CHAPTER ONE
THE THEORETICAL FRAMEWORK: CONCEPTS AND PROBLEMATICS OF THE KNOWLEDGE SOCIETY

THE THEORETICAL FRAMEWORK: CONCEPTS AND PROBLEMATICS OF THE KNOWLEDGE SOCIETY

Introduction

This chapter presents a general theoretical framework for the knowledge society, based on four major axes linked by the concerns and issues invoked by the project to create a "knowledge society" as an integral part of a comprehensive programme of Arab renaissance. The first of these axes presents the premises and principles guiding the knowledge society. The second deals with the conceptual structure of the discourses that have attempted to shed light on the changes in modern societies since the information revolution. Here we have constructed an operational definition of the knowledge society in the Arab world, based on the ideas put forward in the Report's various chapters. The third axis constructs the systems of reference that have guided, and continue to guide, knowledge discourse in the contemporary world and allows us to become acquainted with the dimensions and options underlying earlier reports on the same topic. The fourth axis examines some of the problematic issues posed today by information and knowledge development in contemporary society, believing that reflection on these issues will influence efforts to close knowledge gaps in the Arab world and achieve comprehensive human development.

While subsequent chapters of the Report examine the quantitative and qualitative dimensions of the most significant foundations of knowledge, this chapter deals with the theoretical structure of Arab knowledge performance and constructs the intellectual frame of reference that underlies it. It seeks to provide insights that will help us acquire keys to the knowledge society, develop the field of knowledge in the Arab world, and support active intercommunication with the knowledge advances of our age.

PREMISES AND PRINCIPLES: THE KNOWLEDGE-DEVELOPMENT-FREEDOM TRIAD

Two fundamental premises lie behind the driving concepts of the Arab Knowledge Report and provide orientation for its various chapters, be it this chapter concerned with inquiry into the concepts, problematics and frames of reference, chapter 2 dealing with the enabling environment, or those chapters on the knowledge society's most significant foundations and manifestations. The first premise is that there exists a triadic relationship among knowledge, development, and freedom. When we speak of the relationship between human development and knowledge, we evoke the teleological dimension that places knowledge at the service of development. When we speak of freedom, we have in mind the social and political frameworks that support knowledge and innovation through creative interaction between the expansion of freedom and the creation of knowledge.

The second premise concerns the relationship between development and the building of a knowledge society, as it is widely recognised that knowledge tends to engender social development, including economic, social, and cultural efforts to overcome the deficiencies that limit the expansion of human well-being.

Knowledge is a human right and a means to overcome many of the difficulties and obstacles facing mankind. Today it is increasingly becoming a vital requirement of development. Current data from countries with high levels of

There exists a triadic relationship among knowledge, development, and freedom

Knowledge is a human right and a means to overcome many of the difficulties and obstacles facing mankind

intellectual and technological property confirm that the successful deployment of the knowledge produced in all spheres of economic and social activity contributes effectively to the expansion of human choice and emancipation. This in turn results in the achievement of comprehensive human development.

It is important to stress here that the relation between knowledge and development should not be understood in a framework of mechanistic determinism. On the contrary, this relationship must be understood in light of the historical debate that establishes interactions between these fundamentals and thus creates the manifestations and poles of the knowledge society, as we aim to show.

BOX 1-1

The Concept of Knowledge

This report uses the term "knowledge" to embrace all forms of a society's epistemological and cultural assets and views it as a major organizing principal of holistic human development. Knowledge in this sense seeks to expand options and opportunities available to the individual Arab and to achieve for him or her freedom and an honourable life. Knowledge—whether we are talking in terms of its acquisition, production, indigenisation or deployment—thus becomes a tool and goal that affects all levels of society equally and involves all of fields, from the scientific, technical, cultural, and traditional to accumulated community wisdom.

THE CONCEPTUAL BUILDING BLOCKS

The concepts prevailing in the literature on the information age fall into two categories. The first category is that of central concepts that outline the intellectual space of the age; these are still in a stage of theoretical formation and development. The second is that of intermediate concepts that go into the production and reproduction of the discourse on knowledge. Those concerned with the knowledge society have formulated a group of concepts that seek to capture the transformations occurring within new realms of knowledge. These concepts, however, are plagued with ambiguity and conflicting significations, and this increases confusion and widens

the gap in an age in which the gains from knowledge are indispensable. The difficulty in terminology is exacerbated by the novelty and speed at which new terms are introduced to the literature. Most terms are no more than four decades old and have been in common use for only three decades. They lack "epistemic saturation,"[1] for they are still marked by an operational character, and this renders agreement on their limits of application difficult.

It follows that our goal in creating a conceptual structure for our work is to be able to delineate the limits of epistemic saturation and, at the same time, to scrutinise the operational dimension behind the concepts in order to reach a minimum of agreement on the significations assigned to particular concepts in the contemporary discourse on knowledge.

FROM KNOWLEDGE TO KNOWLEDGE SOCIETY

THE DEVELOPMENT OF THE CONCEPT OF THE KNOWLEDGE IN ARAB CULTURE

The term "knowledge" (*ma'rifa*) is used in the Arab linguistic and cultural tradition in several ways and with more than one meaning. Knowledge is the opposite of ignorance, as the term "knowledgeable" (*'arif*) is given to one who is well versed in something that he undertakes. When a multiplicity of cognitive specialisations took shape in Islamic Arab thought in the Middle Ages, the same word, in the sense of one who acquires and becomes a bearer of knowledge, began to refer to the specialist in the finer points of information within a specific field of knowledge.

Arabic use of the term *ma'rifa* allows for a positive value since its opposite, *jahl* (ignorance), carries a negative value (Sa'id Yaqtin, background paper for the Report). The dictionary entitled *al-'Ayn*, for example, brings together the meanings given in the entry for the letters that form the root

BOX 1-2

"Knowledge" in al-Tahanawi's "The Terminology of the Arts"

"The term *ma'rifa* is used in a number of meanings. One is *'ilm*, meaning perception, whether this be conceptualisation (*tasawwur*) or assent (*tasdiq*). Thus it has been said, "Every instance of *ma'rifa* and *'ilm* is one of either conceptualisation or assent."

"Another meaning of *ma'rifa* is just *tasawwur*, in the sense indicated above; in this case *tasdiq* is called *'ilm*, also in the sense indicated above.

"Another meaning of *ma'rifa* is perception of the simple, whether this be conceptualisation of its nature or assent to statements that may be made about it. Perception of the complex on the other hand [is specific to *'ilm*], whether this be conceptualisation or assent. With this meaning, then, there is a distinction between *ma'rifa* and *'ilm*, both being more limited than *'ilm* as perception in an absolute sense. This existence of a distinction is also the case for the second meaning of *ma'rifa* and *'ilm* [i.e., that which restricts *ma'rifa* to *tasawwur* and *'ilm* to *tasdiq*] . . . .

"One says, "The Almighty knows (has *'ilm*)" and not "(He) recognises (has *ma'rifa*)", because His perception is not (a) based on evidence, nor is it (b) preceded by a lack of knowledge, nor is it (c) subject to forgetfulness. *Ma'rifa* and *'ilm* can be considered coterminous when used in these [last two] senses.

"Another (meaning of *ma'rifa*) is a technical sense used by the Sufis . . . . [As a certain writer says,] '*Ma'rifa* strictly speaking means *'ilm* simply, whereas in actual usage it means *'ilm* preceded by non-knowledge. But in Sufi parlance *ma'rifa* means that *'ilm* which is not subject to doubt, if, specifically, the thing known is the essence of God Almighty and His attributes . . . . Furthermore, *ma'rifa* is either (a) "evidential" (*istidlali*)—that is, it uses signs as evidence for the existence of their Creator, since some of the Sufis see things and then see Him by means of the things; this *ma'rifa*, if one considers it carefully, occurs only to someone to whom something from the realm of the unseen is revealed, so that he uses both the visible and invisible signs as evidence of the existence of Almighty God . . . . or

it is (b) "direct and automatic witnessing" (*shuhudiyya daruriyya*)—that is, it consists of using the existence of the Creator of the signs as evidence for the signs themselves; this is the rank of the Veracious, who are those to whom such witnessing is granted. A sheikh has said, "I saw God before all else," and this is the gnosis that comes through faith and good works, and it means that they have come to know everything through Him, and not that they have come to know Him through any thing' . . .

"*Ma'rifa* is more particular than *'ilm* because it may be applied to two meanings, each of which is a kind of *'ilm*, one being *'ilm* of something esoteric the evidence for which is provided by something exoteric, as would be the case if one scrutinised a person and as a result understood what was hidden within him through some mark that was manifest upon him . . . and the other being *'ilm* of something one saw and of which one had previously been aware . . . .

"Al-Wasiti has said, '*Ma'rifa* is [knowledge of] what I have "seen" through my senses, and *'ilm* is [knowledge of] what I have "seen" as a result of information I have received,' that is, information provided by the prophets, peace be upon them . . .

"Another (meaning of *ma'rifa*) is the technical usage by the grammarians, namely, 'a noun adopted conventionally to indicate a specific thing,' or, according to others, 'a noun adopted conventionally to be applied to a specific thing'; its opposite is 'indefiniteness'. . .

"What is intended by *ma'rifa* is a thing that is defined, for the hearer, *with regard to its being defined*, as if it were functioning as a pointer to that thing by being expressed that way. By the indefinite, on the other hand, is intended the turning of the mind to what is defined, *with regard to its essence*, with no attention being paid to its being defined, even if it is so defined in itself. There is a clear difference between a thing being endowed with specificity and the recognition of its being so endowed."

of the Arabic word meaning "to know" and the changes those meanings undergo according to their vowel signs or etymology (al-Khalil ibn Ahmad al-Farahidi, 2002, in Arabic). Thus *ma'rifa* means "the appearing and being revealed of what is hidden" and *al-ma'ruf* ("that which is known") means "what is clearly viewed" since the word "viewing" (*nazar*) here comprehends both seeing and observing, as well as thinking. In this context, *ma'rifa* indicates transition from one state to another; i.e., transition from ignorance to learning.

As Islamic culture became ever more diverse and vigorous, the Arabic language was further enriched. Some specialised dictionaries highlight the change in the meaning of the term "knowledge.' *Al-Ta'rifat* by al-Jurjani explains that

"knowledge" is "what is written to show something specific." In other words, it is "perception of the thing as it is." Change in meaning is a movement towards a signification in a specific area of knowledge, such as grammar, jurisprudence, logic, or mysticism, resulting in the development of a distinction between knowledge (*ma'rifa*) and learning (*'ilm*) and the knower (*al-'arif*) and the learned (*al-'alim*) (al-Jurjani, 1985, in Arabic).

The word *ma'rifa* continued to carry its old meanings as found in the lexica until the beginnings of the twentieth century, after which it expanded under the influence of the second cultural exchange between Arab thought and trends in modern European thought, during the Arab renaissance. The word thus came to mean intellectual and

As Islamic culture became ever more diverse and vigorous, the Arabic language was further enriched

philosophical output and research in the various different sciences and theoretical fields. In the last two decades, however, it has evolved further under the influence of several changes and developments. These have affected the fundamentals and bases of the concept of knowledge, including its philosophical, scientific, and cultural fundamentals and brought about its shift from being the preserve of an elite to a right belonging to all individuals in society and a precondition for human development. Mechanisms and means have become available too that allow knowledge to play these roles, as in the case of the revolutions in information technology. Thus, the present age has witnessed a radical change in the signification of the term "knowledge," with new synonyms and meanings that differ from those used in the Arab cultural patrimony, a development that may lead to a disjunction between the term "knowledge" as used in the latter and the meanings that the compound term "knowledge society" bears today.

In the Arab linguistic and intellectual tradition, the term "knowledge" refers to a symbolic product and to intellectual enquiry. Those who possessed knowledge were called the elite—the select few who were possessed of exceptional abilities in scrutiny and contemplation. However, the knowledge revolution at the end of the twentieth century, and above all in the field of information technology, has brought society to the threshold of a new age, in which knowledge has become the upshot of a combination of higher technology and evolved human experience. This has resulted in a revolution in the density and availability of knowledge and in the expansion of economic, social, and recreational roles made possible by the diverse spheres and worlds of production that fashion the knowledge society.

THE INTERACTION AND INTERSECTION OF CONCEPTS

In contemporary usage, the phrase "the knowledge society" is taken to be synonymous with several terms or

---

BOX 1-3

A Linguistic Perspective on "Knowledge"

Careful observation of the significations and derivatives of the word *ma'rifa* (knowledge) and the syntactical and morphological transformations to which it may be subject, reveals that it has the following meanings:

- "The appearance and revelation of what has been hidden and concealed." Thus the various words built from the root *'–r-f,* whether *'arf* meaning "wind" or "perfume," or *'urf* meaning "a good deed, or act of generosity or open-handedness" or "a projecting part of the body" (as in *'urf al-faras* ("the mare's mane")), or *'arafat* in the sense of "an open space" or as a verb (*'arifa*, imperfect *ya'rifu*) meaning "to know," are all indicative of something becoming conspicuous, appearing, and becoming wide-spread to the point of being plain to the eye. The same meaning is to be found in *ma'arif* ("acquaintances") and *'arif,* which is to say "the chief man among a group of people and the most conspicuous among them."
- "Movement from one state to another." Semantically related is the transformation of the signification to that of movement from ignorance of a thing to awareness of it, or from disavowal and denial to knowledge and acknowledgment. Thus someone who acknowledges (*ya'tarifu*) or recognises (*yasta'rifu*) or characterises (*yu'arrifu*) a thing moves from a state of keeping it secret or denying its existence to one of confessing his guilt with regard to it or revealing its nature, thus making some

other person cognisant of it (*mu'tarifun 'alayh*) and aware of it (*'alimun bihi*).

By examining these two semantic fields (appearance, and movement from ignorance to awareness) along with their various associated sub-significations, we find that knowledge means, in sum, "acquiring awareness of something." This has led many to define knowledge as "awareness," in all its general and specific senses. This explains how it comes about that the various derivative forms of the words for knowledge (*ma'rifa*) and awareness (*'ilm*) are, by and large, syntactically and semantically identical, as illustrated by the following:

- *Ma'rifa = 'ilm; 'arif = 'alim; ma'ruf = ma'lum; ma'arif = ma'alim; ta'arruf = ta'allum; ta'rif = ta'lim.*

The two concepts also share antonymy with the words in the following list (in the same order as the above):

- *Jahl/nakira; jahil/munkir; majhul/munkar; majahil/manakir; tanakkur/tankir.*

In the latter case, *tajahhul* is not used as the opposite of *tanakkur* and *tajhil* is a recent coinage. This may be explained by the fact that "adoption of ignorance" (*tajahhul*) and "imposition of ignorance" (*tajhil*) both imply intent, which means that they cannot be realised in actual usage because both conditions (of ignorance, assumed or imposed) are involuntary.

Source: Sa'id Yaqtin, Min al-Ma'rifa ila Mujtama' al-Ma'rifa (From Knowledge to the Knowledge Society), background paper for the Report, in Arabic.

phrases that do not display theoretical or functional equivalence. This points to a number of difficulties, in which the logic of nomenclature becomes entwined with the mechanisms of interpretation. Linking the knowledge society with widely used concepts such as the information society, the knowledge economy, the networked society, the digital society, the information society, or the technology society fails to yield a unified concept. This diversity of terms shows that the central concept has yet to achieve "knowledge saturation." Thus we are faced with concepts that grow up side by side with significations most of which have resonances that tie them in some way to the concept of the knowledge society.

The connotations of the term "knowledge" in "knowledge society" differ from those in "knowledge economy" and "information technology." Similarly, the term "information" is not the theoretical equivalent of the term "knowledge," since "knowledge" implies more than the mere quantity of information and data gathered.. On the other hand, if we look at the many definitions of the word "information" that are subsumed within the term "information explosion," we see that it is at the core of the concept of knowledge. This explosion is creating the salient characteristics of the human information landscape—the images that today are establishing a new world and a new society.

This description of nomenclatural issues and the asymmetry of synonyms reflects only part of the challenge that we face in our current endeavour, since disciplinary frames of reference that influence researchers in their specialised fields themselves control the construction of nomenclature. Engineers believe that they are behind the creation of intelligent technology, and that the latter has banished the traditional educated person from the new knowledge arena and replaced him with the media and technical engineer. Economists likewise believe that the "knowledge-based economy" is expressive of the major transformations of the age and use the concept when speaking of characteristics of economies in post-industrial society. Sociologists, on the other hand, view the knowledge society through the lens of the post-modern age, in that the main traits of this society are being formed in a new perspective of precise technical ideas and innovations generative of a composite world.

On this basis, we will explain the major difference between the term "knowledge" in the Arab linguistic tradition and the concept of knowledge in the contemporary knowledge society. It may also be the case that there is no link between the term "knowledge" as used in "the knowledge society" and the theory of knowledge in the history of philosophy. Today the world finds itself confronted with new meanings arising from the information revolution, communication techniques, and genetic engineering, in addition to those of mathematics, sociology, anthropology, economics, and linguistics. The distinct meanings and nuances that arise from these different uses of the term are often ironed out in intellectual approaches that commoditize knowledge.

Before, we seek to construct an operational definition that is in keeping with our vision for the Report, we shall attempt to bypass the confusion of nomenclature by condensing the question into major poles. These may help us approach our subject, since the interconnectedness and mixing that are on-going today with regard to the significance of the concept "the knowledge society" may force us to create a way out that will advance our thinking and help us to stay in touch with the achievements of our age.

POLES OF THE KNOWLEDGE SOCIETY: THE SOCIETY-ECONOMY-TECHNOLOGY TRIAD

Let us begin by acknowledging that the concepts "knowledge" and "knowledge society" are still in process of formation, and, at the beginning of this new millennium, are undergoing

The concepts of "knowledge" and "knowledge society" are still in process of formation, undergoing moments of maturation that accompany any process of birth

one of those moments of maturation that accompany any process of birth, or of transition from one area of knowledge to another. Caution is therefore called for when we use these concepts if productive dialogue about their meaning is to be achieved. At the same time, the diversity of synonyms reveals the existence of three major areas—technology, economy, and society—that intersect at the heart of the concept. Thus, we find ourselves facing knowledge technology, a knowledge-based economy, and a knowledge society (Wolton, 1997, in French). There is no disputing the importance of information technology to the knowledge society, just as no one downplays the importance of the role it plays in the formation of the concept itself. Similarly, there is agreement on the transformations that knowledge technologies perform on new economies and societies. This can only imply that technology, the economy, and society, in their contemporary manifestations, constitute elements fundamental to the understanding of the knowledge society.

The new age, with all its visions and hopes of expanding the limits of human options, is being established within the radius of these poles. In this context, we cannot overlook, either, the concept's Utopian significance, for to speak of a knowledge society is, fundamentally, to speak of an open-ended historical vision in the process of formation (Breton, 1997, in French; Nur al-Din Afayah, background paper for the Report, in Arabic). The term "knowledge" in "knowledge society" also refers to the outcome of the combination of information, expertise, and capacity to govern, an outcome which makes the construction of knowledge possible and opens new horizons in terms of greater human control over nature through possession of resources and systems in spheres of work, knowledge and production. At the same time, it must be said that the societies whose major features most closely approach those of the knowledge society operate at the forefront of the information technology

industry, and develop educational systems whose universities and research centres foster innovations and inventions. Such societies also provide an enabling atmosphere, institutions, laws, and a firm base of individual and political freedom that stimulate the production and use of knowledge.

The transformations seen by human societies at the end of the last century as a result of changes in the content and mechanisms of the knowledge society and of the information technology revolution have necessitated the reorganisation of society and the economy. The result has been disruption in numerous areas of life. The epistemological paradigms and applied mechanisms that once prevailed within society have ceased to be appropriate for the structural changes this revolution has unleashed. The terms "economy," "society," "culture," "education," and "media" are no longer understood according to the logic of the nineteenth or the first half of the twentieth century. Rather, they call for a new approach using innovative mechanisms designed to meet the requirements of a new age. Within this vision, new economies have formed, as have new means of communications and new principles of work, perception, and interaction. It is no longer adequate to do the right thing; one also has to do it in the right way.

Technology has become one of the manifestations of our existence, and our age has indeed become "the age of technology." Constantly and rapidly evolving information channels dominate and have become electronic markets producing and distributing an infinite array of goods and services. Globalisation, with its new economic order, has helped transform man into a consumer. This composite effect, represented by the information and knowledge-based economies made possible by technology, has had its substantial impacts on human cognition and behavior.

As we have shown, in the knowledge society, technology, economy, and society intersect and interact, nurtured by an
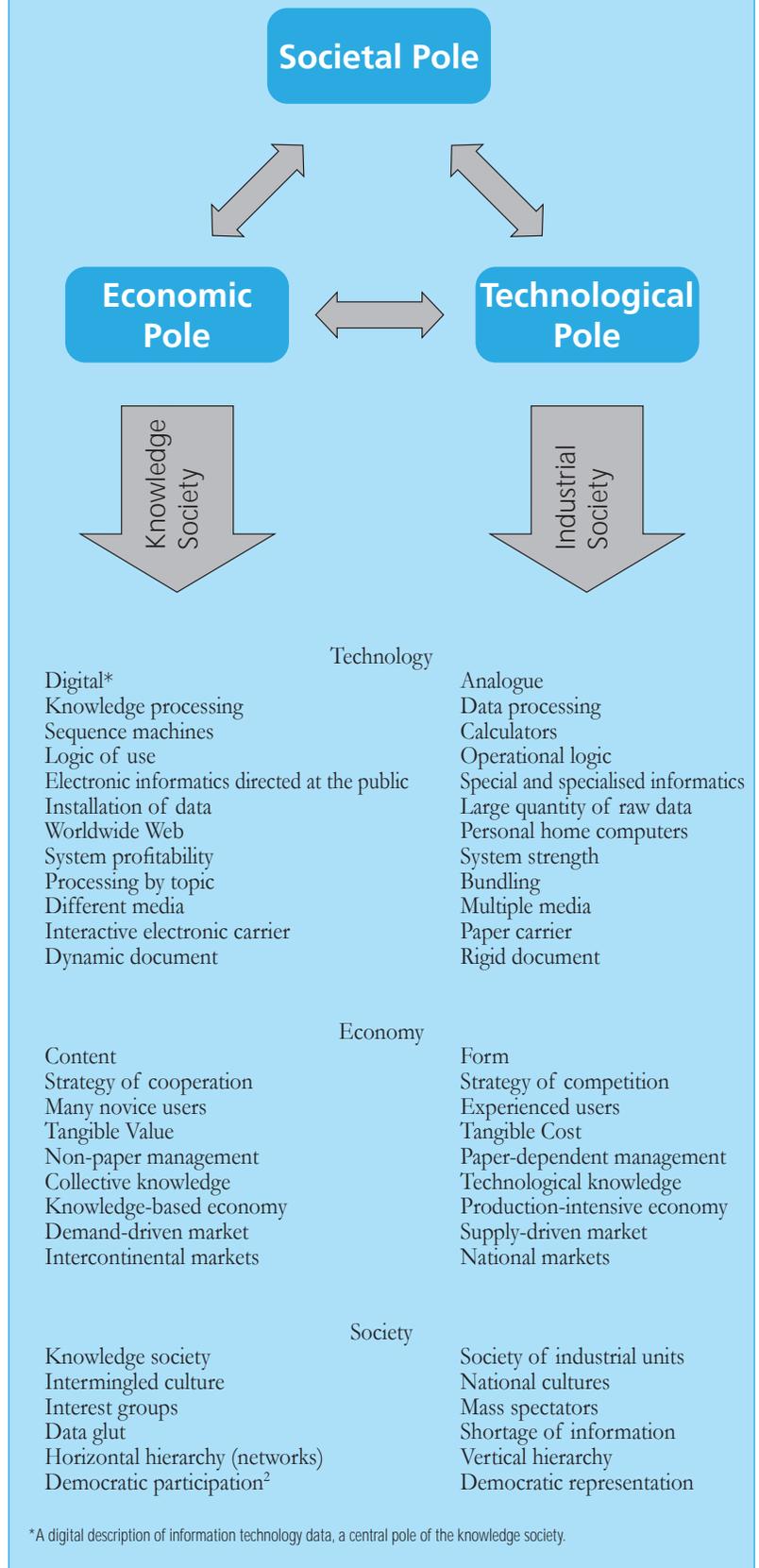
enabling institutional and legal environment based on freedom, intercommunication, and openness. If the knowledge society forms and evolves in the light of technological variables, it simultaneously constructs the major features of the new economy, an economy dominated by networks of transnational corporations; these, in turn give rise to new facilities and services benefiting from human expertise and intelligence. These networks also open to the knowledge society the gates of globalisation, which is capable of building new markets in a world where barriers both visible and invisible fall daily. The third side of the knowledge society triangle is represented by the new consumer within society, who is distinguished by new patterns of behaviour, by globalised cultural patterns, and by intercommunication patterns that create new phenomena, as shown in Figure 1-1, which compares the poles in question in such a way as to allow us to diagnose several current examples of this transformation.

These data are not complete. They are an attempt to capture aspects of phenomena that are in process of formation and transition from the industrial society to the knowledge society, an attempt to examine in detail what is happening in a changing world. Even though Arab societies are not industrial, and despite the knowledge gap between the Arab world and the developed world, the Arabs are a part of this world that aspires to a firmer mastery of scientific knowledge and technology.

The preceding data help us understand the concept of the technology-economy-knowledge triad. Technology has its limits, but there are no limits to innovation, and the economy has its spaces, albeit in the new economies such spaces exist outside of national borders. Despite these facts, the term "knowledge society" goes farther than the opening-up implied by the two previous terms, and has taken up residence in society and in those minds that are capable of building and developing it.

FIGURE 1-1

The poles of the knowledge society

Technology

Digital*	Analogue
Knowledge processing	Data processing
Sequence machines	Calculators
Logic of use	Operational logic
Electronic informatics directed at the public	Special and specialised informatics
Installation of data	Large quantity of raw data
Worldwide Web	Personal home computers
System profitability	System strength
Processing by topic	Bundling
Different media	Multiple media
Interactive electronic carrier	Paper carrier
Dynamic document	Rigid document

Economy

Content	Form
Strategy of cooperation	Strategy of competition
Many novice users	Experienced users
Tangible Value	Tangible Cost
Non-paper management	Paper-dependent management
Collective knowledge	Technological knowledge
Knowledge-based economy	Production-intensive economy
Demand-driven market	Supply-driven market
Intercontinental markets	National markets

Society

Knowledge society	Society of industrial units
Intermingled culture	National cultures
Interest groups	Mass spectators
Data glut	Shortage of information
Horizontal hierarchy (networks)	Vertical hierarchy
Democratic participation[2]	Democratic representation

*A digital description of information technology data, a central pole of the knowledge society.

When reviewing what has been said about these poles, we must emphasise interaction, rather than alignment or juxtaposition. The focus on interaction brings us into contact with productive processes, narrows distances, and produces forms of interaction that are difficult to separate or isolate unless for temporary or procedural reasons, or for expediency.

No one pursues knowledge for its own sake, we mostly seek it for "what it can do"

THE NETWORKED SOCIETY: THE MOST CONSPICUOUS FEATURE OF THE KNOWLEDGE SOCIETY

A strong synonym for the "knowledge society" is the "networked society," which itself has given rise to several synonyms such as the "digital society" and the "digital divide." At the end of the last century, Manuel Castells published an important thesis in three volumes entitled *La Société en Reseaux (The Networked Society)*, a huge work that is courageous, powerful, and original, and touches on many complex aspects of the spirit of our age. Castells believes that the digital character of the knowledge society raises numerous issues. It constitutes the most exciting characteristic of the information revolution by virtue of the ease with which its tools, techniques, and software may be used in production systems. At the same time, this very ease leads to outcomes and problematics that touch the core of the transition to a high-tech precision technology within the knowledge society. The UNESCO Report *Towards Knowledge Societies* illuminates the issue with a telling simile, saying that the difficulty of finding the appropriate item of information in the information age is like "drinking water from a fire hose: there is plenty of water, but one must beware of drowning" (UNESCO, 2005, in French).

In Volume II of the former work, entitled *The Power of Identity* (Castells, 1999, in French), the author devotes special attention to the networked society and explains that the information age is governed and directed by two central poles: the network pole and the active-self pole. In his account, the concept of "the network" does not mean any specific network, but multiple networks controlling sources of power, wealth, and information and enhanced with digital technology. The network is "the new social structure for the information age—the age of the networked society made up of networks of production, power, and experience, a culture that by virtue of these networks plays a part in building a virtual culture within a framework of globalised flows and transcends the concepts of time and place. In this age of ours, all societies have been breached by the sweeping power of the networked society." Opposed to globalised networking, which is the salient feature of the knowledge society, stands the "self"—

BOX 1-4

The Power of Knowledge

I say, then, that the "power of knowledge"—and I might just as well say "powerful knowledge"—is the first reality which presents itself in our current age. I am not saying anything new. We all know that the shift from knowledge as "contemplation," as in the Greek, to knowledge as "power" as in the works of Jabir ibn Hayyan, Bacon, and the modern West, is not new. We all know that contemporary technology is the direct fruit of this understanding. Here we must bear in mind that knowledge is not an accumulation of scientific discoveries but, before anything else, a method that encompasses the rules according to which all the world's data is viewed—man, nature, society, values, creations, and manufactured goods—and that knowledge has its rigorous critical and methodological instruments. Its instrumental or pragmatic nature today not only deals with the applied or technical aspects, but includes all activities of man, society and the state, to the extent that, if "scientific knowledge" on these various fields of human activity were accumulated, it would be possible to shift to action. This means that knowledge would become a "tool" for the "governance" of man, society, and the state, and what we call the "human" and the "social" sciences could pursue these goals specifically. Today no one pursues knowledge for its own sake, i.e., for the pleasure produced by its magic, its exoticism, its revelations, or its beauty; we mostly seek it for "what it can do." Linguistics and the literary arts themselves, at the end of the day, seek human intercommunication and pleasure, and what Spinoza calls the "pleasure of knowledge" operates within the same framework….

Today the power of knowledge is evident in various forms, particularly in the technological sector, and it is our inability to produce "technical knowledge," either now or perhaps in the foreseeable future, that reveals our inadequacy, weakness, and misery. We are able to participate at present only within the confines of the spaces that produce that knowledge, i.e., those of the "European West" or the "American West." Nothing, however, prevents us from producing "human and social knowledge." From within our own national spaces, we can direct our research towards human issues and values, society and its values, and the state and its principles. We can treat these issues on the basis of scientific, rational methodologies and we can benefit from them in our reformulation of humanity, society, and the state, and thus bestow on "knowledge" a power it does not at this time possess.

Source: Fahmi Jad'an, 2002, Riyah al-'Asr, Al-Mu'assasa al-'Arabiyya lil-Dirasat wal-Nashr, Beirut, pp. 14,15,16.

---

the individual and collective identity (the individual, the citizen, the human being, the group) that seeks to preserve its life amidst the sweeping transformations in knowledge. This tension between the "network" and the "self" produces new forms of social conflict, of which knowledge is a salient feature. Humanity faces, in place of class conflict, a conflict in which networks, with their multiple symbolic bases, play a dominant role in feeding and marshalling its main features. Thus, Castells stresses the roles played by new social and cultural movements, such as students' and feminist movements, the peace movement and environmental movements. There is something in these different movements, as in the collapse of the socialist block and its continuing repercussions, as well as in the retreat of the symbolic power of the patriarchal system within the family and in society at large, that reflects the contradictions ignited by the information age.

From this perspective, the importance of the networked society concept is represented by the social and informational axes. Because Castells highlights the role of information in our age, information, viewed as the product of technological systems and biological models, is his paradigm for the new world. Thus the network becomes an expression of a complex activity; it resembles the human genome strand supported by knowledge, by advanced, that is, and very precise mathematical data. Accepting the network concept means accepting that technology, and specifically information technology, lie behind social organisation. In Castells' words, "information" capitalism becomes the alternative for what Marx in the nineteenth century called "industrial capitalism."

The Internet has become the primary international vehicle for conveying ideas; indeed, it has the power to globalise the world (Castells, 2002, in French). It has helped destabilise all tools of communication and has restructured their architecture, their uses, and their modes of

production. At the same time, they have changed how work is conducted and how authority and control are exercised.

The Internet is now the largest registry of reference information for all areas of knowledge. In addition, its networks provide interactive possibilities throughout the fabric of society through rapid digital mechanisms. As a result, the "place" in the networked society is not physical but is equivalent to "flows." Capital flows and the abundant information made available on the internet have no relation to a specific place; they are in a "non-place" that is synonymous with all places. Furthermore, "time," according to Castells, is "non-time," since it is no longer connected to the clock that, in the industrial age, defined its role. In the networked society, time is a sort of vessel that allows us to be in several places at once.

THE KNOWLEDGE SOCIETY: TOWARDS EXPANDING CHOICES FOR RENAISSANCE AND DEVELOPMENT

The 2005 UNESCO Report adopted the concept of the knowledge society in the plural, as "knowledge societies," viewing this as the most appropriate term for the changes taking place in a world of which technology forms the cornerstone, and the central manifestations of whose general structure are the new economy and communication networks. The manifestations and epiphanies of the latter are, in their turn, reflected in human realities, confronting humanity with new challenges and questions. This highlights the importance of broadening the significations of the term to embrace all the changes and social challenges influenced by this new perspective, or, perhaps more accurately, this new world.

The importance of expanding the significations of the "knowledge" in "knowledge society" requires that the concept no longer be restricted to the scientific and technological dimensions, as it clearly is in the indices and indicators

"The Internet has become the primary international vehicle for conveying ideas; indeed, it has the power to globalise the world"
Castells

Expanding the significations of the "knowledge" in "knowledge society" requires that the concept no longer be restricted to the scientific and technological dimensions

related to the knowledge-based economy popular in some literature, such as the reports of the World Bank. While it is true that scientific knowledge is important, the scope of knowledge is broader than that. A more inclusive perspective on human knowledge is called for, one that does not exclude the humanities and other sciences related to aesthetics, values, and the arts, one that excludes none of the symbolic product that fashions humanity's wisdom and infinite capacity for invention, and for material and symbolic production.

Expansion of the significations of the term "knowledge" makes the concept of the knowledge society better able to embrace several aspects of humanity's theoretically recognised competence. The interdependence and interaction among these aspects are no longer in dispute, since the capacity for rational thought is equal to the potential of the imagination, and since epistemological synthesis is an act that includes the outcome of the human effort to understand and innovate (UNESCO, 2005, in French). What makes it desirable to expand these significations is the tendency of certain reports by some international organisations to impose knowledge data linked to certain specific societies. A critical examination of the indices and indicators fashioned by the World Bank on the subject of the knowledge society and knowledge economies, for example, reveals that the unit of analysis in these reports is based on data from Western Europe and the United States. How can terms be transferred and generalised to other social paradigms that were not under consideration at the time when the research was conducted and the terms constructed? How, in fact, can the economy or the enabling environment for the knowledge society be reformed without a precise diagnosis of the forms of knowledge accumulation and the knowledge gaps linked to the Arab reality?

The knowledge society, sometimes referred to as the "digital society," is a collective project. It is more than its instruments and its networks. Furthermore, the state of Arab knowledge,

with its multiple gaps, calls upon us to define a vision that will help us prepare the appropriate points of entry to the requirements of Arab knowledge as it now is. In this regard, we believe that the concern for knowledge innate in the Arab renaissance project, and especially in those of its dimensions devoted to cultural enlightenment, is part and parcel of the orientation of this report.

This report adopts a comprehensive vision for an Arab knowledge society. It seeks to build a society in which knowledge is a product of the union of information technology, experience, and the capacity to govern with an eye to the wise use of resources, exploitation of the means available to attain renaissance, and an ability to seize the achievements of human development. The Report adopts a concept of knowledge that is broad enough to encompass the link between knowledge and human development. It seeks to expand options and opportunities available to the individual Arab and to achieve for him or her freedom and an honourable life. Knowledge—whether we are talking in terms of its acquisition, production, indigenisation or deployment—thus becomes a tool and goal for all levels of society equally and involves all of its fields, from the scientific, technical, cultural, and traditional to that of accumulated community wisdom.

THE BASIC FRAME OF REFERENCE FOR THE KNOWLEDGE SOCIETY

The intellectual frames of reference and philosophical underpinnings that encompass the system of fundamental assumptions underlying the reports of international organisations on the knowledge society must be made explicit, since these establish the latter's goals, indicators, and working strategies. Even if these reports are, on the whole, issued in a neutral language, rely on quantitative methods, and are careful to benefit in the construction of their data from the

services of seasoned experts and scholars, this is insufficient to give them an objective, neutral stamp, which would, in any case, be hard to achieve. This observation does not imply doubt about the scientific and practical value of the reports of international organisations or reservations about their approaches and results; rather, in order to construct a more humane and more cooperative human space, it aspires to shed light on the "relativity" of their results and conclusions at a time of increasing interdependence between states and societies, and of burgeoning questions about human co-existence dedicated to constructing a human space that is more humane and cooperative.

An understanding of the frame of reference of such reports and studies allows us to grasp messages that are not always clearly expressed, as well as to benefit from their data. Since the World Bank's 2002 report on the knowledge society, its 2007 report on the knowledge economy, the 2005 UNESCO report *Towards Knowledge Societies*, the 2003 Arab Human Development Report, and other reports issued during the 1990s on the subject of knowledge and development have taken as their starting points particular theoretical perspectives based on certain philosophical frameworks and methodologies. Further, these reports have relied on similar data and comparative indicators to address the subject of knowledge performance in our age.

The introductions, conclusions, and action plans of reports issued on the subject of the knowledge society, whether by the World Bank or the United Nations and its educational, cultural, and scientific institutions, may be read as efforts to deal with the predicament brought about by the lexicon of economic analysis that remained in use after the end of the Cold War. Important efforts have been made by scholars and experts to coin new terms that go beyond the ideological positions that continued to describe world economic conditions in terms of the crises created by global capitalism. The theoretical

side of their work has assumed various dimensions. The most prominent of these has been the construction of topics to diagnose the dilemmas of our world, important theses of these has been based on various topics, such as the environment, gender, world peace, issues of health and nutrition. These and others once appeared under other labels and today refer to new research areas related to comprehensive human development.

Since it is clear that these reports belong to a new tradition of research and writing, those negative positions that totally reject them may not be justified. The heated political and ideological positions opposing these reports are for the most part based on pre-conceived stances and may not be of value in advancing intercommunication with the world, its institutions, and the reports issued by these institutions. This in no way, however, means that disciplined criticism should be set aside, for the latter seeks among other things to play a role in deepening the dialogue, developing the discussion, and enriching the approaches and outcomes of these reports by using local and idiosyncratic comparative indicators and analytical tools. This helps to develop concepts and expand significations.

The reports of international organisations on the knowledge society may be approached with this positive outlook. Thus, the aim becomes that of modifying and developing their methodology and results in light of the actual situation of Arab knowledge performance and Arab attempts to bridge the information gap and gain access to the information age. Critical examination of the reports of international organisations on the knowledge society reveals that they are informed by at least two main frames of reference:

1. A positivist tendency in which the quantitative orientation dominates. This orientation limits the comprehensiveness of the phenomena under discussion, as well as subjecting the development and knowledge trajectories to a notion

Important efforts have been made by scholars and experts to go beyond the ideological positions that describe world economic conditions in terms of the crises created by global capitalism

of technological determinism, with no alternative to its results and decisions. This position makes the triumph and hegemony of technology the symbol of an age still in fact in the process of formation.

2. The political modernisation trend that invokes the bases and principles of international human rights charters. This tendency is inadequate and ridden with many contradictions and paradoxes (Ruqayya al-Musaddaq, background paper for the Report, in Arabic).

Before clarifying the contradictions in these systems of reference, it is important to emphasise that the goal of this critical review is not to diminish the value of these reports, but to uncover their limitations and highlight their shortcomings, particularly in aspects related to Arab society, in order to advance the Arab theoretical discourse around the establishment of the knowledge society.

THE POSITIVIST TREND: THE QUANTITATIVE ORIENTATION

The contemporary knowledge scene revels in the positivist mindset that is drawn to science and technology. This positivist trend is undoubtedly a powerful continuation of the ideas of the Renaissance and Enlightenment philosophy. However, the developments affecting the state of the world today warrant caution with regard to its general drift, with its optimistic and self-confident attitude towards the course of history, no matter what claims may be made as to its capacity to assist man in his dealings with nature and life. The most conspicuous characteristic of the positivist mind set is its resort to quantitative methods in its epistemological paradigms. Although these methods allow for neutral and objective examination of phenomena, the final conclusions often support predetermined intellectual preferences. The greatest shortcoming of the prevailing positivist trend in the literature of international institutions is its

concentration on the economic dimension and its view of the Western experience with its underlying values as the exclusive model whose data it then seeks to transform into indicators by which to measure what happens in the rest of the world.

An objective historical view of the knowledge society cannot be limited to observations on the relationship between knowledge and technology or discussion of knowledge-based economies. In the current state of knowledge, we assume that discussion will be more comprehensive and will turn to the subject of the knowledge society in those of its dimensions that are not blind to the importance of a critical perspective to the construction of knowledge and the realisation of innovation. If we cannot construct knowledge from a critical perspective, we will continue to describe and quantify phenomena without reaching a diagnosis of the deep-seated weaknesses that produce the current state of Arab knowledge (al-'Arabi al-Wafi, background paper for the Report, in Arabic).

This critique does not question the value of the epistemological paradigm of scholars who have developed several methods and tools for studying new phenomena and have sought to illuminate many of their aspects. Nevertheless, we must be aware of the implicit ideological dimensions in reports by international organisations, and we urge that their results and recommendations be read with caution.

For example, the indicators for an information and communications technology (ICT) index proposed by the World Bank reveal that we are faced with an exercise in quantification that pays not the slightest attention to the background of the quantitative data. The index is measured on the basis of population counts, income levels, and level of spending. Some scholars have pointed out the shortcomings of these indicators, believing that they give insufficient importance to the fruits of economic and social knowledge, and

pay too little attention to the qualitative dimension. Education indicators, for example, concentrate on the number of students enrolled and not on other, more knowledge-relevant aspects, such as the quality of education available from instructors, what qualifications the latter hold, and the presence or absence of buildings, science labs, and so on (Mohammed Bakir, background paper for the Report, in Arabic).

The paradigms that give rise to these indicators, with their operational character, claims to objectivity, and technological determinism, could be useful in the societies in which they were constructed. These paradigms may acquire a limited efficacy outside their historical context. However, they must be modified and augmented so that they become suitable for a new unit of analysis related to a new reality, such as that of the Arabs. This gives the methodology a universal character, since testing it in varied research areas would provide an occasion to reconstruct or create alternatives that meet new requirements. Reports issued by international organisations have not been able to rid themselves of this positivist mindset, and the indicators and concepts devised within these reports are not merely vessels to store everything and nothing. Similarly, the fact that we can measure the knowledge gap quantitatively does not exempt us from a more profound diagnosis of knowledge performance in the Arab world, since the prevalence there of systems of reference that have no connection to what happens in the world around them compounds the knowledge gap. This is what makes the challenges of closing the knowledge gap in the Arab world complex and multiple. We do indeed most urgently need to close the existing knowledge gap. However, we also need to shake up what is stagnant in our knowledge and rock the pillars of our unquestioned convictions and our preconceived notions in such a way as to help us to go beyond our text-bound, traditional epistemologies. When this

happens, the broadening of the orbit of the study of knowledge, especially from a critical perspective, may become one of the means of expanding our options in life and establishing a knowledge society fulfilling our aspirations for our societies.

THE POLITICAL MODERNISATION MINDSET: EVOKING HUMAN RIGHTS

The second major system of reference guiding the construction of knowledge society reports, emerging at the end of the last century and the beginning of the third millennium rests on the premises of a liberal and neo-liberal political modernisation.

This becomes clear when we study the principles of the World Summits on the Information Society (Geneva 2003, Tunis 2005), especially in their strong link with the "human rights" vocabulary as established in the Universal Declaration of Human Rights of 1948 and the Covenants on Economic, Social and Cultural Rights of 1966 and 1976. The 2005 UNESCO Report *Towards Knowledge Societies* springs from the same perspective as portrayed by its appeal for adherence to the principle of "the right to knowledge" and its defence of the principles of tolerance and solidarity.

Some human rights issues are framed in the context of a defence of the values of transparency and democratic reform as a pre-condition of the enabling environment that fosters knowledge. In this way, the right to knowledge, access to information, and difference of opinion are transformed into unquestioned requirements for the establishment of the knowledge society and the improvement of knowledge performance (UNESCO, 2005, in French).

Declarations of principles defending the rights to development, knowledge, and access to information have, however, nothing to do with what actually happens on the ground. They are no more than declarations of intent and hope cast in

We need to shake up what is stagnant in our knowledge and rock the pillars of our unquestioned convictions and preconceived notions

Access to information, and difference of opinion are unquestioned requirements for the establishment of the knowledge society

the language of solidarity, cooperation, and common destiny (Cenre Europe-Tiers Monde, 2007, in French). What controls actions in reality is the logic of power and domination, whose rigidity the contradictions innate in the knowledge society have made more extreme. There is no longer any hesitation over declaring the power of knowledge or of its possessors, since the knowledge gap has become synonymous with poverty, weakness, marginalisation, and, subsequently, dependency and subordination.

The political modernisation mindset is distinguished by its ability to incorporate political values linked to the neo-liberal model. It converges with political and strategic choices supportive of the interests of the strong, of those who possess knowledge and deploy it to run the world. This "neo-liberal" view does not hesitate to declare a pragmatic goal with respect to the conclusions fostered by such reports, thus confirming the incompatibility between the economic policies of the knowledge economy and the political goals of the democratic

political project, which, when examined, turns out to be the maker and organiser of the network of institutions and laws that rule the world.

In our bid for economic and human development in the Arab world, we cannot be content with the benefits of the "invisible hand" of the market—the hand that is the common factor in many reports on development and knowledge. The invisible hand may do its work through strangulation, which, where knowledge is concerned, means cutting off its life-blood. This is all the more grave given that life is interdependent with knowledge.

The global financial crisis that began in late 2008 showed that financial choices based on the invisible hand of a completely open market with no effective societal supervision necessarily have negative effects on the various enabling environments and existing markets. The choices by which the future of global financial institutions is determined reveal in turn further dimensions of the crisis.

Thus there are innumerable difficulties in bridging the knowledge gap in the Arab

---

BOX 1-5

Building the Information Society: a global challenge in the new millennium

Excerpts from the 2003 Geneva Declaration of Principles on Building the Information Society

In the Declaration of Principles of the 10-12 December 2003 meeting in Geneva, we read:

Our challenge is to harness the potential of information and communication technology (ICT) to promote the development goals of the Millennium Declaration, namely the eradication of extreme poverty and hunger; achievement of universal primary education; promotion of gender equality and empowerment of women; reduction of child mortality; improvement of maternal health; to combat HIV/AIDS, malaria and other diseases; ensuring environmental sustainability; and development of global partnerships for development for the attainment of a more peaceful, just and prosperous world. We also reiterate our commitment to the achievement of sustainable development and agreed development goals, as contained in the Johannesburg Declaration and Plan of Implementation and the Monterey Consensus, and other outcomes of relevant United Nations Summits.

We reaffirm, as an essential foundation of the Information Society, and as outlined in Article 19 of the Universal Declaration of Human Rights, that everyone has the right to freedom of opinion and expression; that this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers. Communication is a fundamental social process, a basic human need and the foundation

of all social organisation. It is central to the Information Society. Everyone everywhere should have the opportunity to participate and no one should be excluded from the benefits the Information Society offers.

We are aware that ICTs should be regarded as tools and not as an end in themselves. Under favourable conditions, these technologies can be a powerful instrument, increasing productivity, generating economic growth, job creation and employability and improving the quality of life of all. They can also promote dialogue among people, nations and civilisations.

We are also fully aware that the benefits of the information technology revolution are today unevenly distributed between the developed and developing countries and within societies. We are fully committed to turning this digital divide into a digital opportunity for all, particularly for those who risk being left behind and being further marginalised.

We affirm that development of ICTs provides enormous opportunities for women, who should be an integral part of, and key actors, in the Information Society. We are committed to ensuring that the Information Society enables women's empowerment and their full participation on the basis on equality in all spheres of society and in all decision-making processes. To this end, we should mainstream a gender equality perspective and use ICTs as a tool to that end.

---

region, greatest among them that the bridging of this gap hinges on a sharing of power. The appeals for solidarity, cooperation, and joint action in the conclusions and data of these reports may be nothing more than a mask to obscure the real face of power, which in fact creates and widens the knowledge gap (Centre Europe-Tiers Monde, 2007, in French). Reading Chapter 10 of UNESCO's 2005 report on "The Renewal of Democratic Practices in Knowledge Societies," and Chapter 9, which calls for "Linguistic Pluralism, Strengthening Cultural Diversity, and Sharing Knowledge," we see the distances that are opening up between report discourses and the reality of the situation in countries of the South, including the Arab countries. At the same time, the thickness of the walls that separate knowledge from the external mechanisms that create the knowledge gap and the meagreness of the Arab knowledge performance become apparent.

This does not mean that we are calling for an adoption of the values of others, or arguing that we should become dependent on and compliant with the wishes of power. It does not mean what Ibn Khaldun called "imitating the conqueror." What we mean first and foremost is the incorporation within our own thinking of the knowledge that is available today to all mankind ('Abdallah Al-'Urawi, 1996, in Arabic), or, in other words, the values of knowledge and scholarship and the fundamentals of policy, economics, and management. In this last sphere, specifically, we believe that openness to the world is an expression of the desire to achieve reconciliation with our historical identity and the world and to attain the human development to which we aspire.

The battle over political modernisation continues under various guises, just as the values of enlightenment and reason are still embraced to varying degrees in the majority of Arab countries, as a way to build a political discourse more faithful to the values of reason, justice,

and balance (Kamal 'Abd al-Latif, 1997, in Arabic). These are the shared values whose general principles all of humanity tries to reconstruct, in a spirit of agreement over the importance of interdependence, consensus, and mutual assistance in international relations. At the same time, the necessity of benefiting from the new realities to allow the emergence of the knowledge society cannot be overlooked. Using the tools that brought about the knowledge revolution, declarations of principles and intentions can be converted into deeds and action, not simply in order to bring about political modernisation in Arab society, but to achieve a form of political modernisation that is reinforced with solidarity and cooperation worldwide.

PROBLEMATIC ISSUES OF THE KNOWLEDGE SOCIETY

As a reality still in process of formation, the knowledge society, with all its components and programmes, raises many theoretical issues and practical questions, requiring that visions be formed and positions taken. If the ICT revolution that helped prepare for the birth of new economies and drew the borders of knowledge in a new society is described by most as "the soft revolution," the softness was merely the superficial outward form of actions intended to carve out new directions in a rapidly globalising world. Faced by the "softness" of the symbols used to penetrate the worlds of the image, of information, and of the market, to manage them in new ways, and to lay the foundation for a new society, we must pay attention to the problematic issues that have arisen and will continue to arise. We must look at the issues consequent on this revolution, particularly given that their results affect us all in our concern to enter the knowledge society and experience its advances and achievements.

We should not delay dealing with problematic issues raised by the knowledge society, whether local or global, on the pretext that most Arab countries have not

We are affected by everything that happens in the world since we are an active party— even though, as Arabs, we may be merely second or third level actors

We should not delay dealing with problematic issues raised by the knowledge society, whether local or global, on the pretext that most Arab countries have not yet joined this society

yet joined this society. However prepared or unprepared the Arab region may be to indigenise the knowledge society, its likely repercussions are a pressing concern. We are affected by everything that happens in the world since we are an active party—even though, as Arabs, we may be merely second or third level actors—to events that have already unfolded, as we shall be to others that have yet to unfold. This in and of itself gives us numerous opportunities to upgrade our knowledge systems and to begin dealing with the issues of the new society.

Given the number of problematic issues that have come to the fore as the main features of the knowledge society begin to form, we have decided to focus on a limited sample of the former that are connected to the knowledge society and its relationship to identity, the Arabic language, new ethical values, and the performance of Arab women in the knowledge society. In addition, we will deal with political participation, while not ignoring the topic, central to our age, of technology itself. Clearly, in these problems there is an interaction between the local and the universal, the private and the public. The justification for this selection of issues is their link, as a whole, to the Arab reality and our wish to develop an objective discussion leading to the theoretical preparation that must accompany the enabling environment that will permit the Arabs, to bridge, in word and deed, the knowledge gap and to enter into epistemological intercommunication with the rest of the world (Kamal 'Abd al-Latif, 2003, in Arabic).

THE KNOWLEDGE SOCIETY AND EXPANDING POLITICAL PARTICIPATION

With regard to this particular problematic, we seek to compare the current political changes in the Arab world, directing our gaze at political participation, hoping in so doing to highlight the importance of the political factor in bringing about enabling conditions of the knowledge society. We

point out that the political reform project remains a *sine qua non* for societies that are seeking, to different degrees, to build environments supportive of the knowledge society. At the same time it is clear that many of the values and achievements of the knowledge society are inseparable from freedom and the construction of social and institutional contracts in support of a state in which individual rights and the rule of law are preserved. Attempts to achieve these goals and aspirations proceed at different rates in most of the Arab world, and have done so for decades.

We cannot favour the political democracy project above all others, for on the political scene globally we find that this project in its various forms has raised many problematic issues that require us to take a new look at the democratic political system. Furthermore, in many parts of the world, including the Mashreq (eastern) Arab countries, certain appropriations of language used within the international conflict and that concern the need to establish "societies dedicated to freedom, democracy and human rights" do not conform to the principles of political modernisation and the spirit of the democratic message (Kamal 'Abd al-Latif, 2008, in Arabic). Rather than respecting difference and diversity, they satisfy themselves with making political reform into a pre-packaged technical prescription. Recent and more distant historical experience has not seen it as such: the shift towards democracy in numerous cases was the outcome of lengthy experience and the product of much laborious spade work to prepare the road for democracy.

In the Arab region, the legitimacy of democratic reform received its highest official recognition at the 2004 Tunis Summit, when, in their closing statement, Arab leaders announced a consensus on the need to expand democracy to enhance participation in decision-making and respect for human rights. In addition, an observer of Arab political life may see the political disputes of political parties and civil society institutions as embedding

The political reform project remains a sine qua non for societies that are seeking to build environments supportive of the knowledge society

In the Arab region, the legitimacy of democratic reform received its highest official recognition at the 2004 Tunis Summit

the values of democratic political reform in varied ways, and these efforts have recently borne fruit in the form of calls for agreement on peaceful democratic transformation. None of this, however, excludes the possibility of disingenuousness, meaning that the discussion is carried on with two sets of logic and two languages, the disingenuous language helping in turn to build other types of deception. This issue has become more acute with the entrance of certain political forces that appropriate religious slogans for the service of politics.

In addition, approaches that jump to unjustified conclusions about Arab society do not fully comprehend that democracy in the West took shape over a long period of historical experience and, in fact, is still reshaping itself to address the challenges posed by the knowledge society. This means that in order to continue to defend political reform, more efforts must be made to achieve a free society, since it is the cornerstone of the knowledge society (Markaz Disarat al-Wihda al-'Arabiyya, 2000, in Arabic).

Some may have reservations about the relationship between knowledge and freedom, since this link is not always required. In many countries that have reached the threshold of the knowledge society, we find signs of a lack of freedom. However, for the Arab region freedom is an inescapable condition if many of the shackles that prevent the blossoming of innovation are to be removed and the way prepared for the knowledge society (Ruqayya al-Musaddaq, 1990, in Arabic).

Expanding the ambit of freedom will help Arab societies to indigenise the mechanisms and values of the knowledge society. In the wake of the failure, especially in Egypt, of the late nineteenth- and early twentieth-century renaissance project, and that of the second generation reformist vocabulary that took shape after the 1967 defeat, the political reform movement in the Arab region has been constructing for two decades past a third generation reformist vocabulary. As of the end of

the last century, the Arab political elite has been moving towards the promulgation of a new vocabulary, through which they hope to build an agreed-upon democratic transformation that will transcend the defeats and shortcomings so prevalent in many areas of Arab political life.

If some global paradigms indicate lack of an organic, causative link between political reform and establishment of the knowledge society, this does not mean that political reform is not necessary. In fact, it serves as a catalyst for the processes of innovation and allows them to appropriate for themselves new values and advances. Indeed, we might even go so far as to say that freedom is the other face of knowledge (see Chapter 2).

The UNESCO Report *Towards Knowledge Societies* stressed the importance of revitalizing the democratic public spaces in knowledge societies. It revealed that, in the view of the report writers, the dilemma of democratic reform is a universal one, since reform of the democratic political system is a challenge to all–a challenge that includes that of how to ingrain their experiences in democracy (UNESCO, 2005, in French).

In this context, the report underscored the importance of technological democracy, pointing out that the benefits of information technologies must be made use of in political practice. This position raises significant doubt about the compatibility of democratic government with post-modernist societies, some scholars believing that the age of democracy in Europe has only a short life ahead of it. They base this position on the internal and external contradictions of the so-called democratic countries, in addition to the decline of traditional moral authority and the restrictions placed on freedoms within these societies after the events of September, 2001 (Saint Mary, 1999, in French).

The preceding comments pertain to the developed world. In the Arab world, the problem primarily concerns the need to continue to expand the package of freedom

In order to continue to defend political reform, more efforts must be made to achieve a free society, since it is the cornerstone of the knowledge society

The Arab political elite has been moving towards the promulgation of an agreed-upon democratic transformation that will transcend the defeats and shortcomings of Arabic political life

Freedom is the other face of knowledge

in its basic elements ('Azmi Bishara, 2007, in Arabic). The 2005 UNESCO report, dealing with the democratic question in the Arab countries from this perspective, stresses the importance of continued efforts to achieve political reform. This makes it clear that demand for reform in the Arab world cannot be avoided. Given the many challenges it has to face, it will be a complex battle.

THE KNOWLEDGE SOCIETY AND IDENTITY

On-going global transformations show synchronicity between the formation of knowledge societies and the appearance of globalisation. We cannot separate globalisation from the information explosion and the latter's economic and knowledge ramifications. Today's

globalisation mechanisms are governed by network systems and directed by the Worldwide Web, which is overseen from afar by global financial institutions. These institutions seek to regulate and adjust the Web so that its equilibrium is not disturbed, particularly since, in the eyes of the neo-liberals, the state has become a hindrance to unfettered market activity (Albert, 1991, in French).

Globalisation is dependent on information, the foremost actor in on-going global standardisation. The new knowledge-based economy does not operate in a single place and is not restricted to one site, and it is this phenomenon that links globalisation and information. However, this linkage, in which major forces that own the coffers and symbols of knowledge play the central role, places new challenges before societies

BOX 1-6

Knowledge in an Age of Globalisation

Today the "power of knowledge" intersects with the "the impact of universal cultural dissemination," for knowledge, if it is not itself culture, is most certainly a part or aspect of it. As everyone is aware, for years, "globalisation" and "the effect of globalisation on cultural identity and cultural personality" and especially on "Arab culture" and its particular characteristics have been on every tongue.

There is no doubt that the "universal cultural system" propagated by globalisation through advanced media tools that place everyone at the centre of the world is a strong wind knocking at our doors, blowing through the chambers of our houses and of our minds, and awakening our aesthetic and emotional sensitivities. Our authors, scholars, and media have gone to great lengths in describing the phenomenon and monitoring its influence and effects. Naturally, some of us have praised it from a neo-liberal point of view and others have criticised it from the standpoint of religion, cultural tradition, or nationalism. The rational, realistic view, however, clearly tells us that in the framework of the current age and in the context of our political, economic, and cultural circumstances, we must "live" this reality and be at home in its midst whether we like it or not. However, it is imperative that we assimilate to this "living" critically, with open eyes. The most important thing about such an assimilation is that we realise that the universal cultural system that accompanies globalisation rests on a neo-liberal vision shaped by a host of ethical, social, political, and economic values spread by forces of communication and modern information media across borders and through local spaces, reformulating in so doing our cultural existence and special identity. The values of freedom, democracy, multiculturalism, and human rights established by the universal cultural system, in which some of us see an overwhelming danger to our culture and our distinct identity, represent this danger only with regard to one particular understanding of this cultural

identity and one pattern of assimilation of these values. The truth is that contemporary Arab culture is not completely homogeneous, but has numerous cultural systems, including the religio-cultural, the national-cultural, and the liberal-cultural. The first is epitomised by the "Salafist" view, which emphasises its incompatibility with universal cultural values. The other two systems, however, tend towards conditional acceptance of aspects of the universal cultural system. Believers in "cultural Islam," Muslim and Christian Arab nationalists, and humanist socialists—the largest groups of secularists and liberals—willingly accept the basic principles of this universal culture, with occasional reservations. In this regard, the belief prevails that what all Arab spaces lack is specifically these values that the universal culture claims it alone advocates. The truth is that the main difference between the globalised neo-liberal space and the Arab space in all its manifestations centres on questions of freedom and utilitarianism. It is these two principles, which dominate the philosophy of the universal culture, that generally appear in Arab contexts in their rough, overzealous (here I mean "extreme") form. It is possible to reorient these principles, rethinking the meaning of freedom and turning the individualistic overtones of utilitarianism into a more collectivist, more social connotation of "interest." In other words, we could change from "expedient individualism" to "interest-oriented community." The concept of democracy—one of the most salient of the values that the universal cultural system claims for itself—could also be channelled in such a way as to mean a "collective" democracy in keeping with the requirements of Arab societies rather than those of the liberal democracy that is suited to the new capitalism in the American-dominated West. This much needed transformation has already attracted a substantial group of intellectuals in the liberal West itself.

Source: Fahmi Jad'an, 2002, Riyah al-'Asr, Al-Mu'assasa al-'Arabiyya lid-Dirasat wal-Nashr, Beirut, pp. 16-18.

that occupy the lowest rung of the indices and indicators of the knowledge society. Manuel Castells addresses this matter, taking as his starting point the fact that the network age generates new patterns of knowledge-related conflict, patterns that are caught between the logic of identity and the unchecked and explosive logic of information (Castells, 1998, in French; Nur al-Din Afaya, background paper for the Report, in Arabic).

It is true that the conflict continues, at its deepest level, to be over wealth and power, but it has further complex manifestations, including the conflict over information, identities, and cultures.

The confrontation of cultural identities in a rapidly globalising world requires us to clarify certain phenomena, for Arabs are a party to this many-fronted battle within a quadripartite globalisation process that consists of the following trends:
(1) continual expansion of information capital,
(2) rapidly paced evolution of technological discoveries,
(3) the desire of political powers to control the world, and
(4) the insertion of the world into a single cultural mould.

The information technology revolution supports these trends and choices that seek to take ownership of knowledge, power, and influence. The question to consider here is how can national culture and mother tongue be preserved; how, in fact, can we rethink the meanings of identity in the face of the spate of material from networks promoting informational and economic uniformity whose trademarks and cultural icons have filled the cities, and the even villages, of the world? Before we answer, we should point out that in the view of some to talk of identity in an era that recognises only the logic of competition, profitability, and increased production is to dream, or indulge in nostalgia. This is an era dominated by a search for architectural plans for markets yet to be built and the goods to fill them and for the accumulation of further assets

in the chain of an information economy that has exceeded all the previous century's expectations for the material economy.

Current uses of the concept of identity in the context of current conflicts show how ambiguous the word is. It is a term used frequently in times of war, when the parties to the conflict need to give each other well defined features in preparation for the confrontation. Historical events, however, indicate that there is no closed, complete identity. A pure identity is merely a fantasy, since market logic requires acceptance of a degree of the standardisation that shapes the destiny of the world (Kamal 'Abd al-Latif, 2003, in Arabic). Here, the world faces a paradox. At their conferences and meetings, international organisations adopt the vocabulary of solidarity, sharing, and respect for identity and difference. They explain that diversity should be seen as a source of wealth and employ a lot of other similar vocabulary useful for dealing with the problematic issues of identity and globalisation. In contrast, the knowledge-based economy and the information

The knowledge-based economy and the information revolution fiercely and destructively permeate all local cultures and economies

Historical events indicate that there is no closed, complete identity. A pure identity is merely a fantasy

revolution fiercely and destructively permeate all local cultures and economies. Are we dealing with a smoke-screen designed to conceal the interests that govern international relations?

It appears that, in contemplating how best to deal with the information age, we cannot set aside the principle of benefiting from the new technologies. This thinking is likely to construct a defined space in a world governed by institutions with the capacity to transcend hopes and dreams and to use the missteps of the past to build the present and produce a future that is more open to the advances of human knowledge, both present and future (Djait, 1978, in French).

To summarize, all discussion of the repercussions of the knowledge society on Arab culture and identity overlook the fact that the knowledge society essentially requires rational economic management and relies on a social structure supported by a contemporary culture, as well as great capacities of intercommunication with the outside world. Can the Arab region enter the knowledge society on this basis? Can it grasp that buying the technologies of luxury with money does not create a knowledge society and does not lay the foundations on which an enabling environment capable of creating a knowledge-based economy can be built? The battle over knowledge in our societies is a multi-layered, all-out struggle, which requires above all greater indigenisation of the notions of reason, history, enlightenment and critical thought.

THE ARABIC LANGUAGE AND THE CHALLENGES OF INFORMATION TECHNOLOGY

What has been said about identity applies equally to the Arabic language, with which it is interdependent. Arabic's continuing inadequacy with regard to the challenges of the knowledge society, particularly in the area of information technology, results in linguistic isolation that reveals the powerlessness of linguistic media to

develop appropriate tools for work and production.

Two positions may be identified with regard to linguistic reform. The first is the "nihilistic" position, which assumes the death of local languages and cultures as a result of globalisation. This ignores the importance of linguistic and cultural diversity in a complex world with contradictory interests and goals. Indeed, it fails to take in that the supposed universality is subject to all parties playing a role in its construction. The second issue is the "political and ideological debate" over the state of the Arabic language. This is a debate that generally fails to address the heart of the subject, which is the state of educational institutions. It also ignores the state of language teaching and the competence of teachers and students in the areas of communication, expression, and writing. For this reason, the debate tends towards the adoption of political positions based on emotion and incapable of visualizing the fate that awaits the Arabic language in the absence of a defined and publicly announced linguistic strategy.

The reality of linguistic pluralism in our society includes inherited features linked to our history and accumulated experience of dealing with the problematics of the Arabic language. To ignore what this has cost us will make it doubly difficult for us to initiate a programme of resolute reform for the Arabic language that will equip it to join the knowledge society. In creative languages, the rules are not transformed into hindrances. On the contrary, these rules are likely to generate new ones to replace antiquated matrices through the renewal of the linguistic structures that innovation calls for. This is something that has not happened in the history of Arabic to date. Modest modifications in the practise and writing of Arabic have been made starting from the time of the Arab renaissance. Nevertheless, the classical language has continued to be generally content with values and vocabulary preserved from

the Middle Ages, as if all that has happened and is happening in the development of knowledge and the world concerned neither ourselves nor our means of intercommunication with the world and its new products (Sa'id Yaqtin, background paper for the Report, in Arabic).

In the last century, the Arabic language made tangible advances that played their part in the development of written, auditory, and visual media with the construction of new forms unknown to our old linguistic system. The increased volume of books and other printed media, the satellite channels, broadcast stations and other media have given expression in Arabic new abilities to grasp subjects and approximate them with new linguistic mechanisms. Text books, movies, and Arabic novels have also played important roles in expanding linguistic sensibilities, enabling them to translate contemporary psychological and social emotions, feelings, and trends.

In the area of informatics in Arabic, it is now possible to find software that offers an electronic library with edited encyclopaedias and books, as well as software teaching the Arabic language for different age groups. These positive indications are no excuse for the continuing decline of the Arabic language, which faces several challenges posed by information technology and the knowledge revolution. The question of whether the Arabic language can confront the challenges of knowledge globalisation is addressed in Chapter 4.

Those who see language as a closed, self-sufficient system confuse the rules for a specific stage of development of a specific system in a language with the way in which that language is used to produce and create knowledge, to create new rules appropriate to its evolving course, its shifting system, and its self-renewing symbolic reserves. The sentimental and the static non-historical views of language encourage the evaluation of a language according to criteria of perfection. We believe it is important to isolate and group these two views together, since both play a

role in the dessication and mummification of the language.

The sentimental position on the language comprises a group of epistemological values, such as its absolute perfection, and a closed rule set. These require examination. Both positions ignore the fact that Arabic, like all languages, develops, declines, and is affected by the same incidental transformations that have affected cultural media and symbols throughout history.

The problems of the Arabic language are due to the neglect that it has experienced in recent decades, since most Arab states suffer from a lack of a clear linguistic policy aimed at reforming linguistic performance. Arabic will not regain its position until a linguistic reform policy takes shape that allows it to exercise its proper role in administration and economics, in commerce and contracting, and in all the other areas of modern life, and until we fashion within it the determinants of our existence in a changing world (UNDP, 2003, in Arabic).

If we take language to be the vessel that preserves and conveys culture and knowledge, we must also believe that the problems of language cannot be solved by improvisation or in haste. First and foremost, they require inventive, innovative construction of knowledge-related options. After this we can proceed to institution-building and the development of programmes, leading to the accumulation of experience and expertise in developing the Arabic language. This is a particularly pressing challenge since we live at a time when languages that are not in harmony with the mechanisms of innovation, production, and development are slated for oblivion. Today these mechanisms are a prominent feature on the universal linguistic landscape, since, while four thousand languages compete in the world, only fourteen enjoy an effective, productive presence in the universal language network (UNDP, 2003, in Arabic).

Challenges to the Arabic language have been exacerbated by the information revolution and easy access to the highways

The problems of the Arabic language are due to the neglect that it has experienced in recent decades, since most Arab states suffer from a lack of a clear linguistic policy

The problems of language require inventive, innovative construction of knowledge-related options

of the knowledge society. Its current reality not only requires growth and development, but the building of new languages within the language as well, as with all languages that play a creative and interactive role in the knowledge society. This issue may also have a political dimension, in addition to the historical and structural givens that with the passage of time have become part of the structure of the language itself. These call for serious critiques that can move us from language to ideas, or, in other words, to a critique of petrified ways of thinking (see Chapter 4).

Linking the Arabic language with the knowledge society strengthens its position and enables it to develop its media, symbols, and systems (Nabil 'Ali and Nadiya Hijazi, 2005, in Arabic). The history of the formation of Arabic tells of innate capacities that we must now release in order to tear down the barriers that the language has tended to turn into absolute norms. These two facets—the language's innate capacities and the technologies of the knowledge society—provide the opportunity for Arabic to overcome the stagnation that dominates it. Both call for conscious effort, inspiring vision, and a

comprehensive strategy. This is a political issue and, at the same time, a technical choice to be confided to specialised and qualified people, who are required to put in place new rules and mechanisms in keeping with the requirements of the knowledge age. There can be no doubt that success in this realm is possible, so long as attention is paid to the exigencies of the age and the issues of change posed by the knowledge society (see Chapter 6).

THE KNOWLEDGE SOCIETY AND ARAB WOMEN

In comparison to their situation in society in the early part of the second half of the twentieth century, Arab women have registered advances. These gains are still not commensurate, however, with the actual role required of them in society. Nor are they fully in accord yet with the values of the knowledge society.

The most obvious example of the gap between the status of Arab women and men in the knowledge society is the high illiteracy rate among girls and women, as well as the low rate of female educational enrolment compared with that of males, especially in higher education (UNDP, 2005, in Arabic).

It is a fact that the Arab presence in the knowledge society is still in its infancy and lacks a unified, concrete strategy, and that much energy is squandered because of poor management and the lack of a clear vision and goal. This said, the position of women on this unsteady ladder is still unquestionably lower than that of men. It is vital that a multi-pronged approach be adopted that seeks to bring women further into the knowledge landscape, with efforts on multiple fronts of empowerment to overcome the many problems that leave women at a lower level in society than men.

The 2005 UNESCO Report *Towards Knowledge Societies* raised the subject of the relationship between women and science and revealed the issue of the underrepresentation of women and that

---

BOX 1-8

Women's Freedom is a Key to Many Doors

Giving women the same opportunities as men is basic for women's involvement in the knowledge society. It poses the empowerment of women as an integrated system including law, politics, society, economics, and culture, as a way to end the multi-dimensional digital divide and to establish the conditions needed for the assumption of citizenship on the political, economic, social, and cultural levels. That we recognise education as a fundamental driving force of the knowledge society should not lead us to restrict empowerment of women to this critical sector. Education can in fact play that role only if we deal with it as a right and a freedom that expands to and intersects with, not only economic, social and cultural rights, but also civil and political freedoms. It is precisely

these expansions and intersections that open the door to the enjoyment of education as a right, one that is in effect a debt owed to the individual by the state under the rubric of "rights and obligations," and a freedom to be enjoyed at the same level as those of choice and conduct and that falls under the rubric "freedom—independence." This can only happen through empowerment considered as a societal act in which the legal, political, economic, social, and cultural aspects of life intermingle. The active parties in this effort cannot be limited to civil society organisations concerned with women's issues but must include all institutions, be these political parties, trade unions, or even government bodies and international organisations.

Source: Ruqayya al-Musaddaq, background paper for the Report, in Arabic.

of various ethnic, religious, and other marginalised social groups, as well as of young people in that area. According to the report, this applies equally to advanced and developing countries, in that the crisis in science education for women may be understood as an indicator of gender inequality. This report called for support of initiatives to make science education accessible to all regardless of gender. Even though the influence of the positivist approach on the report is clear, what matters is that, in general terms, education is an appropriate way to approach the status of women in the knowledge society project. To release the freedom and innovativeness of Arab girls and women requires preparation of numerous enabling environments. These should include those of the family, of societal education and upbringing, and of culture, in order to discourage gender discrimination in its various shapes and foster everything that may encourage women to play a distinguished role in development, knowledge, and public life. Difficult as it may be, this choice may equip Arab society to expand human well-being and give new generations of girls more opportunities to enhance their dignity within society.

Discussion of the status of women in the knowledge society requires an acknowledgment of the complex nature of the subject. Inequality between men and women is longstanding and rooted in history. Ending discrimination means upsetting many delicate balances that have become immutable principles (Kamal 'Abd al-Latif, 2006, in Arabic). To confront this problematic issue requires caution and courage—caution in constructing and analysing the data and courage in building visions and perspectives that are capable of shaking loose the discriminatory behaviours and beliefs which have been perpetuated in society through extant rules, laws, and cultures (Ruqayya al-Musaddaq, background paper for the Report, in Arabic). Let us then proclaim the slogan: "No knowledge society without women!"

To transform this slogan into reality, we must reinforce the successes accumulated by human experience, since education should be considered a central motor in the drive to prepare women to be productive agents in the knowledge society. In recent times, a certain consensus has been arrived at on the importance of education in the life of women and in social revival. Reformist writings of the Arab Renaissance tend to link education and work and their joint role in putting an end to the inferior status of women in our society. In 2007, UNESCO dedicated a report to the relationship between science and technology learning and gender. Its most significant recommendations were:

1. Expanding women's participation in the scientific and technological professions and in scientific research.
2. Raising public awareness of issues related to science, education, and gender.
3. Increasing the amount of data collected in this area in order to support research and construct suitable policies to end existing disparities (UNESCO, 2007a, in Arabic).

In Arab countries, political and cultural pressures and social constraints form multiple and complex restrictions that strengthen tradition and conservatism and create options contradictory to those of justice, equality, and freedom. The effects of these restrictions may be seen on the various structures of society and help delay establishment of the knowledge society, whose material and symbolic options are unlimited. The Tunis Commitment issued by the World Summit on the Information Society (United Nations, 2005, in Arabic) contained a clear recognition that a "gender divide exists as part of the digital divide in society" as well as clear support for gender equality and empowerment of women to overcome this divide.[3]

Women in general, and Arab women in particular, have been subject to much discrimination, since information technology has employed new mechanisms to draw stereotyped, degrading images

In Arab countries, political and cultural pressures and social constraints form multiple and complex restrictions that strengthen tradition and conservatism

Arab women have been subject to much discrimination, since information technology has employed new mechanisms to draw stereotyped, degrading images of women, such as those prevalent in the media and the internet

The Virtual as an Interrogation of the Actual

The French word *virtuel* apparently came into Arabic from the field of optics, where the virtual image meets the actual body in front of the mirror—that image that we assume is at the same distance from the mirror as that of the body and which is assumed to be the source of the rays reflected from the mirror that make us believe we are seeing an image of ourselves.

This carry-over from the field of optics brought with it meanings that are still linked with the concept of the virtual, in that it is closer to the realm of hypothesis, illusion, and imagination, and faces and opposes reality.

The French term, it is true, is derived from the idea of "potential" as contrasted with "actual" existence. However, the virtual is not merely illusion and imagination, or even merely possibility. Virtual is to possible as actual is to real. The possible, according to Deleuze, is ready and waiting to become real; it is in a state of perfect readiness for realisation and is therefore fixed, stationary. The possible confronts the real, but the virtual confronts the actual. For the virtual to become actual it must face difficulties and solve problems; it

must renew and invent. The possible is a composite of solutions, while the virtual is composed of problems . . .

For entrepreneurial work, for example, to become virtual is for the spatial and temporal dimensions of the work to become a permanent problematic, an issue constantly posed, rather than a static condition. Instead, then, of being a solution, these become a problem, or a complex of problems. The entrepreneurial work becomes virtual if its centre of gravity is no longer a stationary group of institutions, jobs, and timetables and turns into an act of harmonization that, in an uninhibited and fluctuating fashion, constantly reorders the spatial and temporal dimensions of the work team in accordance with imposed conditions that are constantly being recreated.

Virtuality, then, is not a shift from a reality to a variety of possibilities and is not *e fortiori* a cancellation of reality. It is a new way of looking at the traditional concepts of definition and identity and of forcibly inserting the possible "into" the existing. It is a convulsion of the actual.

Source: 'Abd al-Salam bin 'Abd al-'Ali, 2008, Fi al-Infisal, Dar Tubqal, Casablanca, p. 58.

Today, at the start of the twenty-first century, our lives are enframed by the growing fusion between man and machine

of women, such as those prevalent in the media and the internet (UNDP, 2005, in Arabic). However, information technology itself can present alternatives to such examples of gender discrimination so long as the environments and institutions exist that guarantee construction of a society of knowledge citizenship built on equal ownership of the power of knowledge, thus placing mankind on the path to innovation and well-being.

INFORMATION TECHNOLOGIES AND VIRTUAL SPACES

We assume that those who call our age the "information age" want to highlight the fundamental role of information technology in the formation of the knowledge society. Certainly the pace at

which science and its technologies have permeated civil societies since the first and second industrial revolutions has reached an extreme in information technologies. At the heart of individual and civil life, and in the knowledge society itself, the result has been uncontrolled outcomes and unimagined prospects.

Today, at the start of the twenty-first century, our lives are framed by the growing fusion between man and machine. We are living in the age of technology and its manifestations *par excellence*, at a point when it is no longer possible for man to dispense with many of technology's advances and achievements. Its overwhelming presence, and that of its instruments and perspectives, embraces all manifestations of production within society. This situation has nothing to do with information technologies and their new and old economies, which in information contracts took on the characteristics of the dominant technical format, whether as foundation or as framework, or in the fields of organisation and the search for markets. Instead, it transcends this specialised sector of knowledge to enter other sectors in numerous areas, such as the environment, mining, and the chemical industry. Today, labor is oriented to constructing more new research spaces employing new methods. Information technologies are applied to the construction of natural disaster early warning systems, biotechnology, genetics, space technology, micro-electronics, new applications of biotechnology in the diagnosis and treatment of disease and desalination, as well as increased agricultural production and energy production and conversion. Man seeks to know and to control nature to achieve human well-being and a life of dignity.

It should be noted here that technological innovation no longer requires prolonged periods of time, as in the case of the first and second industrial revolutions. New technologies allow for speedy development. Through combined efforts, and an appropriate institutional

infrastructure, effort, energy, and resources are saved. What have come to be known as collective laboratories provide prominent examples of such infrastructure. In these labs, the same work is carried out in different locations and the pace of research is facilitated through the use of information and communication technologies, which complement the distributed research efforts. This reduces wasted effort, energy, and resources and enhances the potential for cooperation and complementarity for innovation.

This revolution has brought us high levels of production, as well as continually tearing down the relationships inherited from the first and second industrial revolutions. Simultaneously, it has brought us continuous tension and uncertainty. All that was once solid vanishes like smoke, and new scientific ideas and discoveries become obsolete before they are able to mature and take root.

There are those who believe that technology is merely the application of scientific knowledge. This belief has gained strength through its association with profit, since technology in its current manifestations has been viewed merely as a means to realise specific gains and benefits. For this reason, the importation of technologies is always defended on the basis that they are no more than neutral means to an end. This is not only an Arab way of thinking, it is popular in the West as well, many Western philosophers taking the same position on technology. It is only recently that technology has become a philosophical question in itself: "Technique is a kind of knowing" (Heidegger, 1958, in French). Mechanism, in its contemporary meaning, is not merely an application of science (except in so far as it contains mathematical calculations), but encompasses a certain theory and embodies it. Mathematics is the field of knowledge through which practice took a mechanistic character. Science itself became mathematical only because of its link with the desire for knowledge and control over nature.

Today, therefore, technology has become one of the manifestations of existence, and our age has indeed become the "age of technology." Diverse manifestations spring from the technology that moulds so many of the outward expressions of our lives, most prominent among them the homogenization of life styles and thought, the industrialisation of technological, cultural and tourist activity, the dislocation of place and time, the loss of a sense of closeness, excessive consumption and consumerism, planning and programming, the depletion of natural resources and formation of huge energy reserves. These manifestations and characteristics define the role of technology in standardisation and homogenization, while at the same time revealing the main features of new questions that we are called upon to construct and solve ('Abd al-Salam bin 'abd al-'Ali, background paper for the Report, in Arabic).

We live in the midst of a new technological revolution, whose impact touches the ways in which life and knowledge are organised and has generated an unprecedented efflorescence of knowledge. As we know, digital technology has produced new, apparently limitless means to store knowledge. The Internet has created a revolutionary enlargement of our mental capabilities, as in the fields of memory, representation, and innovation. However, in the opinion of some, increasing reliance on the machine and dependence on it when called upon to remember weakens the memory itself, which maintains its functionality through use. Apprehension is rising in the knowledge society over new forms of technology and their effects on our psychological skills and ability to work.

We cannot separate knowledge from power. The technological boom that created many aspects of "virtual reality" gives those involved new means to control the world. "The United States and Western Europe together own by far the largest share of knowledge technologies and monitor all global systems. They monitor

We live in the midst of a new technological revolution, whose impact touches the ways in which life and knowledge are organised

Technology has become one of the manifestations of existence, and our age has indeed become the "age of technology"

We cannot separate knowledge from power

the financial, economic, media and information systems, the systems by which knowledge and expertise are transferred and armies and military material moved. They monitor strategic points of entry and exit, controlling the global monetary markets, the markets for primary and manufactured goods, the entertainment markets, and the worlds of virtual education; in fact, they are trying to establish a single, universal style for the world in behaviour, clothing, and taste" (Muhammad Sabila, 2007, in Arabic).

We are not portraying here a fantasy octopus. However, in the manifestations of the current and continuing technological revolution we see a world still developing, some of the aspects of which are predictable while others remain to be discovered. Our abilities to see the big picture and project the likely results have become limited in a world changing too fast to respond to. We may need to maintain caution in our relationship with technology in order to succeed in our new relationship with ourselves and with our new tools in a world that we are fashioning. The pace of this world is too fast for us to absorb, and we will become its victims if we do not manage our affairs vigilantly, wisely, and with insight.

THE KNOWLEDGE SOCIETY AND THE LEGITIMACY OF A NEW ETHICAL CODE

The upsurge in technological prowess in human societies has raised a number of complex issues, most significant of them the effect this has had on the system of ethics and the future of societal values. While values systems have interacted with the challenges unleashed by change and development throughout history, they have also restricted the impact of transformations generative of new realities and questions, since processes of adaptation and acclimation must take place before such shifts can have impact on value systems.

Certainly, the ethical question is becoming increasingly complex in the knowledge society. It has manifested itself in the many aspects of life where contradictions and new forms of conflict are rife, such as the question of gender equality, and issues of migrant labor and migration, combating terrorism, violence, corruption, and organised crime. This is particularly the case on the internet, where new crimes such as banking fraud, violations of personal data, copyright violations, and the repercussions of virtual reality, have arisen as a result of permeation by the systems and symbols of the knowledge society.

In addition, the scientific revolution has raised issues about innovations in genetic engineering (UNESCO, 2005, in French), for humanity finds itself confronted by ethical issues that the values of the past have no ways to address or solve (Centre Europe-Tiers Monde, 2007, in French). Environmental ethics, which have become part of our new view of the world (UNDP, 2007c, in Arabic) and the ethics of new knowledge systems call for the rethinking of the concepts of freedom, equality, security, and trust, concepts that in the past had specific meanings and now must be rebuilt to meet the needs of the changes occurring in knowledge societies.

True, there is a consensus among international institutions that seek to influence aspects of these on-going changes to the effect that knowledge societies are linked to the basic system of human values of freedom, equality, justice, solidarity, and respect for cultural diversity. True too, these values are spelled out in successive human rights charters, making them a foundation of the new code of values. Nevertheless, we must ask: Are the significations and appeals to be found in the letter and the spirit of these rights charters enough, or must we strive to include the variables that arise under the influence of the knowledge and information revolution and thus establish values that fit the current reality?

Inherited philosophical meaning in the age of enlightenment awarded a specific

value to the lexicon of ethics, but we cannot think or work at the beginning of the third millennium using eighteenth- or nineteenth-century values. The knowledge society practices constructive transcendence by creating new aspirations that require the building up of codes of individual and collective values in the area of rights, with content appropriate to the transformations taking place on the ground. The disconnect between inherited significations, the information explosion, epistemological transformation, and the mounting revolution in high-precision scientific discovery and the life of humanity requires us to fashion new meanings that encompass the spirit and logic of epistemological change ('Abd al-Razzaq al-Dawway, background paper for the Report).

The need for a new code of ethics for the knowledge society cannot be denied. In 2007, UNESCO released the draft of just such a code. Before we provide any ideas in defence of this new draft and highlight its most important points, we must present an inventory of the most important advances in this area, advances that must be further developed to respond to the challenges and questions posed by the knowledge society (UNESCO, 2007, in French).

The Declaration on "The Right to Development" issued by the UN General Assembly in 1986 represented a qualitative shift in the history of international charters, especially with regard to its support for equal opportunity of access to basic resources such as education, health services, food, housing, work, and income. This Declaration was reinforced by a second document containing the Declaration and Programme of Action of the 1993 World Conference on Human Rights, Vienna. This added to the rights in the first Declaration the recognition of democracy, development, and respect for human rights and fundamental freedoms, which are interdependent and mutually reinforcing.

These declarations were not easy to bring about. More than four decades of deliberation went into their preparation in this form. We must look at the actual indicators that the on-going global conflicts reflect. These data show the transformation of the contents of the declarations into acts. They form a pattern of relationships containing a major paradox—the confrontation between these declarations of principles and their signature, and what actually happens on the ground.

Looking at the harsh struggle taking place on the ground, we may say that promises the international community

Promises of the international community concerning the knowledge society have not kept up with the widening and deepening of the gaps between the North and the South

BOX 1-10

The Genome, a New Triumph for Knowledge

The Genome Project has at its core the tracing and drawing of the information contained by the cell (twenty-three pairs of chromosomes for organisms that reproduce sexually, such as man, and a smaller number for other organisms). These single-cell chromosomes give us the complete story of the organism's characteristics—physical, psychological, and intellectual—and are the basis on which we may make predictions (in some cases with certainty) about the course the natural development of this organism will take. . . .

What makes the Genome Project important is that it can draw the genetic map of a living being in its mother's womb, before it is a complete foetus. The result is analogous to finding the mistakes in the letters, words, paragraphs, and chapters of a recently written novel before the original is sent to the printer's, fixing those that can be fixed and predicting defects that cannot be fixed with available medical technologies.

We are, therefore, at the threshold of a new triumph that will open up vast new prospects for the human race and be the dominant feature of the twenty-first century, surpassing the developments in the natural sciences and related technologies of the previous century...

With this new beginning, we find human societies forced to review their ethical values and economic principles to form appropriate legislation to limit man's excessive aggressiveness on the one hand and to steer these discoveries towards uses conducive to society's well-

being and a better standard of living on the other. Entering the genome age means, in the best case scenario, that a global commercial network will provide increased and improved agricultural yields and remove pesticides from the environment. In preparation for this change, human societies will be obliged to review economic concepts and geo-political boundaries, which in turn may lead to a new understanding of the role of governments and their relationships to individuals, and the role of international institutions. The new genome society will have amongst its goals the treatment of illness before it strikes and the tailoring of medical treatment to the genome blueprint of each individual. This will complement the currently only theoretical capacity to provide the sick person with spare parts taken from his or her own body. Undoubtedly, getting nearer to some of these achievements means a new type of medicine and different medical training, as well as health care of a sort the foundations of which do not yet exist. Increasing longevity and the possible elimination of some of the diseases of aging will mean an increasing burden of elderly people on society and a change in the age map, with collateral impacts on other aspects of life. All of this, of course, is in addition to possible nightmare scenarios—such as the deliberate interference with the human genome map leading to human cloning, with all the scientific, ethical, legal, and even catastrophic, repercussions that that implies.

has made concerning the knowledge society have not kept up with the widening and deepening of the gaps between the societies of the North and those of the South. The problematic of varying rates of development today creates symbolic facts that exercise frightening control over access to knowledge. These facts produce forms of marginalisation, isolation, and suffocation that have compounded and continue to compound the disparity among countries of the world, especially between the wealthy nations and the developing world.

The official position in some developed countries remains ambiguous. It speaks with two tongues and employs double standards. It finds no contradiction in its proclaimed positions and thus helps to create further forms of unequal relationship in the world. This question was very accurately analysed by the 2005 UNESCO report *Towards Knowledge Societies* (UNESCO, 2005a, in Arabic). The 2001 UNESCO Universal Declaration on Diversity considered protection of cultural diversity a human right, calling at the same time for it to be viewed as a moral demand that must be respected.

The advances of the knowledge society raise several issues that must be resolved with Arab participation. Is the world today moving towards becoming a mere victim of the "soft" but overwhelming technological revolution, a revolution that is difficult to stop or divert? In thinking about knowledge societies, will we continue to use approaches and ethical systems that fail to assimilate the changes taking place in the world?

By way of example, the most explosive issue in the area of knowledge society ethics is that of the limits of innovation in biology and the life sciences. Discovery of the genome, today considered one of the greatest advances in science and technology, has prompted some to re-launch "gene selection" in the framework of the "liberal inclination towards eugenics." This has led to consideration of the possibilities provided by biotechnology

and its accelerating breakthroughs for early diagnosis of artificially fertilised embryos before they are implanted in the womb (Habermas, 2001). In his book *Consequences of the Biotechnology Revolution*, Francis Fukuyama deals with the relationship between the new biotechnology revolution and the value system, highlighting the importance of the subject and the necessity of creating concrete foundations to guide it (Fukuyama, 2002).

Collective human effort must therefore be directed towards the development of a code of ethics broad enough to encompass the spirit of older codes. Above all, it must include the new variables brought about by the unprecedented revolution in knowledge areas and modern communications networks. A new generation of crimes and ethical contradictions accompanies the on-going revolution and defines certain of its repercussions. This is evident in many of the double standards that govern international relations, requiring that we work collectively to reach thresholds of harmony and balance that create and guarantee more humane international relations. We must urge that the new ethical framework for knowledge societies advance our hope to build a more flourishing, humane world, founded on values of human solidarity, coexistence, cooperation, and connectedness.

CONCLUSION

It is no simple matter to pin down the concept of the "knowledge society" and its synonyms or to grasp its related concepts. The process of argumentation followed in this chapter has constructed several arguments that have helped us to take a closer look at the concept and its corollaries. We have in the process consciously dispensed with two important facets of the concept of knowledge: first, significations implied by the term "knowledge" that have been inherited from Arab historical tradition, and, second, the positivist implications that

Collective human effort must be directed towards the development of a code of ethics broad enough to encompass the spirit of older codes and inclusive of the new variables brought about by the revolution in knowledge areas

limit knowledge exclusively to the realm of science and technology. The remaining facets of the definition were presented in the form of assertions that identified the technological and economic poles as the main reflections of the knowledge society. The knowledge society based on innovation creates its new manifestations through the give and take of technological development and the improvement of human theoretical acuity, and contributes to the goal of expanding human options.

In the repertoire of concepts now commonly used, "synonymity" has been replaced by "interaction," which better expresses the relationship of the terms within whose framework the discourses of the knowledge society are organised. A critical attitude was necessary with regard to the positivist quantitative mindset and the modernisation orientation in its human rights and political aspects. This attitude allowed us to deconstruct these two positions, uncover their ideological dimensions, and scrutinise some of their paradoxes and contradictions of reality. The meaning of the concept of the knowledge society was expanded by reference to the requirements of the state of Arab epistemological reality. The axis dealing with the problematics of the knowledge society raised a sample of the most important questions posed, such as those related to identity, language, technology, gender inequality, and challenges to values and ethics. It also raised the question of political participation and democratic reform in the Arab world. We expressed our belief that the reinforcement of the path to attaining the knowledge society in the Arab world is inseparable from the twin demands for a renaissance and for human development, which form the long range goals of this report. Our objective in the above has been to formulate an Arab perception of these topics and problematics and thus produce a vision that combines an analysis of the data and indicators with consideration of them in the light of the complex and composite nature of the knowledge society.

The knowledge society will never be brought into being through the mere transfer of technology or its complacent consumption, nor will it come about through acceptance of the status quo and of dependency, or of the unreflective commoditization of knowledge. Effective and creative involvement can only be attained by building an all-embracing vision of the topic, a vision that does not ignore the fact that epistemological commodities and tools, and technologies, repress certain values and create others, and that the progress to which we aspire calls for a major infusion of knowledge, alertness, and awareness.

Passage through the portals of knowledge—the rite of passage of our age *par excellence*—requires of the Arabs that they complete two steps at one and the same time: reconciliation with the self, through the diagnosis of its weaknesses and failures, and reconciliation with the rest of the world, through a commitment to learn from its achievements. Both steps call for considerable daring and courage— qualities that are essential if history is to be made.

Attaining the knowledge society requires of the Arabs that they complete two steps at one and the same time: reconciliation with the self, through the diagnosis of its weaknesses and failures, and reconciliation with the rest of the world, through a commitment to learn from its achievements

End Notes

[1] Epistemic saturation refers to the absence of the lines that set the limits of the connotation of the concept. Early in the process of their formation, concepts emerge in a specific epistemic field in a pre-saturated form by virtue of their novelty and the absence of agreement among their users. Saturation takes place during the process of the cumulative use of the concept, and as a result of agreement on its signification among specialists and practitioners. We must not here associate epistemic saturation with obscurantism and static constancy. Concepts have their own life-spans and forms of crystallization. A signification therefore varies then settles down, then becomes a vocabulary item in the knowledge repository within the frame in which it is used.

[2] Michel Cartier, http://www.michelcartier.com and Idris Binsa'id, background paper for the Report, in Arabic.

[3] Tunis Commitment, Article 23.