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Response to Choucri

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The concept of technology, the theme of this year's International Roundtable, is not novel to the literatures on globalization and development. Yet the roles assigned to the technology vary greatly. For some scholars, technology is the element that determines the logic of our era; for others, it is but an enabler. In many development projects, technology — both industry-intensive and information technologies — is a *sine qua non*, while the academic discourse has reservations, especially in the field of sustainability.

Dr. Choucri focuses on the interactions between technology and development within the context of globalization and sustainability. While the first part of my essay establishes the theoretical framework of her approach, the second part elaborates on the configurations of these theoretical elements in the Middle Eastern context, singling out two fundamental issues: resources, namely the water-energy axis, and information technologies.

In my response, I approach these issues in two ways. In the first section, I focus on some of the major underpinnings of Choucri's essay and elaborate upon their importance for the topics at hand. In the second part, I point out the silences that might need to be addressed for a further comprehension. In the conclusion, I raise three questions that can guide us in further discussion.

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One of the central theoretical underpinnings of Choucri's essay is her approach to globalization. Her perspective on globalization trends takes into account the complexities associated with the phenomenon, an approach that we tend to favor at Macalester College. This stance purports that technology, an essential element of the current transformations (and arguably their initiator and/or enabler), is to be analyzed in a multidimensional/multidisciplinary perspective. In other words, the traditional nexus between technology and economy should be expanded to also analyze the social, political, cultural, and environmental implications of technology, which do not *always* go through the transformation of economy.

Choucri's general approach to the capacities of technology in the globalizing world reflects upon the multidimensional significance that she ascribes to information technologies. She argues that the creation of cyberspace as a forum of socio-political interaction opens up new areas, such as institution building, policy making, social empowerment, and participation. These new areas are equally important for states, international and transnational actors, local communities, and individuals. In the ecological realm, Choucri focuses on the contribution of information technologies in leading and sustaining development in an environmentally sensible *and* sensitive mode.

Having stated the major underpinnings of the first part of Choucri's article, I now move on to her contributions to the debate on development and technology in the Middle East. Overall, Choucri observes three general trends regarding globalization and sustainability in the Middle East. First, development is usually understood in terms of the traditional notion of energy-intensive industrialization, which is modeled according to the Western experience. Second, development, resource management, and technological advances are shaped by central governments, if not fully under state monopoly. Third, investment in material infrastructure has traditionally been much more significant than investment in intellectual infrastructure.

The influence of these three factors can be perceived in the two issue areas that Choucri singles out as crucial to Middle Eastern development: water and energy management; and information technologies. Focusing first on water and energy management, I would like to reemphasize the four biases that Choucri notes as the fundamental assumptions of Middle Eastern policy making. The first is the bias that there is an energy scarcity. Reflecting the perspective of industrial countries, this point of view is not valid for the Middle East. The second problem is the irrelevance of water management policies to the realities of the region. Third, water and energy are treated separately in all levels of policy making. Fourth, these three biases impede the development of a joint perspective in resource management covering both water and energy issues. Remarking that these four approaches do not reflect the realities of the region, Choucri argues for the joint management of water and energy. This new approach can liberate the region from the limitations of Western technology by initiating local technological innovations that address the needs of the region. To the best of my knowledge of the literature, Choucri's proposition about establishing a

joint policy framework for water and energy management remains a unique contribution.

The second issue in Choucri's account of Middle Eastern development is the question of information technologies and their influence on sustainable development. The pivotal point in this account is the potential that information technologies offer in terms of expanding political space to include the marginalized sectors of the population. The GSSD initiative mentioned in her essay is geared toward providing a means of participation and information for rural communities, where they can both voice their concerns and access knowledge that is relevant to their areas of interest.

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After recapitulating some of the fundamental elements of Choucri's argument, I now draw our attention to a couple of aspects that can be helpful in understanding the issue of development and technology in the Middle East but that have not been fully developed in Choucri's essay. These aspects are the social/societal connections of technology, the concept of interdependence, and the question of connectivity.

One concern that has been frequently addressed in academic circles about technology-oriented projects is the problem of unpredictability. The ways in which societies react to new technological phenomena cannot always be accurately foreseen by those who design and implement these projects. In some cases, the new technological input can simply fail to produce the desired outcome, while in others, communities might come up with unexpected methods of combining tradition and novelty. I would like to present an example of each of these situations. The first example is taken from Mamoun Fandy's article on technology and trust in the Arab world. It demonstrates how technology can fall short of the expectations of triggering social change. The second example is the introduction of new technologies into Turkey at two different points in history, and reveals how communities can generate spaces of overlap between the old and the new.

In his article *Information Technology, Trust and Social Change in the Arab World*, Fandy notes that the discourses that are created around the new technological paradigm — information technologies — follow the clichés of modernization and development discourses.[1] While he does not deny the potential of new technology to promote social change, he argues that the principle of trust, which has "accompaniments, such as

a linguistic environment, a knowledge base, and shared symbols and mutuality," has to be the basis of any transformation that is going to take place.[2] This point is illustrated by two case studies: Saudi Arabia and Egypt. In the Saudi case, the mechanism in question is the Saudi opposition, which operates from London, specifically the Committee for the Defense of Legitimate Rights. Fandy states that even though the Committee made extensive and fairly efficient use of the fax machine and the Internet, it failed to obtain the trust of the society due to intra-group rivalry, the lack of a means of verification of the information by locals,[3] and the tensions between the traditional domain of orality and the written text. This latter theme is picked up for a second time in the analysis of the Egyptian opposition. According to the author, substantial investments of the opposition parties in newspapers is not likely to produce the desired social transformations in a society that is divided by the tensions between orality and the written word, and where the literacy rate is only 50 percent.

Moving on to the question of overlapping spaces, I would like to draw examples from Turkey at two points in history. The first one is the introduction of television; the second is that of the Internet. In the former case, one can confidently argue that for decades television remained a device to be used in social company. It reached the public mostly through the social space of coffeehouses, the traditional place of local interaction, and, I would add, almost exclusively for males. Adapting this example to the current era and the latter case, I would argue that the term *cybercafé* is not merely a question of vocabulary but a sociolinguistic phenomenon that is flourishing in many countries of the Middle East, including Turkey. The term connotes that "cyber" is a domain of not only the global and the hypermodern but also of the "local" and the traditional. In fact, this duality is the only way that "cyber" can be a meaningful agent of social change.

Fandy's study of the failures of technology and my examples of television and cybercafés suggest that if the new technologies are to have an influence on the political and social fabric of the societies, they must take into account not only the needs of the communities, but also — and more importantly — the "modes" in which these communities operate. Potential overlaps between the different spaces of the local-global axis are at least as important as bringing in the material inputs of new technologies.

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After addressing the issue of predicting the outcomes of technological encounters, I would now like to move on to the concept of interdependence. Even though we have been talking about "the Middle East" and its problems, this does not mean that all political actors have the same problems and interests regarding resource management and information technologies. In fact, the Middle Eastern states differ considerably in terms of their levels of development and access to resources. Nevertheless, these differences hardly mean isolation from the general problems of the region. On the contrary, they create even more complex patterns of interdependence between states. I argue that an in-depth understanding of these patterns by policymakers can lead to the development of better strategies that are meaningful for both sustainability and peace-building purposes.

Many interdependence patterns revolve around water. We see that water is indeed a "national security problem" (a quote from Mr. Boutros-Gali, former Egyptian Minister of Foreign Affairs and former Secretary-General of the United Nations).[4] Water management entails many political and strategic dimensions. One notable example is the tension between Turkey and Syria over the waters of the Tigris and Euphrates rivers. Turkey's South-Eastern Anatolia Project, which includes the construction of 22 dams and irrigation canals, is perceived as a threat to water security in Syria. Syria has responded politically by harboring the PKK, a Kurdish separatist group that is perceived as a threat to the territorial and political integrity of Turkey. In this example, the "national security" of one country (understood in its realist meaning) is dependent upon the water security of its neighbor.

Another example of interdependence between Middle Eastern countries combines the issues of energy and knowledge-based technology. It is the question of migrant professional and skilled workers. Historically, oil-rich states have "imported" workers from other countries that are relatively more advanced in human capital. Egypt and, to a lesser extent, Turkey have been two of the major suppliers of expertise and skilled labor — to such an extent that Egypt has a Ministry of Emigration. Needless to say, the remittances from these workers have contributed significantly to both countries' economies. These relations create an interdependence pattern between technology, human development, knowledge, and the economy.

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Hoping that these examples sufficiently demonstrate why I consider the issue of interdependence as crucial, I now move on to the third issue that I would like to discuss: the establishment of connectivity among Middle Eastern intellectuals and experts at national, regional, and international levels. In the *Arab Human Development Report*, published by the United Nations Development Programme in 2001,[5] it is argued that national and regional connectivity is rather weak among Arab scientists.[6] Given the interdependence structures of the countries in the region as well as the suggestions about joint policies, a high level of connectivity among experts from different countries and disciplines is essential. Another dimension of connectivity that can provide alternative sources of information and even funding to local and national research initiatives is the connection between expatriate Arab scientists. As the *Arab Human Development Report* argues, establishing this connection can reverse the adverse effects of brain drain.[7]

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I would now like to state three subjects that can lead to further discussion. First, given the centrality of the concept for Choucri's essay, I believe that unfolding the concept of "development" can be useful.

Second, I am very much interested in learning more about Choucri's proposal to combine water and energy management in a joint perspective. This is a unique suggestion in the literature but unfortunately her essay does not elaborate much upon it.

Finally, I would like to draw attention to the role of technology in the armed conflicts of the Middle East. In what ways is war connected to technology and what are the implications of these connections? Conversely, how can technology be used to advance peace and bring stability to the region?

Notes

1. Mamoun Fandy, "Information Technology, Trust and Social Change in the Arab World," *Middle East Journal* 54, no. 3 (Summer 2000): 378–394.

2. Ibid., p. 383.

3. Fandy calls this mechanism "isnad," which he explains as "inquiring relatives and trusted friends who work inside the system about the stories reported," p. 385.

4. This information is taken from the article of Sandra Postel, which was published in *World Watch* 6, no. 4 (July–August 1993): 10–18.

5. UNDP Regional Bureau for Arab States, *Arab Human Development Report* (New York: United Nations Publications, 2002).

6. Ibid., p. 66.

7. Ibid., p. 71.