colonizing gaze is the continuing existence of indigenous communities that managed to support themselves and the masses of successive invaders based on their own tradition of nurturing plants, animals, and the wild spaces in the exacting circumstances of life in high mountains. The reason is probably that this gaze also focuses on fertile plains as appropriate to agriculture. Plain fertile areas are scarce in the Peruvian Andes and restricted to the narrow coastal valleys formed and irrigated by the 52 rivers – of which only one is permanent during the year – that cut as oases into the desert starting in the high mountains and fertilizing the Pacific Ocean. In the highlands there are three fairly large valleys: the Sacred Valley of Cusco in the southern Sierra, the Mantaro
valley in the central sierra, and the Cajamarca valley in the northern sierra. To the colonizing gaze, it was also invisible that the indigenous agriculture, with all its diversity and variability of species, varieties and ecosystems, and the sophisticated tuning of diverse communities to this reality, took place in the steep slopes of the Andean mountain range.

**PRATEC and cultural affirmation in the Andes**

The Andean Project for Peasant Technologies (PRATEC) is formally an NGO, based in Lima, Peru. It is not an educational institution, but has been involved in research and training since its inception in 1987. PRATEC was founded recognizing that the colonizing gaze had installed itself at the universities where knowledge in agriculture and related rural development studies was imparted under what Ward Churchill called a ‘White Studies’ regime. In Peru, this was disseminated from Europe, specifically the prestigious agricultural school at Gembloux, Belgium, wherefrom the founders of the first agricultural school in Peru came at the beginning of the twentieth century. Since the 1950’s, the source changed to the US, and droves of agronomists were formed and joined the Green Revolution to carry out the modernization of Peruvian agriculture, based on the knowledge proper to cultivating the plains, and neglecting the specific characteristics of the Andean highlands. Before the military government’s agrarian reform in 1969, the coastal and highland haciendas hired professionals to exploit the privileged stretches of land where modern agriculture could thrive. Thus, export crops like sugar cane and cotton came to be cultivated in the coastal haciendas, and modern husbandry for wool, milk and meat

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was installed in the highland *haciendas*. Crops for sustenance were left for cultivation in the Andean slopes considered as marginal lands.

During the period of the agrarian reform, with the recovery of the lands in the highlands by the indigenous communities, and the demise of the *hacienda* system, the demands for technical personnel in the rural development professions changed in nature. Development projects required technical personnel knowledgeable in local agricultural practices. The agrarian universities were not prepared for this change. In spite of the fact that the enrollment of the Faculty of Agronomy included mainly young people from highland communities, the curriculum did not include courses on peasant Andean agriculture. In 1989 PRATEC was asked by authorities of the National University of Cajamarca to propose a postgraduate course seeking to have university staff knowledgeable in *campesino* agriculture. During the decade 1990–1999, PRATEC offered annual courses on Andean Peasant Agriculture in agreement with local universities for the training of university teachers and personnel of rural development NGOs. The first course on Andean *campesino* agriculture was offered in 1990 in agreement with the Universidad Nacional San Cristóbal de Huamanga, and was attended by 14 participants, including mostly university teachers and a few experienced NGO workers. The latter were to provide their rich field experience and their willingness to reflect on them. In an interview, the late Sergio Cuzco, an agronomist from Cajamarca, in the northern highlands, gave testimony to the challenge that confronted the course:

> When we left the University, we tried to introduce all the innovations we had learned in the work we carried out with an NGO… The peasants accepted all of it saying ‘It’s OK’. Soon we realized that all the common work achieved was ruined by the *campesinos* themselves. We were
distracted a little and what we had done was no longer there... Having left the NGO in frustration, we visited the *campesinos* and then they said very frankly that we were wrong. I learned that they had to decide how they were going to improve the *chacra* [cultivated field]. So what followed was an extended effort to learn from the *campesinos*. To engage in a relationship of equivalence with the *campesinos*... we got a *chacra* and we established a different relationship with them, based on reciprocity [and involvement]: we help them, they help us... We do not propose blueprints, because we are very much aware that the chacras are not the same, because the *campesinos* conduct them according to their own understanding and possibilities.³

From the beginning, it became clear that it was not a matter of methodology and contents in the agronomist’s formation. It was its impertinence, an acute case of ‘misplaced concreteness’ in Whitehead’s telling expression. The native source of the knowledge appropriate for good living in the place and circumstances had been rendered invisible.

PRATEC gradually gave shape to a curriculum by complementing the reflection on the industrial approach to agriculture. In fact, all participants including the members of the teaching team were learners and teachers as well. The vision was to form people who could accompany *campesino* communities as Sergio did. For this reason, it was altogether clear to PRATEC that participants with their field experience were to provide the anchor for all of the course endeavors. But that experience had to address the question each participant brought to the course: how do I start? Néstor Chambi, an Aymara participant who pioneered cultural affirmation in the Altiplano area (‘re-ethnification’, he called it) started in the later years of the 1980’s conversing with his

³ *Afirmación cultural Andina*, Lima: PRATEC, 1993, pp. 140–141.
parents and with community elders on their customs and knowledge. Néstor remembers his visits to don Pedro Toque from the community of Japisse in the district of Conima, his hometown:

I took coca leaves, bread, and we spent the whole day conversing… He said: How have I longed to tell these things and no one has listened. My children do not care, my grandchildren even less… I said I will just die with all I know… He asked: who has sent you? Surely someone has sent you. I always remember that he said that I was being like a balm, a medicine, helping him get rid of a load that prevented him from speaking. I felt likewise… We talked for three days, but I thought that I was somehow bothering him. I proposed to come back later. He replied: Now I can die in peace. I was deeply moved and his words have always given me strength and determination.4

Thus, it was very clear from the beginning that we had to build the course on the wisdom of the communities’ elders and to recognize that it was not an adventure of the intellect that we were involved in. It was not an academic affair, even though the course implied intense intellectual work, navigating between formal university coursework and the adoption of modalities of knowledge regeneration according to the communities’ educational culture. This is the probable explanation for the failure of the PRATEC course to fully meet the request of the university authorities in Cajamarca. The course was not designed for direct adoption in the regular host university programs. Instead, the PRATEC annual course tried to circumvent the tension between educational cultures by basing the course on community knowledge and cosmovision while respecting formal requirements.

Curriculum development: The chacra at the center

The challenge for the annual course’s curriculum design took the form of finding a core idea that could host the rich field experience of people like Sergio Cuzco, accompanying communities of campesinos with the intention of improving their chacras based on their own knowledge and practices. In 1986, Grimaldo Rengifo and Eduardo Grillo, PRATEC’s founders, came upon an interpretation of the Andean conception of agriculture with specific topics on which contrasting views of the relationship nature-society in the Andean cosmovision and the modern Western cosmology could be developed. The identification of common themes had the purpose of making possible a contrast between cosmovisions. What is central in this early formulation is the place of the chacra or cultivated field as the base of all conceptual developments, and the obligation to present a contrasting view of both cosmovisions in all course sessions.

The centrality of the chacra or ‘cultivated field’ is expressed pithily in the expression ‘The Andean world is agrocentric’, and obeyed to a demand for pertinence. It was the daily life of the campesinos and its regeneration that became the main focus of the course. The focus lent the course its transformative power in the lives of the participants. The early curriculum was then developed according to different aspects of Andean life: agriculture, plants, soils, water, landscape, social organization, education, religion. The PRATEC members constituted a teaching team in charge of the elaboration of the presentations to be discussed at the classes. Owing to the geographical dispersion of the participants and their institutional commitments, the annual course was imparted in three academic units consisting in getting together for ten-day workshops each, where intensive debate of the topics was undertaken. In the workshops each
topic was presented by a member of the teaching team and put
to debate during the whole day, a written presentation having
been read the previous evening. Evaluation was made in the
early part of the following morning.

By the fourth version of the course in 1993, a basic
curricular structure had emerged which arranged itself around
the avatars of the communities in the Andean world. The first
academic unit was devoted to the chacra (cultivated field) and
the sallqa (the wild), the biophysical components of the pacha
(local world). The topics of agriculture, soils, water, plants,
animals, landscape, climate, were occasions to contrast the
modern Western understanding of them taught in the technical
universities with a basic framework of a subject-object
hierarchical relationship with one (dominant) knower in one
pole and the (passive) known in the other pole. Nature was
reduced to resources. In contrast, in the Andean conception,
all entities, natural and sacred, were persons and their
relationships of mutual nurturance were explored based on the
testimonies of the participants. The second academic unit
dealt with the communities of runas (humans). The topic of
the aylhu (the extended family of deities, humans and natural
entities present in a given locality) as contrasted with the
Western notion of society was prominently taken up. Other
topics treated in a contrasted way included education, the
economy, agroastronomy, and work. The third academic unit
included topics relating to the communities of the deities: Pachamama (Mother Earth), the Apus and achachilas
(mountain deities): religion, art, and language.

The participants were required to do fieldwork, a
requirement that was not so difficult to meet for NGO
development workers but not for the university teachers
whose duties did not include, in general, activities outside the
classroom. For the first intermediate period participants were
asked to collect five local practices of cultivation, transform-
atiation or use of native agricultural products, or practices of nurturance of native animals. Later, the elaboration of the agrofesteive calendar for the dominant cultivar in the community was required. Apart from its contribution to documenting the rich lore of Andean campesino wisdom, the calendar and the practices, presented in the form of technological booklets, had the educational objective of giving the participants the experience of learning to listen, a complete reversal from what they had been taught at the university. This practice of listening, recording and documenting the knowledge of the communities they were accompanying, prepared them to obtain testimonies in daily conversation, on which a monograph was required to be written for presentation in the third academic unit.

The tension between a disciplinary approach and the holistic character of community life centered in the chacra was circumvented by the deliberate choice of the chacra as the referent for academic rigor. In practice, participants were asked to share their field experience based on yachaqs’ or elders’ testimonies. Thus, when in 2001 the curriculum for the Masters’ program on Biodiversity and Andean Amazonian peasant agriculture was presented to the Universidad Agraria de la Selva (UNAS), there was a decade’s experience in delivering the material of the annual course on Andean Amazonian peasant agriculture and its actualization through the experience of accompaniment in actual projects with communities.

The program structure was quite orthodox from the academic point of view, and its saving feature was the permanent recourse to the realities of the campesino life with the PRATEC team taking care of the unity and coherence of the whole through the emphasis that the contents be agrocentric. The presentations by our guest lecturers enriched
a core set of topics that provided the program’s backbone to prepare ourselves for conversation in a wider context.

In the brief experience of the Masters program (2002–4), the addition of a fourth academic unit devoted to global issues was not meant to be a simple thematic aggregation. It would imply the recasting of the presentations to make the treatment of issues grow from a contrast that threatened to become dualistic to an opening up to conversation with different cosmovisions, especially the modern Western one. In the PRATEC course the agrocentric emphasis was the anchor to approach the Andean life world in its own terms, trying to provide an understanding with concepts proper to it. This emphasis has been central to the effort at decolonization of the mind by the teaching team and the participants of the course. It constitutes the basis for our criteria in cultural affirmation when accompanying local communities. However, the contrasting mood that appears in such undertaking inexorably leads to exercising a dualistic thinking based on opposition and a stance of criticism quite contrary to the temper of nurturing care that we find in the Andean Amazonian communities of nurturers of diversity. It contradicts the most important lesson from local communities.

The probable explanation is the concentration on the strengths on which an autonomous life world has survived in the Andes despite ruthless colonization. Against a demeaning colonizing attitude it seems almost natural. As a result, the conceptual framework included concepts that make inevitable a contrast between the Andean and the Western cosmovisions, in which the characteristics of the Andean life world result in direct opposition with those of the modern Western cosmology as presented by critiques of modernity and the
development idea. \(^5\) An explanation for this situation is that we were formed on the conceptual framework of the literate Western tradition, while Andean peoples belong to a basically oral tradition, and the task of going beyond translation required more articulation than was then available on our part. Our saving factor was that some of the course participants were intent on going back to their own communities to revitalize their agriculture and mode of life based on the communities’ own knowledge. This fact provided a unique opportunity to circumvent the traps that we had encountered in our previous participation in the development and modernization projects of the Peruvian countryside.

**Andean Amazonian Cultural Affirmation (NACA)**

Instead of its avowed goal of mainstreaming peasant indigenous agriculture in universities, the course provided the impetus for the formation of community-based local NGOs throughout the country (sixteen, at the latest count). A two-tiered approach gradually developed in which these local community-based organizations or Nuclei for Andean Amazonian Cultural Affirmation (NACA) undertook the accompaniment of the communities in their agrocentric cultural affirmation while PRATEC took over the technical coordination and management of joint projects oriented to the strengthening of rural communities which practice traditional agriculture. Coordination consisted in convening periodic

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meetings for the exchange of experiences among the NACAs and for periodically sharing reflections on a common theme of pressing interest in the projects. These reflections were put together, edited, and published by PRATEC. The other centralized activity was the annual course on Andean campesino agriculture. There has been a synergic relationship between the activities in the two tiers. Over the years, PRATEC has exercised an intellectual coordination that initially consisted in the circulation of an essay on the theme of the year inviting the NACAs to converse on the issues that were involved with the communities they accompanied. Later on, the coordination has consisted of the identification of community processes that elders consider worth reinforcing.

Something that appeared very early in this setup is the importance of follow-up as a close mutual accompaniment which goes back to the inception of the annual course, that is, before the formation of NACAs. The course was only the beginning of a long-term involvement. The impacts of the PRATEC courses can only be appreciated in this context. The mutual nurturance could be actualized in occasions when shared projects provided the space and topic for joint reflection and further mutual enrichment. Until July 1995, PRATEC accompanied two local NGOs integrated by former course graduates who had returned to their communities of origin and animated the revival of their tradition of Andean agriculture and governance. The NACAs were formed to provide accompaniment to communities in their cultural affirmation. PRATEC encouraged their autonomy both from the administrative and financial points of view. The annual course provided not only the formation of the NACAs’ personnel but was also a space of reflection and actualization of what was being learned in the accompaniment of the Andean Amazonian communities of nurturers of the diversity of plants and animals. There has been a constant feedback
between the course and the projects. Participants of the early classes have accompanied the course to continue their reflections on what they were learning in the field helping nurture the new course participants. At the same time the course provided space for reflection on the place of local efforts in the global context of alternatives to development based on the wisdom of our Andean Amazonian communities.

A program for the *in situ* conservation of native cultivated plants and their wild relatives, originating in Peru as world center of biological diversity, started in January 2001 with PRATEC coordinating a network of ten NACAs. The program results attest to the existence of an extraordinary repository of biological diversity in the Peruvian Andes and Amazonia and the inextricable link between this diversity and that of the communities of Andean Amazonian nurturers of biodiversity. The program documented the traditional knowledge on the nurturance of native plants and wild relatives, including the governance systems that promoted the regeneration of agrobiodiversity. What has become clear from our conversations with community elders throughout the Andes since 2000 is that the school has been instrumental in furthering generalized loss of respect in the communities: towards nature subverting its ways and towards deities to which rituals had been neglected and among themselves contesting the respect due to traditional authorities. When asked if the school should help promote the urban kind of knowledge in the rural areas or their own knowledge, the answer was: *Iskay Yachay* (both kinds of knowledge, in the Quechua language) or *Paya Yatiwi* (in Aymara). There seemed to be a radical demand for cultural diversity.6

UniVida: The university for life

In our lands it is a common experience to meet very capable people with no academic formation. For various reasons, formal respectability had eluded them in making their life according to their calling. When asked where they acquired their marvellous skills, they would respond that they ‘did it in the University of Life’. Be it in the handicrafts, agriculture, industry, cooking, music and dance, sciences or techniques, life demanded of them to be canchis oficio, to exercise the community’s seven skills. We have learned that it is not a quantitative matter, ‘seven’ could mean three or eleven: they are the skills that helped you to ‘pass life’, to be able to be in the minds of the community when something was to get done. To ‘pass life’ requires the attitude of someone who is ready to ‘command by obeying’ in the telling Zapatista expression.

UniVida was prompted by demands of the young Quechua community members in the Upper Amazon region of San Martin, eager to form themselves in the affirmation of their traditional culture while opening themselves to learning from a world characterized by cultural diversity. They feel that the present demands the acquisition of a diversity of skills and knowledge based on their own culture. Inspired by Mexico’s Uniterra or Earth University, UniVida provides a space where teachers and learners meet. No bureaucracy, classrooms, supervisors are present; only those who have a taste for sharing what they know and those who want to acquire a skill that the community values in workshops, chacras (cultivated fields), forests and rivers. Learning happens when one does what one wants to learn from someone that guides the hand, not ‘putting chains to the spirit, but holding a hand’, as Jorge Luis Borges, the Argentinian writer, expressed it.

UniVida is not created to institutionalize the spontaneous
forms of learning in life, nor for schooling or deschooling society, but to accompany the existing urban and rural communities’ initiatives strengthening the relationships of those who want to learn and those willing to teach in a personal, disinterested relationship. UniVida sees itself as an indigenous project. The characteristics of a good community member are embodied in Gustavo Esteva’s account of a XVIII century Quechua leader Juan Chiles as a wise man who knew how to unknot the Quechua language to plow using a cord (labrar a cordel). This expression means that one should know the web of life and unknot it, communicating with other peoples through the Quechua language; should know the ideas, laws, and thought of other peoples; and should know how to do things well, rightly, and so that it is useful for life.

UniVida is an agrocentric proposal, making of indigenous peasant nurturance of the diversity of plants, animals, and ecosystems, the privileged space for life and learning. It reaffirms the vocation of these lands for agriculture and the priority that rural life should have in the understanding of good living in the planet. By focusing in the *chacra* UniVida opens up to the diversity of options of good living making of *Iskay Yachay / Paya Yatiwi* an educational reality.

**Schools for living diversity**

In UniVida, school does not mean classrooms. The schools for living diversity are places for the regeneration of the modes of thought, action and innovation of the Andean Amazonian peoples and for acquainting students with other cultures. They are ‘spaces for intercultural confidence’ or places for intercultural mutual nurturance. Their objectives

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are: to affirm community youth in their own cultural values, by reflecting on their role in the nurturance of the Andean Amazonian territories and the cultures they shelter; to provide the space for the understanding from their position as young community members of the challenges brought about by modernization of the Andean Amazonian region; and to recreate *in situ* an experience of intercultural relations with young people from other cultures.8

Three such schools have been designed thus far: the school of biodiversity and food sufficiency, the school of community skills, and the school of intercultural dialogue. The school of biodiversity and food sufficiency takes place as visits to communities, short or extended stays in forests and by rivers. It is learning by doing in forests, rivers, and *chacras*. It is oriented to experiencing biodiversity and the local indigenous cosmovision as lived by the organizations of women and elders, nurturers of *chacra*, rivers and forests. Four kinds of activities take place in this school: the learning

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8. The ‘spaces of intercultural confidence’ (ECI), in contrast to iatrogenic spaces that generate distrust, fear, disease and distance, are places where people – in this case, youth, teachers and parents – that belong to different cultures promote intercultural relationships finding in them a hospitable environment where affection and confidence, promote the development of skills and attitudes that belong to their original culture and, at the same time, invite them to opening up in their desire for getting to know, understanding and appreciating the forms and codes of another culture. For ECIs to exist, an attitude of mutual nurturance is crucial in such a way that all feel being nurtured and respected. Such an environment allows one to have confidence, so that one opens her heart to others and vice versa. In these spaces, children are at ease because they feel that there is cultural continuity between their knowledge and that of others. There also the tongue and the body acquire a relaxed rhythm and tone. An ECI is above all, an environment of respect and consideration for what is our own and what is foreign. Then what one does there, be it a technique or the method for the transmission of contents, is a matter of agreement between those who learn and those who teach.
by living the biodiversity in forest and *chaera*, the practice of hunting understood as trimming the forest, the trimming of the river by fishing and the learning about medicinal plants and the spirits of the forest.

The school of community skills (crafts) is offered under the modality of workshops conducted by elders, men and women in the local skills: medicine, weaving, pottery, basket weaving, cooking, music, singing and dancing. It takes place in the community, the forest and other appropriate places where the *yachaq* or community elders gather to share their knowledge with the young generations. Workshops invite to hand-on experience, connecting the young with the elders with the purpose of developing the manual skills of the young, to deepen the intergenerational exchange, and to produce culturally useful things for the communities. The school for intercultural dialogue is oriented to generate a space of reflection on the Andean Amazonian cultures and peoples, and the role that the Andean Amazonian young community members have in the maintenance of ecological harmony, particularly the relationship of respect between humans and nature. The purpose of the school is to affirm the young in their culture while stimulating their understanding of globalization and its challenges to attain community’s good living.

Intercultural dialogues take place in a meeting center, schools or places appropriate for reflective dialogue. It consists of three modules: Andean Amazonian culture and agriculture; the cultural specificity of indigenous youth in the maintenance of ecological balance; and the effects of extractive industries on indigenous populations and territories, and the rights and duties of indigenous peoples and Earth Jurisprudence. Contents are developed through group discussion, lectures, presentations, visioning audiovisual material, and plenary sessions.
The ‘stays for intercultural learning’ constitute a modality of learning by living for urban and rural young people based on the relationship of intergenerational respect between yachaq and youth. They take place in the chacra, the forests, the rivers and lakes, and in the communities where members of different generations meet to learn the peasant crafts and the secrets of conserving biodiversity. In general, those who learn stay in the home of the yachaq. This is the privileged modality in the schools of biodiversity and crafts.

Workshops for intercultural learning constitute a privileged modality in the school for intercultural dialogue. It includes a sequence of interaction that generally starts with a short presentation on the proposed subject, a previous reading of summaries, video presentation, group work and plenaries to present the results of the group work and debate. The use of audiovisual material is privileged. Readings are kept short – not exceeding two pages – but non-trivial, with a format combining written material with drawings and graphs to make the text meaningful in an oral tradition. Two functions for the written material are: the familiarization of the young with the official language – Spanish – in which dialogue with state and corporations are being carried out; and to meet the communities’ demand that the young must be familiar with two kinds of knowledge: their own and the official one taught at schools. Familiarity with the modern requires mastery of the written word. Analysis of selected texts is done in workshops where youth recreate the intercultural dialogue with others. Enacting the texts is a presently privileged way of doing it. Our brief experience thus far attests the young people’s ability to elaborate dialogues on diverse subjects with a pertinent intercultural content.

The three schools (crafts, biodiversity and intercultural dialogue) are closely interwoven. In the schools of crafts and biodiversity, one learns by doing but at the same time learning
offers examples for the reflection on cosmovisions that takes place in the IC school. Theory and practice go along together in a relationship of conversation. The schools lead to a UniVida diploma as ‘intercultural promoter’ (or ‘conmoter’ in Gustavo Esteva’s expression\(^9\)). It is expected that the initiatives of youth organizations in their regions may modify the present course of their participation in the regeneration of nature in two aspects: in the affirmation of their identity as indigenous peoples and peasant communities; and in the contents of their demands as ethnic groups in dealing with the state and corporations. The objective is to influence on the regional and national public policies regarding rural youth and on the destinies of indigenous and peasant communities in the Andes and Amazonia. However, and independently of these impacts, what is crucial in UniVida is the regeneration of the human communities in consonance with the rhythms of nature, and the role that elders have in the regenerative dynamics of the peoples of primordial culture.

**The way ahead: Making wisdom walk**

The regional program Titikaka (2008–10) named after the region around Titikaka Lake in the border between Bolivia and Peru is oriented to the recovery of the intercommunity relationships that wove the federation among the communities that settled around the sacred Titikaka Lake. The region is recognized as the one with the highest agrobiodiversity on the planet both in terms of species diversity and intraspecific variability of cultivated plants. This diversity is closely

interlinked with cultural diversity. They go together with a millenary culture of nurturance of this agrobiodiversity, embodied in communities of its peasant nurturers. They are ancestors of the present \textit{Suma Uta} network, bearers of an ancient knowledge that secures the sustainable enjoyment of such agrobiodiversity. The program’s general objective is to revitalize the multiple and changing paths that seeds have followed in the Peru-Bolivia altiplano since times immemorial carried by communities of nurturers of agrobiodiversity that have exchanged visits weaving harmonious ways of living in their places while learning from each other. Succinctly expressed, the program concept is ‘Making wisdom walk’.\(^{10}\)

It is the cosmovision of affection and respect between all entities in the local world or \textit{pacha} that conserves agrobiodiversity. The loss of a cultivar is, according to \textit{campesino} testimonies, due to the lack of affection and respect towards the seeds. This feeling of not being cared for makes them look for other more welcoming places, where they are well received. The local space of seed regeneration is the \textit{ayllu}, the Andean extended family that includes deities and natural entities along with the human community living in a locality. This is a space of affection and respect that is nurtured in ritual conversation. The organicity of this dynamics is expressed in the system of traditional authorities of the \textit{chacra} or cultivated field and the \textit{sallqa} or wild giving expression to local forms of governance for keeping the harmony of the \textit{pacha} or locality. The extension of this organicity to other places follows the seed paths, which are, viewed over time, ritual regions where seeds nurture the communities and are nurtured by them. Within these temporarily delimited ritual

spaces a dynamic order is established in which local governance is exercised with affection and respect.

The connections effected by walking the seed paths result in a living web made by the visits that the communities from different *pachas* exchange in the course of the agricultural cycle. They traverse these paths carrying their seeds and their knowledge and bringing back the knowledge of the host community to be recreated at home. Characteristic of promising processes is that the *yachaqs* of the participating communities undertake the commitments of a process of cultural affirmation, in particular and foremost, the recovery of their governance system based on the traditional conception of authority. In such processes, skilled cultural mediators accompany the process of cultural affirmation in the communities and promote the interlinkage of communities. Moreover, external resources are made available to the community groups involved to facilitate the recreation of previously existing customs no longer practiced in the community but proved vitally important in host communities.

The program rests on the conviction that the wisdom underlying the Andean nurturance of plants, animals, and the local landscape as expressed in the communal governance system has a planetary reach and its exploration may provide valuable suggestions regarding the achievement of good living elsewhere. Such wisdom is still vital and has been maintained in spite of colonization that in its latter incarnation took the form of attempts at modernizing agriculture through the application of technical innovations during the past half-century. The program is based on the wisdom of the peasant communities, bearers of the millenary Andean cosmovision whose permanence is a guarantee of sustainability. Also, the agrobiodiversity found in the *chacras*, or cultivated fields of the peasant communities, is proof of the pertinence of such knowledge in providing an exemplary resilient way of life.
What has become clear from PRATEC’s process since its beginning of collecting traditional community practices in the Andes, and the inception of the Course on Andean Peasant Agriculture in 1990, is its intellectual character. At first it took the form of developing a coherent discourse on the Andean cosmovision based on the testimonies of its bearers; the peasant nurturers of agrobiodiversity. This endeavor was necessary for us, technical people trained in the respect of disciplinary pertinence, since the practices could not be understood as techniques by themselves but within the context of a life world. They involved the whole community life, and this was as diverse as communities exist. Very early on, this implied the simultaneous suspension of: the division of intellectual areas of expertise based on the rigorous practice of disciplines. This was understood as a process of deprofessionalization; and the dominance of the scientific method as the sole criterion of academic rigor which amounted to a decolonization of the mind. This led to the development of the contents pertinent to the cultural affirmation of the Andean Amazonian peoples but deferred the question of doing it in equivalence and conversation with the Western technoscientific tradition.

It is no longer possible to continue without taking on this crucial question. Iskay Yachay/Paya Yatiwi, the communities’ radical demand for cultural diversity means the nurturance of two kinds of knowledge. The hopeful side of the challenge is that the yachaqs are not saying: ‘you technical experts solve this for us’. They are doing their own dealing with it daily in the many forms that colonization in the garb of globalization takes in our lands. The identification of the root cause of the climate crisis as the loss of respect towards nature, deities and among humans is one example of their approach to setting up an intellectual agenda. For us, it is an invitation to go back to basics, to debating the uncontested ideals of modernity by
reminding ourselves of the meaning of good living for each culture while facing a global challenge that calls for respecting and nurturing diversity. It is an invitation for a decolonizing attitude that accepts the place of the intellectual exercise in a holistic undertaking.

The climate crisis appears to be a wonderful opportunity to see Iskay Yachay/Paya Yatiti in action. Technoscience is able to say what we have been doing that is not right and should not do, but local or traditional knowledge is saying what the root driver of the situation is and suggesting what should be done to revert it. Building bridges between levels (global to local) and epistemologies is the formidable academic challenge for accompanists. And yet, that will not be enough. The specific question for us is whether we will give up our part of academic imperialism that five centuries ago made Erasmus of Rotterdam refer to professors in the harshest words: “almost all professors of the arts and sciences are egregiously conceited, and derive their happiness from their conceit”.11

CHAPTER TEN

Whose Knowledge? Whose Language?:
Reeds Crying Tales of Separation

Sue-san Ghahremani Ghajar
Seyyed-Abdolhamid Mirhosseini

Listen to the reed as it narrates
And complains of separations
Mowlana (Rumi), *Mathnavi Ma’navi*, Daftar 1, Line 1

I am a dumb with a dream and the world is all deaf
I am unable to articulate it and people unable to hear
Shams Tabrizi

We are well aware that given the currently prevailing social and cultural ways of performing knowledge (knowledgeing) and the mainstream dominant understandings of knowledge, especially in academic circles, our perspective is extremely difficult to express and even more difficult to appreciate. The mentalities of development have grown cancerously in behaviors, ways of life, and fundamental worldviews of people all around the world, and many alien imposed and imported ontological and epistemological assumptions and conceptions have overtly or covertly penetrated into all the nooks and crannies of thoughts and feelings of people to a degree that, in Iran or beyond, it is by no means an easy task to question them.

*Taken for granted* assumptions, understandings, and knowledges of various types are too deeply rooted in modern
communities and too subtly steering entire lives to be problematized easily. It is this very underlying and concealed nature of such assumptions that causes their interrogation to be perceived as a strange or even senseless attempt in vein. The naturalization and normalization of worldviews that are otherwise quite unnatural and abnormal in our historical context of life, makes their critics appear as ‘dumbs with dreams’ and the audience as ‘a world all deaf’.

Despite all this, the need to express the dreams is evident. As this chapter is the last one in the book, the discussions in the previous chapters make it easier for us to argue for such a need. All of those discussions do urge for crying the tales of separation from the roots of community cultures and the dominance of uniform globalized development. Therefore, this chapter explores ‘the language of knowledge’ in the case of a few instances of most fiercely battled contests over the forms of knowledge in the Iranian and/or Islamic context.

We view the problem of academic knowledge as centrally concerned with language not simply because languages are the means of communicating knowledge; not merely because throughout history, languages have been the main media of transferring knowledge through generations; not just because almost all forms of knowledge are recorded in a language; not only because all translation movements of various kinds have been centrally language movements; not merely because almost all sorts of fabrications and hegemonies in the history of knowledge have been done through fabrications of names and scripts, that is, through language devices; and, not simply because different sides of battles over dominance and ownership of knowledge have been associated with a national or religious language as an identity marker.

1. Such as the ones discussed in the writings of C. K Raju, including his chapter in this book.
We are not focusing on language even because of the language problems like the one underlying this book, that is, the fact that a dozen authors, none of whom speak English as their first language, have to write in English in order for their contributions to be put together in a single volume; not even because of senseless claims like the one quoted by Claude Alvares and C. K. Raju in their chapters in this book about the worth of writings in non-European languages from the perspective of a European politician (pp. 36 and 150); and even not merely because in creating independent and West-free knowledge, non-Western communities may need to have a non-Western language to resort to and to rely on, as a flag of difference and belonging to the non-mainstream.

In fact, more fundamentally, we are not very much concerned with language’s, that seem to be underlying the concerns mentioned above. The phenomenon of language is beyond individual languages. The problem of the ownership of knowledge and the ownership of its language goes beyond individual languages and the confrontations among individual languages of rival groups. The essence of such controversies is the crucially underlying worldviews, understandings, and logics. Therefore, language is to be understood beyond an identity-shaping instrument\(^2\); beyond simplistic ‘language determinism’\(^3\); and, of course, beyond the communicative views that see language as ‘a tool for communication’\(^4\).

\(^2\) As, for example, espoused by the national academies of language, including the Iranian Academy of Persian Language and Literature, quite busy with forging Farsi equivalents for foreign terms and, therefore, reducing the encounter with the entire phenomenon of language to the level of single lexical items.

\(^3\) See, for example, Benjamin Lee Whorf, *Language, thought, and reality*, (Ed. J. B. Carroll), Cambridge, MA: MIT Press, 1956.

With this perspective, the ontological stance and the logical position is the determining issue in understanding language. Rooted in Arabic, the Farsi word for ‘logic’ is mantegh, which is of the same root as the word notgh, meaning ‘the ability to speak’, that is, the language ability. Whose language (notgh) we speak, whose logic (mantegh) we accept, and whose worldview we adopt, shapes our ways of life, including our ways of knowledging. On the other hand, of course, the way we perform knowledge shapes our logic and language, hence the perpetual interconnection between knowledging and languaging.

Historically, the language of knowledge in Iran used to be rooted in hekmat (wisdom). Ferdowsi, Khayyam, Nezami, and Naser Khosrow, all poets; Ibn Sina and Razi, primarily physicians; Abou Reiham Birouni, an astronomer; and Molla Sadra, a philosopher, were all known as hakim (wise person). In everyday life of ordinary people, too, knowledgeable people were known as hakim; a local person knowledgeable in traditional medicine was referred to as hakim and an elderly wise man not necessarily even literate, but experienced enough and with a wealth of wise words, was also known as hakim. The language of knowledge used to shape the language of poetry and the language of hekmat in poetry was the rich and always renewing source of the language of everyday life.

In ancient Iran the aim of teaching was to bring up children in a way to be virtuous, God, to be well behaved, to

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5. The view of language we explore here is similar to some accounts of ‘discourse’ as reflected in the work of Teun van Dijk. See, for example, Teun van Dijk, Critical discourse analysis, in D. Tannen, D. Schiffrin, and H. Hamilton (Eds.), Handbook of discourse analysis (pp. 352–371), Oxford: Blackwell, 2001.
6. There are about five hundred proverbs and sayings in the everyday language of the speakers of Persian from the writings of Sa’di.
learn professions and arts, and to be conscious of the health of body and soul. After Islam entered Iran, seeking knowledge was promoted more than ever before and led to the so called golden age of Islamic knowledge and the forms of knowledge and ways of knowledging which developed within this era continued to strive through eight centuries of political and social ups and downs in various types of madreseh.

Nevertheless, since about four centuries ago things started to change with ways of knowledging. More conspicuously, about two hundred years ago, arguably marked with the beginning of the Qajar dynasty, and more specifically, with the start of modern schooling by Amir Kabir, performances of knowledge were hit by acts aimed at bringing about fruits similar to those of Europe. Amir Kabir was acquainted with European life styles during his stay in Russia and Istanbul. Based on that acquaintance, he felt that Iran needed people familiar with modern forms of knowledge, and, therefore the idea of the first official modern school in Iran, called Darolfonoon (the house of techniques), was triggered.

Amir Kabir believed that European consultants would not benefit Iran and there could not be much hope to what they do for the country. Moreover, the actual launch of Darolfonoon was after he was removed from power and later killed by the Qajar king. Therefore, his personal intentions and ideas about the outcome of his initiative are not easy to judge, but Darolfonoon was the first step in officially fragmenting ways of knowledging in Iran, mainly into the two general categories of traditional madreseh (maktab) and modern schools and universities, and that meant a cut between the intellectual tradition of the country and the future directions. For various reasons, Darolfonoon graduates were not given considerable posts or jobs within the political and administrative structure of the country, but they did play an important role in bringing
European culture and lifestyle into Iran, mostly through translation and compilation of textbooks.

Most disastrously, in the past eighty years, in the time that may be referred to in numerous ways, including the (post)modern age, the globalization era, the digital age, the age of the global village, the space age, and the time of big bombs, as well as the age of ‘necessary terrorists’, the age of (cultural) massacres, and ‘the age of looting’, ways of knowledging started to become so distracted that even in the very early times of this period, prescriptions for healing the back-stayed Iran included the idea to become Westernized from head to toe.

It might well be argued that this went on as the overt official policy for decades and despite occasional struggles against it (like the ones by Al-e Ahmad, Shariati, and Motahhari, as well as the off and on challenges by the traditional religious schools of howzeh), this kind of mentality did find its way into people’s lives through technology, media, and of course, schools and universities. Even since the 1979 Islamic revolution with clear anti-Western orientations at its heart, and with official attempts at dismantling Western mentalities, many Western forms of knowledge, especially within educational institutions, have continued to subtly survive through all reforms and reconstructions.

Instead of developing a grand-theoretical argument on the nature of distractions and deviations in the forms of knowledge and in ways of knowledging in Iran, we will attempt to present a few specific examples to illustrate the problem and will also discuss how people-in-community is

9. This is a famous quote by Taghizadeh, an early twentieth century Iranian intellectual.
still the hope. The first instance of alienated knowledging is the case of early school literacy and science education. Traditionally, learning to read and write used to start with the Holy Quran and Sa’di’s *Golestan*. Learning reading normally started without a now common practice of mastering the list of the alphabet. The starting point was just starting to read the texts and to grapple with its forms and meanings at the same time. Notably, the first sentence that was read in Quran was

\[ 	ext{بَسْمَ اللَّهِ الرَّحْمَنِ الرَّحِيمِ} \]

(*In the name of Allah the Beneficent the Merciful*) and the first one in Golestan was

\[ 	ext{مِنْتَ خَدَّاءٍ رَّاعِزٍ وَجَلِّ} \]

(*Praise to God, the glorious and the great*).

However, the new generations currently involved in major knowledging arenas of the country have normally started their literacy with parroting the alphabet and the first sentence that almost all people have started with, is something that may be literally translated as ‘*Dad gave water*’ and, of course, the original Farsi sentence is equally meaningless. The only justification for reliance on such a string of words is that it is composed of only three letters of the alphabet, so it is the easiest Farsi sentence that could be made and, therefore, it is the best sentence to start with.

In the case of early science education, as early as the third grade, a similarly highjacked way of knowledging pops up; the introduction of the so called ‘scientific method’. The first few pages of the third grade science book introduce the concepts of observation, hypothesis, and theory, through illustrating a simple experiment, the language of which is obviously rooted in positivist knowledging traditions:

- Act like scientists
  - A scientist thinks about everything carefully. You, too, can think like scientist.
  - To think like scientists, observe everything carefully…
  - Make hypotheses…
After making a hypothesis, you should design an experiment to test and see if your hypothesis is right or wrong…
During the experiment, observe everything carefully and make notes of whatever happens…
Think about the causes of whatever you observe and then make a conclusion…

Such disturbed acts of teaching and learning literacy, not surprisingly, lead to the fact that today Ferdowsi, Mowlana (Rumi), Sa’di, and Hafez would not qualify if they apply for a PhD program in a department of Persian language and literature in an Iranian university. In science, this could be the starting point of seeing science as ‘subduing’ nature, rather than understanding and living with it. What follows is a tacit glossary of terms in the everyday language of knowledge, increasingly influenced by schools, universities, textbooks (and多媒体 materials), exams, and mass media. The glossary may include words like progress, development, educated, literate, scientific, academic, research, grade, degree, rank, and the like. The terms are conceived in ways similar to the interpretations of fabricated conceptions presented in ‘The Development dictionary’ by Sachs.

The second instance is the case of the so-called Islamic university ranking system. In 2005 the Organization of Islamic Conference (OIC) initiated an action plan which

11. While the view of science aimed to ‘conquer and subdue’ nature is well known form Francis Bacon, the founder of modern science, the contemporary Iranian Islamic philosopher Ayatollah Javadi Amoli makes a delicate distinction between viewing science as dealing with tabiat (nature) or exploring khelghat (creation), inherently always reminding a khalegh (creator).
included a science and technology related innovative decision on a specific ranking system for universities of the OIC member states. After several meetings at different levels of the OIC, a set of mechanisms, procedures, and criteria were decided upon as the structuring elements of the new ranking system. A glimpse of the announced intentions of the initiative shows that at macro-levels, there was an idea of the interested nature of the global academic scientific trends. Part of the introductory section of the ‘Report on adopted Criteria, Procedures and Mechanisms for Ranking of Universities of OIC’ reads: “The quest for knowledge is a pillar of the Islamic Faith… This is the time that we as Muslim Ummah should accord more attention to the promotion of quality higher education in our societies.”

However, when it comes to actually doing something in line with this perspective, the language of universality and neutrality of science related procedures seems to prevail. The same introductory section reads: “…very few universities from the OIC region are ranked among the Top 500 World Universities”. To remedy the problem, the suggested solution is “to select at least 20 Universities within the OIC Region to be strengthened and elevated to the rank of Top 500 World Universities”.

A quick comparison of the criteria of the so called world ranking systems and the adopted criteria of the OIC university ranking will show the extent to which an apparently alternative initiative is captured by the mantegh of the dominant ranking views. The major categories of indicators adopted by the UK based Times Higher Education University Ranking are: economic activity (including research income

from industry); international diversity (including the ratio of international to domestic students and staff); institutional indicators (including undergraduate entrants, the number of degrees awarded, and institutional income); and research indicators (including academic papers, citation impact, and research).

Shanghai Jiao Tong World University Ranking (China) sticks to the same structure by adding a few more frankly stated indicators of dependence on Western knowledge such as the number of alumni and staff winning Nobel Prizes and Fields Medals and the number of articles published in Nature and Science. Likewise, The Global Universities Ranking (Russia) follows on, with a few indicators expressing the same logic in different (and sometimes awkward) ways (like the capacity of the university’s computer centre; the number of the university students who went abroad for part-time studying; and the number of the university professors who went abroad for teaching and research work).

The adopted indicators for the ranking of OIC universities hardly show any trace of a different mantegh and notgh. The OIC ranking indicators are: research (including research volume as indicated by the number of published articles, research quality as indicated by the number of citations, and patents); education (including the ratio of faculty members with PhD to the total number of faculty, alumni that become highly cited researchers, and students winning international Olympiads); and international outlook (including the ratio of international faculty to total faculty, the ratio of international

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16. www.globaluniversitiesranking.org
students to the total number of students, and interestingly, the ratio of faculty members with foreign PhD degrees to the total number of faculty members); and socio-economic impact (including contracts and consultancies, entrepreneurship programs and industrial linkages, and the number of incubated projects and spin-off companies).\textsuperscript{17}

The language of this set of indicators is surprisingly similar to that of the other ranking systems, from which the OIC is ironically trying to distance itself. The language of the indicators may give away their underlying logic and worldview. Frequent use of words like volume of research, ratio, and number may be interpreted as reflecting a quantitative positivist position, which is even worsened when one adds all the mathematical formulae and calculations employed to quantify qualities such as learning; the language of citation, patents, awards, winning, Olympiads, international, and foreign, may be indicating a heavy reliance on the dominant sources of legitimacy, and, the logic behind words such as contracts, consultancies, entrepreneurship, industrial linkages, and companies may be understood as an indication of the extent to which the worldview of profiteering and capitalist success is directing academic endeavors. As Doostdar and Mirhosseini discussed elsewhere,

…the OIC set of criteria tend to only scratch on the surface of the ranking issue and the proposed university ranking is fundamentally trapped within the global mainstream trend of university ranking procedures. The core conceptions, taken for granted and almost left untreated, continue to exist under the newly fabricated and friendly looking disguise...

If we are to simply adopt the so called international standards…, then what is the logic of initiating a separate ranking system?...

\textsuperscript{17} OIC Report, cited above.
Rather than dealing with the rudimentary concepts reflected in these criteria, the supposedly alternative OIC criteria could question the core of the globally dominant educational quality assessment procedures: What are the values that shape the basis of awards? What kind of writings tend to be cited more? Who cites them and why? What are the values and criteria in which the so-called international Olympiads are based?18

The pain is that while the OIC sees itself as “the collective voice of the Muslim world and ensuring to safeguard and protect the interests of the Muslim world” and to “galvanize the Ummah into a unified body” and represent “Muslims by espousing all causes close to the hearts of over 1.5 billion Muslims of the world”19, when it comes to taking some actual measure, the mantegh and the notgh turns to sound almost completely the same as the globalized voice of knowledging by making statements like: “In all Islamic countries, there are few technical schools, colleges and universities and they have hardly any research centres of international standard” and “According to UNDP’s Human Development Report (2007–2008), the countries of the globe have been categorized at 3 levels of human development… In the Islamic world only 10 countries have been placed amongst countries with ‘high human development’”.20

Closely related to the ranking story, is the issue of Islamic science citation. As part of the bigger ranking business, there was an initiation for an alternative indexing system for journal articles published within the OIC countries. The initiative

revolved around the language of Islamization of knowledge and the initiative was called the Islamic Science Citation Center (ISC). Iran played a major role in the initiative and ISC headquarters and its administrative and executive sections were decided to be based in Iran. The Iranian Supreme Council for Cultural Revolution approved an ISC Policy Plan in 2008, with general objectives including “considering local needs and Islamic values” in initiating innovative research; “exercising needful attention to the Islamic laws and moralities in production and provision of science”; and “proposing suitable instruments and mechanisms that would fulfill optimally the information needs of the Islamic Ummah”.21

Having set off from such an inspiring point of departure, one may find it quite ironic to see that in early 2010 a news item goes with the headline A memorandum of understanding signed with the Thompson company (ISI): ISC articles to be indexed under ISI. As the news item reads, according to the head of the Regional Information Center for Science and Technology, located in Iran, ISC signed a memorandum of understanding with the Thompson Reuters company to index ISC articles in the ISI. He also said that ISI agreed to cooperate in the ranking of the universities of the Islamic countries and to hold scientometrics workshops for the Iranian universities. He further said that because national languages hinder the inclusion of journals in ISI, articles published in Islamic countries will be processed according to ISI standards and, therefore, their inclusion in ISI will be facilitated.

We do not suppose that this needs further analysis and explanation because it is obvious that the act has turned to move exactly in the opposite direction of the stated intention.

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It seems just enough to remind ourselves that the entire ISC initiative was basically started to counter the internationally dominant indexing systems and to consider Islamic values, Islamic laws and moralities, and to fulfill the needs of the Islamic Ummah. The reminder would be even stronger if the following quote from ISI web page is added. In a section that describes the inclusion criteria for journals, as part of the ‘basic journal standards’, the following is mentioned:

*English is the universal language of science at this time in history.* It is for this reason that Thomson Reuters focuses on journals that publish full text in English or at very least, their bibliographic information in English. …it is clear that the journals most important to the international research community will publish full text in English. This is especially true in the natural sciences. In addition, **all journals must have cited references in the Roman alphabet.**

This may seem very disappointing and all a call of despair but the roots of community life in the soil of traditional Iranian-Islamic culture are far from uprooted. The *mantegh* and *notgh* of *hekmat* and transcendence is still living in many aspects of life in our community. It is true that real flowers in the soil of culture are crushed within modern institutional structures like schools and universities as well as many other micro-institutions in the society, and this even includes many aspects of community life and even the most uninstitutional aspects of family life. Even in cases where parents are not

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24. As observable in a newspaper science section mini-article, injecting awareness to the minds of its readers about the correlation between a particular type of diet for pregnant women and the rate of later success of their babies in entering colleges!
schooled as such, this has continued to happen through mass media as the school on air. However, outside the realm of schooled and mass media stricken mentalities, flames of hope do continue to strive in the form of languages, logics, and knowledges not much perceivable and penetrable by globalized knowledging trends.

Many people seem to exclusively live with the language of ‘Dad gave water’; the language of hypotheses and experiments; the language of scientific neutrality and universality; the language of titles and ranks; the language of schools, universities, and mass media; and the language of globalization. But many of the same people live a – quantitatively and qualitatively – considerable part of their lives outside the suffocating atmosphere of alien ways of knowledging. These people-in-community aspects of life shape the most noticeable flames of hope that are detectable amidst all the intrusions. Many of the same people who are brought up with the logic of schools and the language of ‘Dad gave water’, are also, one way or another, in touch – though not living, as such – with the poetry of Mowlana, Sa’di, and Hafez. So, the language of hekmat – though sidelined – is not dead.

Many of the same people who indulge themselves into all (mis)conceptions of scientific objectivity, rigor, and material exactness; many of the same people who seem to wholeheartedly believe in academic measures and standards; and many of those who direct their entire career towards writing and publishing academic articles that comply with the criteria of the so called international journals, also do their daily religious practices. Many of these people do their namaz (prayers) and rouzeh (fasting), and many of them do regularly read the Holy Quran.

Many of the same people who tend to be captured by all manipulations of the media coming from all corners of the
world, do also hear the call of *azaan* several times a day from the media around them. Many of the same people who seem to be disappointingly taken by the hardly sense making talk on almost totally translated texts in Western psychology, education, and sometimes absurdly presented ‘family studies’ and ‘women’s studies’, do live in traditionally rooted family structures with their unique traditions of family relations, teachings, learnings, and respect.

Many of the same people who believe in the academic knowledge structure of ‘economics’ as the solution to the economic problems of the country; many of the same people who do believe in such fabrications as The World Bank, The International Monetary Fund, The World Trade Organization, and the so called free market policies as the optimum path to prosperity; and many of those who seek to absorb any kind of pseudo-knowledge propagated under rubrics like business administration, marketing, commerce, and so on, do also live (or at least grapple) with the ideas of *halaal* and *haraam*.

Many of the same people who stick to and believe in academic and media shaped modern Western conceptions of social structures, citizenship, and international relations, do also go on religious pilgrimage to Mecca and the Shi’a holy cities situated in, otherwise austere, Iraq. And this defies all those mainstream academic notions of sociology.

Many of the same people who expose themselves to modern arts, give their ears to sometimes nerve racking music coming from nowhere, live in a disastrous architectural environment, and worship Hollywood as the ultimate point of the so called art-industry of cinema, do also occasionally pass by the well known traditional Iranian forms of the arts of architecture, miniature, and calligraphy as well as traditional forms of theater, and of course, poetry, all rooted in the language and knowledge of *hekmat*. 
Many of the same people who have been indoctrinated through the mass media, schools, universities, textbooks, and other fabrications of this sort to view the world through the sentimental perspective and language of peace, security, human rights, and democracy, do also dedicate themselves to the tragedy of ashoura, the ideals of Imam Hossein (Alayhessalam), and the idea of shahadat (martyrdom), that disturb all those chic notions.

It is all these flames of hope that can still create a possibility for encountering, challenging, and confronting the language and logic of academic knowledge. This very still-living possibility of ‘crying tales of separation’ is itself the biggest hope emerging from the spirit of people-in-community to resist the intrusion of the knowledge and the language of development and (post)modernization into these realms of hope.
Contributors

**Claude Alvares** (aged 62) is the coordinator of the Multiversity Project which seeks broadly to decolonize thinking and curricula in universities. The project was conceived by Mohamed Idris from Penang, Malaysia, who still provides inspiration and overall guidance. A strong critic of Eurocentrism over the past three decades, Alvares is best known for his *Decolonizing history* book which severely knocked down Western interpretations of societies like India and China. Though a PhD from the Technische Hogeschool, Eindhoven, Netherlands, he now considers himself a thoroughly ‘de-professionalized intellectual’. In India he is better known as a political activist, environmentalist, journalist, and publisher. He has headed the Goa Foundation (Goa’s environmental action group) as Director for 25 years, moving the High Courts of India over several environmental issues. He also manages the central Indian secretariat of the Organic Farming Association of India. He is happily married to Norma Alvares, an environmental lawyer, and has three grown up sons: Rahul, Sameer, and Milind.

**Munir Fasheh** was born in 1941 in Jerusalem, Palestine. His main fields of work were math, physics, and education. The most significant event that shaped his thinking and actions for the past 40 years has been his discovery and awareness of his rich illiterate mother’s world and knowledge. His interactions with her world taught him the meaning of words that are so crucial in life: learning, knowledge, pluralism, humility, wisdom, science, math, education, and worth of a person. The two ‘creations’ that he feels closest to his heart are: Tamer Institute (which he started in the first Intifada) and Qalb el-Umoor (as part of the Arab Education Forum). Currently, he is trying to establish a college (The Home of Wisdom) in universities in Palestine. It is an attempt to heal from the occupation at the level of knowledge and perceptions which started with the establishment of Western schools and universities in the region about 150 years ago.
Sue-san Ghahremani Ghajar gained her concern with issues of language, learning, and community life during her childhood in the southern Iranian city of Abadan. These very concerns moved her to places as diverse as Shiraz, California, Tehran, Mazandaran in northern Iran, and Ottawa to search, learn, teach, experience, and explore literature, linguistics, and language education. In the past 15 years she has been teaching and researching as a faculty member (currently at Alzahra University, Tehran). Although working within the academia, the main concentration of her involvements has been questioning the dominant academic trends, especially in the global industry of English language teaching. In all her teaching, re-searching, research advising, developing learning materials, and writing in different venues, she has continued to fight for bringing life, personal meaning, and awareness into the acts of learning, teaching, and languaging.

Jorge Ishizawa has devoted his professional career as a systems engineer to diverse aspects of socio-economic planning, both at the Peruvian public administration and international organizations. Since 1996, he is a member of the Proyecto Andino de Tecnologias Campesinas (PRATEC), a non-governmental organization in Lima, Peru, whose mission is the cultural affirmation of the Andean Amazonian communities of the central Andes, based on their own knowledge and traditions. Presently, he is a member of the Complex Thought Institute, Ricardo Palma University, Lima.

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history of South Asians in America (HarperCollins, 2008); and Deewaar: The footpath, the city, and the angry young man (HarperCollins, 2011). He has co-edited (with Ashis Nandy) three volumes, including The future of knowledge and culture: A dictionary for the twenty first century (Viking Penguin, 2005) and Fingerprinting popular culture: The mythic and the iconic in Indian cinema (Oxford, 2006). His principal claim to fame may well be the fact that he is among 101 ‘most dangerous’ professors in the American academy profiled in David Horowitz’s The professors (2008).

Seyyed-Abdolhamid Mirhosseini was born (1978) in a rural area in the northern Iranian province of Mazandaran. His life in a mixed environment of local farming culture; an institutional education minded extended family; later, the language of the great Persian poet Hafez; and English as a foreign language learning and teaching, created a peculiar searching view for him regarding performances of language and knowledge, especially with regard to taken for granted underlying assumptions. In the past 15 years mainly inspired by his teacher and mentor Sue-san Ghahremani Ghajar, he has been unlearning and re-searching his academic studies of language and education in his language teaching experiences with various age groups; his research (including current PhD study on ideologies of English teaching, Tarbiat Modares University, Tehran); and his diverse writing practices.

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C. K. Raju received a PhD from the Indian Statistical Institute and taught mathematics at Pune University before joining C-DAC to help build the first Indian supercomputer, Param. He received the Telesio-Galilei gold medal 2010 for correcting Einstein’s mathematical mistake, in Time: Towards a Consistent Theory (Kluwer, 1994) which also proposed a new physics without perfect causality. In Cultural foundations of mathematics (Pearson, 2007), he proposed zeroism, a new philosophy of mathematics, while establishing that calculus originated in India and was transmitted to Europe where it was not properly understood. He used this to develop a new pedagogy which makes math easy. In The eleven pictures of time (Sage, 2003) he proposed a new ethic – the harmony principle –
while exploring how science, religion, and ethics are linked through time beliefs, allowing Western theology to penetrate physics. In *Is science Western in origin?* (Multiversity, 2009) he summarized how the West fabricated history during the Crusades and the Inquisition.

**Grimaldo Rengifo** holds a degree in Education from the Universidad Nacional del Centro, Huancayo, Peru, and an anthropology diploma from the Catholic University of Peru. He has also made studies in the History of Philosophy at San Marcos University, Lima. In 1986 he founded the Andean Project for Peasant Technologies (PRATEC) and is its present Coordinator. Before founding PRATEC he held various posts in the Peruvian government and coordinated a large international project in the southern Andean region of Peru. He is the author of numerous books and essays on Andean culture and agriculture.

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