

I. ARTICLES

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Cultural Scripts and Multilingualism in the Sciences

ABSTRACT. The use of a reduced verbal system as ELF English as a *lingua franca* in the sciences does not appear to be a perfectly adequate way of expressing cultural identities. A modern society should instead enforce, through instruction, the understanding of several national cultural scripts, one's own and others, and the understanding of the way communication and languages works. Multilingualism and interculture in the scientific world can be made possible by the digital world and its new editorial products.

KEYWORDS: Cultural scripts, scientific language, ELF, multilingualism.

1. LANGUAGE AND CULTURAL IDENTITIES

Cultural identities, individual and social ones, are very much related to language expression. Within the research fields of discourse analyses and conversation analysis, the idea that language and culture are tightly entwined, thus profiling each other, has increasingly become a common place. The same can be said for the concept that communication does not function only by means of language. Language is not only a matter of codified norms and grammatical rules: languages and what people say are related to their peculiar perspective on reality, which is shaped by culture (see Niemeier 1998: 1). For this reason, true understanding between different cultures can only be achieved through both linguistic and non linguistic communicative factors. Behind language practices in bilingual communities lay complex sociolinguistic and ideological forces, as has been reassumed in the statement made by a Navajo high-school student in Alaska: "I'm speaking English in-

stead of my culture" (McCarty et al. 2010: 81. This statement was also chosen to be the title of the book). In the sociolinguistic field, the term *culture* is used to indicate the way individuals think, act and feel as members of a group, and in relation to other members of that same group. Since every cultural group is defined by its own unique attitude and relationship, values and meanings, people who speak different languages can be said to live 'in' different languages, which is to say: to live in different cultural environments, each of them has different norms and expectations (see Trosborg 2010: 2-3).

This article deals with the current debate about communication and intercultural understanding, with special regard for the role of the so called "cultural scripts" in the scientific community and its "worlds" (see Ehlich 2011: 118). The question about the shaping of cultural identities through languages does not appear to be an important concern for the entire scientific community. In the field of 'hard' sciences, in which the results of scientific research are mostly visualized in diagrams, computer graphics, x-rays, magnetic resonance imaging etc. (Assmann 2007: 62), language is considered to be a secondary medium, and the use of a reduced verbal system as ELF (English as *lingua franca*) appears to be perfectly adequate. Thus, ELF has pervasively widespread in the scientific world community, English as a foreign language is for many countries all over the world the only object and aim of educational policies – a definite loss for both the potential growing of multilingualism and the preservation of cultural identities.

After dealing with the role of cultural scripts in the communicative behaviour of diverse communities (2), the present article provides linguistic evidence of cultural scripts in scientific communities (3), finally reflecting about the question of the uncritically widely accepted usage of English as a *lingua franca* in the scientific world (4).

2. CULTURAL SCRIPTS IN EVERYDAY LIFE

Cultural scripts is used in sociolinguistics as a technical term referring to tacit norms, values and practices widely shared and widely known, mostly on an intuitive level, in a given society (see among others, Wierzbicka 2010: 43). The evidence of cultural scripts can be proved by almost everyone who lived or travelled abroad, paying attention to the linguistic behaviour of the "foreigners". Sometimes experiences of divergences in the communicative roles can be pretty traumatic, as sometimes testified by immigrants. Testimonies of this kind have been pointed out by Wierzbicka (2010). The first one goes back to the Burmese-English writer Pascal Khoo Thwe, who, in his

memoir *From the Land of Green Ghosts*, refers the experiences of elderly tribal women from Burma who were taken to England for a few years to be shown in circuses because of their necks, artificially elongated by neck-rings:

The English are a very strange tribe [...]. They paid money just to look at us – they paid us for not working. [...] They say ‘Hello,’ ‘How are you’ and ‘Good-bye’ all the time to one another. They never ask, ‘Have you eaten your meal?’ or ‘When will you take your bath?’ when they see you (Khoo Thwe 2002: 28).

The other example is offered by the life experience of the Polish born writer Eva Hoffmann, who as a teenager emigrated with her family to Canada:

I learn also that certain kinds of truth are impolite. One shouldn’t criticize the person one is with, at least not directly. You shouldn’t say, ‘You are wrong about that’ – though you may say, ‘On the other hand, there is that to consider.’ You shouldn’t say, ‘This doesn’t look good on you,’ though you may say, ‘I like you better in the other outfit.’ I learn to tone down my sharpness, to do a more careful conversational minuet (Hoffmann 1989: 146).

Sometimes the experience of the tight connection between language and culture does not provoke any particular shock, as it was the case for Mohamed-Nabil Sabry, Professor and Director of Mansoura University Nanotechnology Center at Mansoura University, who told me the following anecdote (for which I am indebted to him) at the Humboldt Kolleg *New Prospects and Challenges for Science and Education in the MENA region* in Marrakech (9.-12 March 2012): As an Arabic Muslim, he very often uses the intercalation *al hamdo lellah* (‘thank you My God’) even when living and working in Germany. Once, a colleague asked him about the meaning of it, which he literally translated, then adding that you say it when something good happens to you. At that point, his colleague wanted to know the exclamation Arabic Muslims use when something unfavourable happens to them. After thinking about it for a moment, Mohamed-Nabil Sabry realized that they use the very same one – as strange it might appear to members of other cultures.

As sociolinguists claim (see for instance Gumperz 1982), non-native speakers are not always responsive to the changing of cultural conventions, as sometimes these are very subtle and not bluntly evident. Thus, they transfer cultural patterns and discourse expectations of their native language in the foreign language, producing a distortion of their communicative intent, as different ways of structuring information may receive a dif-

ferent evaluation in different cultures (see Sarangi 2009: 99). When people talk by means of a foreign language or a *lingua franca*, the sharing of a common verbal language does not prevent misunderstandings to occur, which can be the case when partners encode and decode communicative signs in different ways, or do not notice them to be signs at all, as Niemeier (1998: 2) observes.

Scientific communication can be thought of as being immune from these kinds of intercultural problems. On the contrary, it is probably true that cultural misunderstanding can easily take place in scientific encounters. Scientists usually communicate per email or by means of written texts (Broszinsky-Schwabe 2011: 10). When scientists meet in face-to-face encounters, suddenly their way of communication includes also language, body-language and other forms of nonverbal communication, which normally stays deep rooted in one's home culture (Niemeier 1998: 2). Scientific communities are often to be considered, from a sociolinguistic point of view, as a "complex social-linguistic environment" (McCarty et al. 2010: 81). At international conventions researchers from different countries meet to discuss scientific topics, communicating occasionally in other languages, and nowadays mostly by using English as a *lingua franca*, in other words, by using a language which is not the mother-tongue for any of them.

3. CULTURAL SCRIPTS IN SCIENTIFIC COMMUNICATION

Cultural scripts are not only an issue for face-to-face communication. Different conventions can be observed even in the way of expressing ideas and concepts by means of formal written languages and conventionally structured texts (see Ehlich 2011). When conventions of this kind are analysed and observed at the level of national cultures, sociolinguistics refer to them as national intellectual styles.

Pioneering work in the field of comparative studies on written academic discourse was made by the Australian researcher Michael Clyne. In one of his first studies, after analyzing a *corpus* of English and German essay-writing manuals, Clyne defined the English essayistic style as tendentially "linear", the German style instead as "digressive" (Clyne 1994: 162-163). Several researchers followed Clyne's path, by offering evidence of the way written (and, more recently, also oral) scientific texts reflect cultural scripts as national styles. Peculiar etiquettes for national style trends are chosen after comparing the particular features of texts of comparable typologies produced by native speakers in two or more languages. For instance, an em-

piric study, conducted on a *corpus* of thirty German and Italian scientific book reviews, observed the following main differences at the level of language style (Foschi 2009: 271-72):

- Italian review authors tend to do use plural in the form of *Pluralis majestatis*, German authors instead of *Pluralis modestiae*;
- Italian authors tend to document and locate their statements less precisely than Germans;
- German texts show less adjectives describing positive “academic” qualities;
- the degree of positivity of certain qualities can also differ: “completeness” (*Vollständigkeit*) seems to be of great value for the Italian scientific community, much less so for the German;
- the opposite seems to be the case for the quality of *Einheitlichkeit* (uniformity, linearity), which appears to be a highly regarded text virtue especially for German scientists;
- Italian reviewers tend to be rather *kritikscheu* in comparison to their German colleagues;
- their rare criticism appears to be mostly directed towards formal features of the reviewed books; criticisms concerning lack of clearness, methodological approaches, defect of argumentation, bibliographic deficiencies are rather absent. This is not so in German scientific books reviews.

By summarizing these observations (see Table 1), the German style of book criticism can be interpreted as being more “distant” and “objective”, the Italian more “personal” and “subjective”:

Table 1. Italian versus German Styles in Book Criticism

Italian style: “personal, subjective”	German style: “distant, objective”
<ul style="list-style-type: none"> • Use of <i>Pluralis majestatis</i> • Scarce documentation • Frequent use of “praising” adjectives • Value given to features: completeness (+) / uniformity (-) • Target of criticism: <ul style="list-style-type: none"> – formal features (+) – lack of clearness, methodological approaches, defect of argumentation, bibliographic deficiencies (-) • <i>kritikscheu</i> 	<ul style="list-style-type: none"> • Use of <i>Pluralis modestiae</i> • Precise documentation • Scarce use of “praising” adjectives • Value given to features: completeness (-) / uniformity (+) • Target of criticism: <ul style="list-style-type: none"> – formal features (-) – lack of clearness, methodological approaches, defect of argumentation, bibliographic deficiencies (+) • <i>kritiklustig</i>

National style differences have otherwise been detected in the so called “mode” of text developments typical of the Arabic and the English cultures by M.A. Sa’adeddin, an Arabic researcher on linguistics and translation at the University of Kuwait:

For a native English text-user, an ideal written text is a surface orthographic representation of a linearly-developed, logically coherent, and syntactically cohesive unit of sense. It is an encoded message which he prefers to appreciate in isolation, in a noise-free setting, and in an environment which respects his conventions regarding social distance. For a native Arabic text-user, the concept of a written text is not the same. It differs by its aural mode of text development, which native Arabic producers utilize to establish a relationship of informality and solidarity with the receivers of the text (Sa’adeddin 1989: 39).

The different styles outlined in essayistic texts written by Arabs in English have been abridged under the generic features of “aural” versus “visual” text-development, with the first considered as being typical of the Arabic writing culture, the latter of the English one. Aurally developed texts show for instance characteristics such as an higher degree of implicitness, the presence of strings of nouns, phrases or clauses, a greater degree of repetition, redundancy, paraphrases, abstract generalizations (Sa’adeddin 1989: 48-49) (Table 2).

Table 2. Arabic and English Styles of Essay Writing

Arabic style: “aural” text-development	English style: “visual” text-development
<ul style="list-style-type: none"> • higher degree of implicitness • presence of strings of nouns, phrases or clauses • high degree of repetition, redundancy, paraphrases, abstract generalizations 	<ul style="list-style-type: none"> • higher degree of explicitness • single nouns, phrases, clauses • avoidance of repetition of arguments, concept • no paraphrases (continuous use of technical terms)

Sa’adeddin 1989

The observation of the indissoluble link existing between culture and language has profoundly influenced general approaches on foreign language teaching (see for instance the “ecocratic conception”, as outlined in Skowronek 2011: 130 f.). In the didactic field there is now widespread awareness and understanding of the ways of promoting intercultural in order to avoid cultural misunderstanding when communicating in a foreign language. Yet, the positive aspect of cultural scripts ought to be underlined more. In the aforementioned article, after noticing that native English re-

ceivers tend to reject presentations written by native Arabic producers because of their “aural” mode, Sa’adeddin (1989: 39) gives suggestions to his Arab native speaker fellows about the way for producing English texts that will be perceived as being more “visual”, and therefore be more easily accepted by the English speaking scientific community. Although, there is no proven evidence, at least not in his article, that “visual texts” are better qualified for the transmission of knowledge than “aural” ones, and therefore to be perceived as models for the entire international scientific community. On the other side, languages can without any doubt transmit the uniqueness of culture experiences and identities in a way, that can be hardly achieved in a foreign language.

4. SOME FINAL REMARKS

All three of my examples concern linguistic evidence of cultural differences found in texts on the human sciences. Nevertheless, the preference of the applied linguistics for these objects of analyses does not necessarily prove that hard sciences are immune from the question of cultural scripts and intercultural communication. On the contrary, recent linguistic studies show by means of linguistic arguments that the goal of the scientific community, namely the transmission of knowledge, can be best achieved if the languages of sciences do not give up their national traditions (see among others Thielmann 2009, who shows the different semantics of *weil* and *since* corresponding to different formal ways of producing argumentation).

As it has been recently described by sociolinguistic studies (House 2010), today the vast majority of interactions in English take place in the absence of native speakers (non-native speakers of English apparently outnumber English native speakers by 4:1). As a result, English as a *lingua franca* is undergoing a large process of diversification, through “hybridisation, acculturation and nativisation processes” (House 2010: 363): non-native speakers of English apparently produce a variety of English in which the mother tongue interferes not only phonetically or phonologically, but also in the cultural norms and attitudes expressed by the speakers. The similarity of the current situation with the historical development from Latin of the diverse scientific languages in the Europe of 18th Century has already been pointed out (see Eichinger 2010: 34), as it has been of incomparable value for single societies for using their mother tongue in the sciences, when for instance, through the mother tongue, scientists can communicate their discoveries to non-scientists, and not to least to politicians.

The use of a reduced verbal system as ELF (English as *lingua franca*) can be a perfectly adequate way of accompanying the illustration of diagrams,

graphics, images, etc.. As an aside, the very same argument has been recently used to promote a larger use of their mother tongues and a lesser use of English as a *lingua franca* among scientists. If scientists use a “reduced” verbal language, it should not be an insurmountable problem to translate from one (national) language in another (Eichinger 2010: 40). Of course, in doing that, one must acknowledge the advantage of multilingualism. Multilingualism and intercultural in the scientific world shall be made possible by the digital world and its new editorial products, as recently outlined by Henning Hopf, professor for Organic Chemistry at the Technische Universität Braunschweig. In his paper presented at the 2010 convention celebrating 100 years of the *Akademie der Wissenschaften* in Heidelberg, Prof. Hopf talked optimistically about the future of German as a scientific language, for instance by referring to a textbook for organic chemistry called NOP (Das Neue und Nachhaltigere Organische Praktikum / www.oc-praktikum.de); an interactive database published in German and currently translated in English, Italian, Indonesian, Greek, Arabic, Russian and Turkish (Hopf 2010: 104-105). It does not seem unlikely that in the future more and more scientists will more frequently use their mother tongues along with digital media in order to quickly communicate their results, by knowing that they can be adequately understood and quickly transmitted to the international community by means of many other different languages.

Students of foreign languages “other” than English might regain new hope of a professional future such as translators, text editors, foreign language teachers.

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