

Global-COE Program
“In Search of Sustainable Humanosphere in Asia and Africa”
"Next-generation research initiative" study report for 2010

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Title: Arabicization of Scientific and Technical Terms in the Age of Globalization

Place of survey: Egypt (Cairo), Syria (Damascus), Lebanon (Beirut)

Objectives of the study

This study aims to examine the systems of education in modern Arab countries, especially in the fields of medical technology and information science, and to clarify the method and rules of *ta'rib* (arabicization or arabization) with regard to the creation and standardization of scientific and technical terms.

This study is closely linked to the Long-term Dynamics of Environment, Technology, and Institutions in Islamic area studies (by Professor Kosugi Yasushi) under the project of initiative 1 “Long-term Dynamics of Environment, Technology, and Institutions.” This study will focus on the adaptation process of foreign words and new notions in the field of advanced science and technology, and it will consider how they have been translated or arabicized in a manner that complies with contemporary and academic use, especially in the eastern area of the Arab world, such as Egypt, Syria, and Lebanon.

Arabic is the national language of 22 countries in the Arab world. It is also a common language that is used daily in that area. An important issue in these Arab countries is the deviation of technical terms among countries, because the movement of people and human interaction is always transnational, for example, through medical and educational activities. In today's age of IT and globalization in which the Internet society has undergone rapid development, this issue must be resolved as soon as possible by standardizing the language of education and academic terms.

Fieldwork was conducted on the creation of new scientific terms in Egypt and Tunisia—this was supported by the GCOE program in 2007 “In Search of Sustainable Humanosphere in Asia and Africa.” A working paper titled “The Growth of Modern Standard Arabic and the Adaptation of Scientific Technological Terms with Special Reference to *Ta'rib* and *Naht*” was published as a result. The research reported herein aims to further explore the *ta'rib* issue and attempt to determine the trends that are currently underway in medical science and technology in the Arab world.

Contents of the Research and Findings

In order to achieve the above objectives, I carried out fieldwork in Egypt, Syria, and Lebanon, with a focus on the following three points:

1. The history and present system of higher education in Arab countries in the fields of nature and applied

- sciences, especially information and technology and medical sciences.
2. The current situation regarding academic terms in the above-mentioned field and issues of the selection of the language of education, especially in terms of the role of modern Arabic as a common language in the standardization of scientific terms among the various Arab countries.
 3. The role of Arabic language academies and other academic organizations in regard to arabicization (*ta'rib*) and their network with social and educational activities.

The contents and results of the fieldwork are as follows.

In Egypt, my first research field, I visited the Academy of Arabic Language in Cairo and carried out my research in cooperation with Mr. Mustafa Yusuf, the editor of the academy, on its activities and role in the creation of new scientific terms and the history of the compilation of scientific dictionaries of the modern era. We worked to extract vocabulary data related to *naḥt* (a blend or portmanteau word) from the two dictionaries, one of which is a medical and scientific dictionary (first published in 1929) compiled by Muhammad Sharaf, and the other a dictionary of botany (first published in 1930) compiled by Ahmad Isa.

I also conducted a survey on the history of medical education in Egypt, with a focus on a medical school established in 1827 known as *Abū Za'bal*, which is the predecessor of the faculty of medicine called *Qaṣr al-'Aynī* at Cairo University. I investigated the transition of publications regarding university textbooks written in Arabic (some were translated from English and French) that had been used in the faculty.

During the fieldwork, I seized an opportunity to have an interview with Professor Ibrahim Jami'ī (faculty of history at Cairo University) on the aforementioned theme. He has a number of books dealing with language, culture, education, and the philosophy of modern Arab intellectuals such as Taha Hussein and the leading figure of *nahḍa* (renaissance) movement, Rifa'a Tahtawi. He kindly provided me with important materials and information regarding Tahtawi's activities, especially those pertaining to his method of arabicization of new notions such as *waṭan* (homeland) and the role of *Madrassa al-ʿAlsun* (a school for translation founded by Tahtawi in 1835) in producing new scientific terms.

My next research field was Syria, which is known to be a country where medical education is carried out in Arabic. During my fieldwork, I made a visit to Professor Abdullah Wathiq and interviewed him regarding the history of scientific term dictionaries in Syria and their practical use in the educational sphere, especially at the higher education level. With his cooperation, I made a visit to the faculty of medicine, dentistry, and pharmacy at Damascus University and I collected textbooks and special term dictionaries that are used.

I obtained a *Dictionary of Agricultural and Allied Terminology: English–Arabic*, which had been compiled by Mustafa Shihabi (1893–1968). I am currently in the process of analyzing the content and extracting the vocabularies related to the *naḥt* form.

Professor Wathiq also suggested that I visit the Arab Center for Arabization and Translation, which is attached to the Arab League Educational Cultural and Scientific Organization (ALECSO). During my visit

there I collected publications and periodicals published by the center. I consider the journal of *Arabization 'Ta'rib'* to be a particularly important study reference as it surveys the activities of ALECSO and its role in the translation of scientific terms and in promoting education by using Arabic in the field of medicine and science in Arab countries.

The unification and standardization of scientific terms among Arab countries (and even within the country) is one of the most urgent issues in the modernization of Arabic. In the case of Syria, Dr. Husni Sabbah (president of the Arabic Language Academy in Damascus from 1968 to 1986) published a highly valuable dictionary of multilingual medical terminology in 1956, which led professors, scholars, and experts to establish a committee for medical terminology at Damascus University.

Ten years later, in 1966, the "Arab Medical Union" was founded and the "Council for Unification of medical terms" was set up by some core members. In 1983, the *Unified Medical Dictionary* (English and Arabic Edition) was published as a result of the efforts of members. The dictionary is very interesting because it seems that there are many points that it has inherited from various parts of medical dictionaries that were compiled in the mid-twentieth century in Iraq. The popular version, the publication of which was supported by the World Health Organization (WHO), is currently available and is well accepted by scholars, professors, and students not only in Syria but also in Egypt and the Gulf countries. In light of its popularity and reputation in the Arab world, we intend to utilize it as an important resource in analyzing the growth and practical usage of modern medical and scientific terms.

In Lebanon, I visited Professor Kamil Dahir, the author of *Conflict in Two Major Contemporary Thoughts: Islamism and Secularism* (1994, Dar al-Biruni, Beirut). I interviewed him on the situation of education as it relates to information and medical science in general, and medical care and bioethics in particular in Lebanon. Professor Dahir kindly provided me with a great deal of information regarding the history of the American University of Beirut (founded as the Syrian Protestant College by American missionaries in 1866), and other universities in Lebanon, as well as references to foreign missionary groups that played an important role in the establishment of hospitals and medical institutions in the Levant area. We also exchanged views on the *nahḍa* (renaissance) movement in the nineteenth century as it relates to various topics such as the history of the press, journalism, and some social linguistic issues.

Lebanon, which is called the center of the print media in the Arab world, has played an important role in the "Arabic lingua network," the connection through the Arabic-speaking countries, the concept and idea of which have already been discussed. Lebanon is also a very important region in terms of the modernization of Arabic and its changes in social context.

In this fieldwork, I carried out a plan to collect over 70 books, magazines, periodicals, and dictionaries related to medicine, information sciences, advanced sciences, and technologies. I am currently extracting the modern vocabularies (new words) from these materials, especially blend words (*naḥt*), and am analyzing and classifying them morphologically. I have already finished roughly 60 percent of the work.

Publishing research results

Part of this study has already been presented in the *Kyoto Bulletin of Islamic Area Studies*, Vol.4-1&2 (March 2011), pp.116–142, titled “al-Naḥt fī al-Luġha al-‘Arabīya bayna al-Aṣāla wa al-Ḥadātha: Taqaddum al-‘Ulūm wa Waḍ‘ al-Muṣṭalaḥāt al-Ḥadītha fī al-‘Ālam al-‘Arabī al-Mu‘āṣir” in Arabic (in English: Blend Words in Arabic between Tradition and Reform: the Development of Science and Creation of Technical Terms in the Modern Arab World). We are also diligently collecting scientific terms and vocabularies related to the medical and physical sciences as well as to bioethics based on materials that I obtained through this fieldwork. I plan to analyze these materials from an educational point of view and to publish a Japanese-Arabic-English medical science dictionary on the basis of this work within a year.