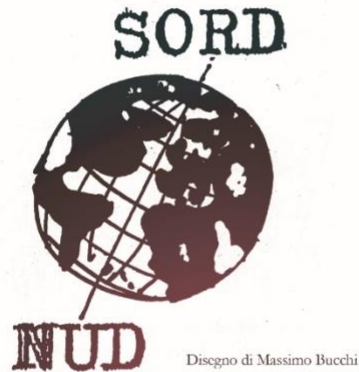


## RICERCA SCIENTIFICA, MONOPOLI DELLA CONOSCENZA E DIGITAL HUMANITIES. PROSPETTIVE CRITICHE DALL'EUROPA DEL SUD

Università Roma Tre,  
24-25 ottobre 2018  
Dip.to di Scienze Politiche  
Via Chiabrera 199  
(Aula Tesi, Il piano)



### 24 ottobre 2018

Ore 14.30 - Apertura dei lavori e saluti del Direttore del Dipartimento, Prof. Francesco Guida

Introduzione  
Domenico Fiorimonte e Manuel Salamanca López

Conferenza di apertura  
Andrea Del Monaco (Esperto Programmazione Fondi Europei)  
*I PIIGS del debito sono anche i PIIGS della Conoscenza?*  
*L'austerità come strumento dell'egemonia del Nord sul Sud Europa*

Sessione I. Periferie della conoscenza e oligopoli globali

Eugenia Siapera (Dublin City University)  
*Ambiguities of Knowledge Production Under Protracted Crisis and Austerity: the case of Greece*

Ernesto Priego (City University of London)  
*Oligopólios del conocimiento y Open Access. Perspectivas desde el Sur*

Manuel Portela (Universidade de Coimbra)  
*Productivism and Anglocentrism in Arts and Humanities research in Portugal*

Discussant: Amelia Sanz-Cabrero  
(Universidad Complutense de Madrid)

Ore 16.30 - Pausa caffè

Ore 17.00-18.30 - Discussione con i partecipanti e domande dal pubblico

### 25 ottobre 2018

Sessione II. Diversità culturale e conoscenza aperta

Ore 9.30  
Andoni Alonso  
(Universidad Complutense de Madrid),  
*Publishing in the era of Scopus. An analysis of referenced journals and the outside community*

Discussant: Esteban Romero  
(Universidad de Granada)

Ore 11.00 - Pausa Caffè

Ore 11.30 - Sessione III. Codici, standard, applicazioni.  
Riflessioni e casi di studio

Nuria Rodríguez-Ortega  
(Universidad de Málaga)  
*El proyecto Ciencias Sociales y Humanidades Digitales del Sur. Una revisión crítica*

Paolo Monella  
(Università di Palermo)  
*Scritture dimenticate, scritture colonizzate: sistemi grafici e codifiche digitali*

Discussant: Teresa Numerico (Università Roma Tre)

Ore 13 - Discussione con i partecipanti e chiusura del convegno



Co-funded by the  
Creative Europe Programme  
of the European Union



THE CREATIVE  
ARCHIVES' AND USERS'  
NETWORK

#CSHDSUR

Grafica realizzata da Aoimanga.biz

# **Ricerca scientifica, monopoli della conoscenza e Digital Humanities. Prospettive critiche dall'Europa del Sud**

Università Roma Tre, Dipartimento di Scienze Politiche

24-25 ottobre 2018

## **Riassunti / Resumenes / Abstracts**

### **I PIIGS del debito sono anche i PIIGS della Conoscenza? L'austerità come strumento dell'egemonia del Nord sul Sud Europa**

*Andrea Del Monaco, Esperto Fondi Europei, Italia*  
[andrea.delmonaco@libero.it ]

La narrazione dominante compie una serie di omissioni riguardo ai pilastri economici della architettura UE: (1) essi sono stati concepiti per favorire il mercantilismo tedesco, allargare il divario tra Nord e Sud Europa nonché il divario tra Nord e Sud Italia; (2) non sottendono il dominio dell'economia sulla politica come impropriamente spesso si scrive, ma al contrario sottendono il prevalere di una precisa visione economico-politica, la vittoria dell'ordoliberalismo sul socialismo, la vittoria di Friedrich Von Hayek su John Maynard Keynes; (3) infine svalorizzano il lavoro poiché hanno come prius la stabilità dei prezzi, stabilità alla quale è subordinata la creazione di occupazione. Ma questi pilastri fanno direttamente arretrare anche il potere di intervento dello Stato nei PIIGS (e dunque il loro sistema produttivo) e indirettamente influiscono negativamente sul sistema della conoscenza e della ricerca dei PIIGS. Tutto ciò premesso fornirò quattro spunti dai quali si evince come i vincoli tecnici dei pilastri economici UE sottomettano i PIIGS al Nord Europa guidato dalla Germania.

A) Nella crisi dell'Euro del 2011-2012, da un lato Berlino e Parigi chiedevano all'Italia la riduzione del debito italiano tramite il consolidamento fiscale (imposizione dell'IMU, taglio degli investimenti, taglio delle pensioni tramite la riforma Fornero); da un altro lato Sarkozy e Merkel imponevano all'Italia di indebitarsi per 60 miliardi (3,7% Pil) per contribuire agli strumenti "Salva-Stati" che hanno salvato le banche franco-tedesche. La Commissione Europea non computa nel rapporto Deficit/PIL l'indebitamento necessario per quei 60 miliardi. Tale indebitamento è virtuoso ed escluso dal Patto di Stabilità. Al contrario Bruxelles computa nel rapporto Deficit/PIL l'indebitamento necessario per finire un'importante infrastruttura italiana. Tale indebitamento è vizioso e dentro il Patto di Stabilità.

B) Con il Regolamento n.1176/2011, parte del Six Pack, approvato dal governo Monti, si introduce tardivamente la Procedura sugli Squilibri Macroeconomici che è basata su un quadro di valutazione i cui indicatori non sono neutri. B1) Per esempio le soglie sul saldo delle partite correnti sono le seguenti: la soglia per il deficit è -4% del PIL e la soglia per il surplus è +6% del PIL. E chi avvantaggiano queste soglie asimmetriche? Lo Stato con una posizione creditoria netta migliore, ovvero lo Stato con il surplus maggiore delle partite correnti: la Germania. A scapito di chi? Ovviamente dei PIIGS. B2) Un altro esempio è dato dalle soglie sul rapporto debito pubblico/PIL e sul rapporto debito privato/PIL. Il debito pubblico ha una soglia del 60% e il debito privato ha una soglia del 133%. Nella prima versione del quadro di valutazione del 2012 la soglia di tale rapporto era addirittura del 160%, una soglia superiore a quella attuale del 133%. Il debito privato è considerato più virtuoso e perdonabile del debito pubblico. Tale

asimmetria blocca il potere di intervento pubblico degli Stati con un alto rapporto debito/PIL e nel contempo consente (tramite un alto tetto al debito privato) le importazioni a credito di beni prodotti all'estero. Concretamente, l'asimmetria di tali soglie impedisce all'Italia di investire aumentando il proprio debito e consente però agli italiani di indebitarsi per comprare prodotti importati.

C) Le operazioni di politica monetaria della BCE, principalmente LTRO1, LTRO2 e Quantitative Easing formalmente abbassano lo spread BTP/BUND e BONOS/BUND, ma sostanzialmente producono un saldo negativo di Spagna e Italia nei saldi netti Target 2 (indebitano Italia e Spagna verso la BCE) e creano un corrispondente saldo positivo della Germania (un credito verso la BCE). Il "bazooka" di Trichet e poi Draghi ha fatto sì che dal 2009 ad agosto 2018: il saldo dell'Italia verso la BCE passasse da un credito di +54 miliardi ad un debito di -492 miliardi; il saldo della Spagna passasse da un debito di -41 miliardi ad un debito di -389 miliardi; il saldo della Germania passasse da un credito di +115 miliardi ad un credito di +912 miliardi.

D) Negli ultimi dieci anni, a causa delle numerose debolezze ereditate dal periodo 2000-2007, tra gli Stati UE sono aumentati i divari di competitività originati principalmente dai differenziali d'inflazione. Nei PIIGS del debito, i paesi periferici (meno competitivi), è aumentato il deficit della bilancia commerciale. Al contrario nei paesi Paesi core (più competitivi), in primis la Germania, è aumentato l'avanzo della bilancia commerciale. Il senso politico-economico di tutto ciò lo spiega bene Romano Prodi: "l'analisi dei saldi netti target 2 fornisce un'istantanea molto nitida dell'Eurozona all'epoca della crisi [...]. Le straordinarie dimensioni del saldo netto positivo della Germania [...] si spiegano considerando che la Germania ha implementato quella che in economia è nota come strategia di vendor financing. Fino al 2011 il sistema bancario tedesco aveva elargito enormi quantità di credito alle economie dei Paesi periferici; in parallelo, il surplus delle partite correnti tedesche aveva continuato a crescere (e il disavanzo della periferia a deteriorarsi) perché i Paesi periferici avevano usato una considerevole parte dei finanziamenti ricevuti per importare i beni prodotti dalla manifattura tedesca."

E) In conclusione, l'architettura economica europea, irrigidita dall'austerità dopo il 2011, aumenta il divario tra Nord e Sud Europa, in particolare il divario tra i sistemi produttivi del Nord e del Sud Europa. Nei PIIGS del debito, ancor più che in Nord Europa, la competizione dei sistemi produttivi è agita tramite la svalorizzazione del lavoro e non tramite la generazione di innovazione. Da un lato per raggiungere il pareggio di bilancio i Fondi UE sono spesso usati come sostitutivi della spesa corrente e non per la spesa in conto capitale. Da un altro lato i Fondi UE, quando sono usati per la spesa in conto capitale, pagano il banale trasferimento tecnologico alle imprese e non finanziano la generazione di innovazione come avrebbe suggerito Sylos Labini. *Rebus sic stantibus*, senza una riforma keynesiana dell'architettura UE, il futuro del Sud UE è divenire una colonia tedesca. Colonia in termini di sistema produttivo e colonia in termini di conoscenza.

### **Ambiguities of Knowledge Production: The Case of Greece**

*Eugenia Siapera, School of Communications, DCU, Ireland*  
[eugenia.siapera@dcu.ie]

The paper begins by an observation of two events that, if not intricately inter-related, are certainly co-eval in the case of Greece: the spread of the internet and digital media and the implementation of the most extreme austerity policies Greece has ever seen. But Greece was

not a tabula rasa: all this takes place in a context that has its own idiosyncrasies, and for the most part still operates in a very closed, clientelist manner but which is now confronted by neoliberal demands for transparency, flexibility and privatisation. These are some of the issues found at the root of the ambiguity, tensions and contradictions that characterise knowledge production currently in Greece. This presentation identifies three central tensions/ambiguities: i): the political economy of knowledge production and the labour conditions of university staff and researchers; ii) the openness of digital publishing and demands to publish which are linked to a creation of publishing hierarchies; (iii) the role of the EU framework programmes and their approach to research funding. The presentation covers these elements revealing that in Greece, in the area of education and knowledge production, the confrontations of a clientelist inward looking system with the neoliberal demands for global competition, meeting targets and being flexible have resulted in profound contradictions and difficulties.

### **Oligopolios del conocimiento y acceso abierto: perspectivas desde el Sur**

#### *Oligopolies of Knowledge and Open Access: Perspectives from the Global South*

*Ernesto Priego, Centre for Human Computer Interaction Design, City, University of London, UK [Ernesto.Priego.1@city.ac.uk]*

[ESP]

En esta presentación discutiré las razones por las que hablamos de “oligopolios del conocimiento”, detallando la concentración de actividad de comunicaciones académicas (en este caso publicaciones) a través de compañías editoriales con fines de lucro con base en el norte global, por autores con afiliación a universidades del norte global y en la lengua inglesa. Me referiré al trabajo que he estado haciendo en los últimos cinco años documentando y mapeando dicha concentración localizada y en su mayoría monolingüe (con énfasis en las humanidades digitales; Priego et al 2014; Fiormonte y Priego 2016; Priego y Fiormonte 2018) mediante metodologías de bibliometría alternativa (Alperin et al 2014) para a su vez llamar la atención a la correlación de los imbalances de esta concentración geopolítica (Graham et al 2011; Fiormonte 2017) con modos de diseminación cerrados de alto costo para instituciones (Lawson 2016). A su vez, discutiré la correspondiente y apropiación de mecanismos de acceso abierto por parte de las mismas compañías editoriales con fines de lucro, mediante estrategias de negocio como los cargos de procesos de publicación (APCs, por sus siglas en inglés), y los retos que esto implica particularmente para los investigadores en las áreas de ciencias sociales, artes y humanidades, y en específico para aquellos con afiliación en el sur global (Priego et al 2017). Finalmente, habiendo detallado lo que es un panorama complejo para las comunicaciones académicas, presentaré ejemplos de alternativas existentes y discutiré los crecientes retos y dilemas específicos a los diversos contextos del sur global.

[ENG]

In this presentation I will discuss the reasons why we speak of “oligopolies of knowledge”, detailing the concentration of activity of academic communications (in this case, publications) via for profit publishing companies based in the global north, by authors with affiliation with universities in the global north and in the English language. I will refer to the work I have been doing in the last five years, documenting and mapping this localised and mostly monolingual concentration (with an emphasis on the digital humanities, Priego et al 2014, Priego and Fiormonte, 2016 and 2018) through alternative bibliometric methodologies (Alperin et al

2014), in order to draw attention to the correlation of the imbalances of this geopolitical concentration (Graham 2011, Fiormonte 2017) with closed modes of dissemination of high cost for institutions (Lawson 2016). In turn, I will discuss the corresponding and appropriation of open access mechanisms by the same for profit publishing companies, through business strategies such as Article Processing Charges (APCs) and the challenges that this implies particularly for researchers in the areas of social sciences, arts and humanities, and specifically for those with affiliations in the global south (Priego et al 2017; Eve and Priego 2018). Finally, having detailed what a complex picture for academic communications is, I will present examples of existing alternatives and discuss the growing challenges and dilemmas specific to the various contexts of the global South.

## Referencias/References

Alperin, JP., Babini, D., Fischman, G. (eds.) 2014. Open access indicators and scholarly communications in Latin America (Buenos Aires: CLACSO, First edition). Available in full text on the Web Virtual Library of CLACSO: [www.biblioteca.clacso.edu.ar](http://www.biblioteca.clacso.edu.ar)

Fiormonte, D. 2017. Digital Humanities and the Geopolitics of Knowledge. *Digital Studies/Le champ numérique*, 7(1). Available at: <https://doi.org/10.16995/dscn.274>.

Fiormonte, E. & Priego, E., 2016. Knowledge Monopolies and Global Academic Publishing. *The Winnower*. Available at: <https://doi.org/10.15200/winn.147220.00404>.

Graham, et al, M., 2011. Visualizing the uneven geographies of knowledge production and circulation. *Global Higher Education*, 14.9. Available at: <https://globalhighered.wordpress.com/2011/09/14/visualizing-the-uneven-geographies-of-knowledge-production-and-circulation/>

Lawson, S., Gray, J., Mauri, M., (2016). Opening the Black Box of Scholarly Communication Funding: A Public Data Infrastructure for Financial Flows in Academic Publishing. *Open Library of Humanities*. 2(1), p.e10.

DOI: <http://doi.org/10.16995/olh.72>

Priego, E. and Fiormonte, D. 2018. Empire and Scholarly Communications. *Multinational Monopolies of Knowledge and the Global South*. Available at: <https://doi.org/10.6084/m9.figshare.6634484.v8>

Priego, E.; Havemann, L.; Atenas, J. 2014 Source Dataset for Online Attention to Digital Humanities Publications (#DH2014 poster). Available at: <http://dx.doi.org/10.6084/m9.figshare.1094359>

Priego, E. et al. 2014. Online Attention to Digital Humanities Publications (#DH2014 poster). Available at: <https://doi.org/10.6084/m9.figshare.1094345.v1>

Eve, M. and Priego, E. (2017). Who is Actually Harmed by Predatory Publishers?. *tripleC: Communication, Capitalism & Critique. Open Access Journal for a Global Sustainable Information Society*, 15(2), pp. 755-770. Available at: <http://openaccess.city.ac.uk/id/eprint/18007>

Priego, E. et al. 2017. Scholarly Publishing, Freedom of Information and Academic Self-Determination: The UNAM-Elsevier Case. Available at:  
<https://doi.org/10.6084/m9.figshare.5632657.v1>

## **Productivism and Anglocentrism in Arts and Humanities research in Portugal**

*Manuel Portela, Universidade de Coimbra, Portugal*  
[mportela@fl.uc.pt]

One of the consequences of the general migration of scientific publication to the internet over the past twenty-five years has been the reinforcement of productivist and Anglocentric practices of publication across all scientific fields, including the Arts and Humanities. Productivism may be described as the general tendency towards increasing quantitative production as an unquestionable and desirable goal – that is, increasing the average number of articles published by individual researchers and by research institutions over a given period of time. Anglocentrism, on the other hand, is a way of describing the general tendency towards increasing the publication of articles and journals in English in non-English speaking countries. Since major journal databases and their bibliometric indicators have been historically biased towards publications in English, agencies that fund research or assess institutional output reinforce those tendencies. The desirability of those goals has been widely internalized by university administrators on the basis of certain global university ranking criteria, such as the impact factor of their researchers' publications or the level of internationalization of the institution. Thus, even when not explicitly articulated as such, strategic plans of higher education institutions in peripheral areas adopt this productivist Anglocentric rationale as a major goal of university research output (publish more and publish more in English), while arguing, at the same time, that universities should become multicultural and multilinguistic environments. My paper will briefly examine this contradictory process in the field of Arts and Humanities in the Portuguese context by looking at three interrelated levels: national policies of research funding and evaluation; university strategic planning; establishment of new journals in English.

## **Publishing in the era of Scopus. An analysis of referenced journals and the outside community**

*Andoni Alonso, Universidad Complutense, Madrid, España*  
[andonial@ucm.es]

What I intend to present is how the actual electronic publishing system has become an obstacle to disseminating scientific knowledge. Confrontations among scientists and electronic publishers – Elsevier, ISI Thompson Reuters- began in 2002 with a call to quit scientist from privatized scientific journals. Alternatives as Ploss tried to transform publishing with Open Access and Pay per Publishing alternatives (PPP). But evolution in this issue has led to transform PPP in another private device to increase revenue to those publishing monopolies. Science metrics and the idea of having a way to quantify the quality of scientific production has ended in an impoverishment of scientific knowledge. Also Merton's proposal for an ethical science is profoundly challenged thanks to that privatization of scientific dissemination. As a consequence, scientific knowledge that was traditionally open becomes more and more closed. It has clear political consequences for a society where science is one of the most important and respected activities. Privatization of scientific research and monopolization of scientific knowledge becomes barriers for that democratizing element. Sometimes citizen science is proposed as a way to fight that closeness but has also clear failures. On the other hand, scientific papers are becoming more and more irrelevant because crucial research is enclosed in private laboratories and institutions.

## **El proyecto “Ciencias Sociales y Humanidades Digitales del Sur.” Una revisión crítica**

### *The “Social Sciences and Digital Humanities of the South Project.” A Critical Review*

*Nuria Rodríguez-Ortega, Universidad de Málaga, España*  
[nro@uma.es]

[ESP]

Dividiré mi presentación en dos partes. En la primera parte llevaré a cabo una reconstrucción de la genealogía e historia del proyecto #CSHDSUR a fin de delinear un marco que nos permita comprender cómo surge esta iniciativa, en qué punto se encuentra y cuál puede ser su labor en el contexto de las problemáticas relacionadas con los monopolios del conocimiento y los colonialismos cognitivos.

#CSHDSUR nace en 2013 de la colaboración estratégica entre la Universidad de Granada y la Universidad de Málaga aunque posteriormente, de acuerdo con su vocación de comunidad abierta e inclusiva, se expande a otras instituciones y contextos. Se define por dos aspectos clave: en primer lugar, por querer configurar una idea de CSHD más expandida, que acoja otro tipo de prácticas distintas de las propiamente académicas, como las que tienen lugar en los laboratorios de participación ciudadana; y en segundo lugar, por su orientación crítica, alineándose, así, con el enfoque de las Humanidades Digitales que adoptan el punto de vista de la teoría crítica de la cultura, las teorías poscoloniales, las metodologías decoloniales, etc. En consecuencia, las CSHDSUR se han definido como la búsqueda de prácticas alternativas,

teniendo como punto de referencia las idiosincrasias culturales, epistemológicas, intelectuales, lingüísticas y sociales de contextos tradicionalmente no hegemónicos en los procesos de producción y distribución de conocimiento.

Asimismo, en esta primera parte se abogará por la necesidad de que las CSHDSur asuman el paradigma de la investigación-acción, del activismo académico y de las Humanidades Transformativas, superando, de este modo, la perspectiva meramente crítica y haciendo de la praxis el compromiso ético de la teoría. La asunción del paradigma-acción implica, necesariamente, que las CSHDSur también tienen que ser programáticas. La segunda parte se dedicará a delinear cuál puede ser ese programa.

En este sentido, se propondrán cuatro aspectos clave para la reflexión: 1. La necesidad de promover iniciativas que nos lleven a un estado de conciencia crítica intensificada que, a su vez, se materialice en modelos alternativos concretos. 2. La necesidad de afrontar la alienación del sujeto humano en el actual sistema de producción del conocimiento, marcado por la hiperproducción y la velocidad competitiva, y en consecuencia la urgencia de proponer nuevas lógicas de trabajo que rompan con dicho sistema y nos reconecten con los intereses del ser humano. 3. En relación con lo anterior, la necesidad de reconsiderar las nociones de valor y relevancia en nuestra sociedad contemporánea, lo cual implica la cuestión no menor de revisar el proyecto axiológico de las Humanidades en el mundo del siglo XXI. 4. La necesidad de asumir procesos de desjerarquización y transversalidad epistémico-metodológica que eclosionen en la producción de un conocimiento válido para todos y contextualmente situado.

[EN]

I will divide my presentation into two parts. In the first part I will carry out a reconstruction of the genealogy and history of the # CSHDSUR project in order to offer a framework that can help us understand its origins, at what stage of the process we are and what its work can be in the context of the problems related to knowledge monopolies and cognitive colonialisms.

# CSHDSur was born in 2013 from the strategic collaboration between the University of Granada and the University of Malaga, although later, in accordance with its vocation as an open and inclusive community, the project was expanded to other institutions and contexts. The project is defined by two key aspects: firstly, by wanting to configure a wider idea of the social sciences and the digital humanities, which embraces other types of practices which are different from the strictly academic ones, such as those that take place in the citizen labs; and second, because of its critical orientation, thus aligning itself with the Digital Humanities approach that adopts the point of view of critical theory of culture, postcolonial theories, decolonial methodologies, etc. Consequently, the CSHDSUR have been defined as the search for alternative practices, taking as a point of reference the cultural, epistemological, intellectual, linguistic and social idiosyncrasies of traditionally non-hegemonic contexts in the production and distribution of knowledge processes.

In this first part section I will advocate the need for the CSHDSur to assume the paradigm of action research, academic activism and the Transformative Humanities, thus overcoming merely critical perspectives and making of praxis the commitment of ethical theory. The assumption of the action paradigm implies, necessarily, that the CSHDSur must also be programmatic. The second part of this presentation will be devoted to detailing what that program can be.



In this regard, I will present four key aspects for reflection: 1. The need to promote initiatives that can lead to a state of intensified critical consciousness that, in turn, will materialize into concrete alternative models. 2. The need to address the alienation of the human subject in the current system of knowledge production, characterized by hyperproduction and competitive speed, and consequently the urgency of proposing new ways of working that break with this system and reconnect us with the interests of the human being. 3. The need to reconsider the notions of value and relevance in contemporary society, which implies the significant question of revising the axiological project of the Humanities of the 21st century. 4. The need to assume processes of epistemic and methodological de- hierarchization and transversality that emerge in the production of valid and contextually situated knowledge for all

## **Scritture dimenticate, scritture colonizzate: sistemi grafici e codifiche digitali**

### ***Neglected scripts, colonized scripts: graphic systems and digital encodings***

*Paolo Monella, Università di Palermo, Italia*  
[paolo.monella@unipa.it]

[EN]

Societies that design and produce technologies have the option of modelling them on their own cultures. The others must model their culture to fit that particular technology. In my talk I will examine examples of how current digital encoding technologies represent and manipulate non-Western scripts, namely the graphical systems of India (Devánāgarī) and the Middle East (Arabic).

### *Three Gutenberg principles*

In modern Europe the print technology has remodeled the Latin, Greek and Cyrillic graphical systems on a rigidly alphabetic model, based on three principles:

- 1 ↔ 1. One grapheme corresponds to one alphabetic letter and to one phoneme only;
- 1 = 1. All graphemes have the same status (e.g. vowels, consonants, long and short vowels);
- 1, 2, 3... The script is a one-dimension, one-direction sequence of elements all on the same “level”. There is only a “back” and a “forward”, no “up” and “down”.

### *No universal principles*

These principles did not apply to handwritten medieval European graphic systems and do not apply today to non-western ones, including their print version. In many scripts, diacritics orbit around (above, under, before or after) base graphemes. Examples include “subscribed iota” and rough breathing in Greek, Devánāgarī and Hebrew vowels, Arabic ḥarakāt, not to mention Far East Asia scripts.

### *Digital challenges*

Print did not have a critical standardizing (i.e. westernizing) impact on Devánāgarī and Arabic scripts, but digital text encoding technologies pose a subtler challenge in this respect. Those technologies have mostly been developed in the USA and the West and are based on the principles of western print.

## *Devánāgarī*

In the Indic Devánāgarī script vocalic graphemes connect with consonantic ones to form one syllabic glyph. A vowel can be positioned below, on the right or on the left of its consonant. In the letter case (left), since the script flows left to right, like the Latin one, the vowel is written "before", not "after" the consonant that it modifies. This contradicts the Gutenberg principle of unidirectionality (1, 2, 3...).

However, this is no arbitrary inversion of the script direction, but can happen because vowels are modifiers of consonants (thus contradicting the 1 = 1 Gutenberg principle).

The ASCII and the Unicode encodings ignore this distinction of status. Today, a Devánāgarī word is simply converted to a unidirectional sequence of numbers ("code points"), all equivalent.

## *Arabic*

The Arabic script has a wealth of diacritics, but I will only discuss the ḥarakāt here. They are signs added above or below a consonant to specify the short vowel with which it should be pronounced.

From an Arabic viewpoint, the ḥarakāt contradict all three Gutenberg principles:

- 1 ↔ 1. They are optional, and normally omitted, thus negating the principle for which any grapheme corresponds to one phoneme.
- 1 = 1. Their status is lower than that of graphemes for consonants and long vowels, which constitute the "backbone" of the word, sufficient to identify it.
- 1, 2, 3... Arabic script, both handwritten and printed, does not develop on one dimension only: diacritics (i'jām and tashkīl, which include the ḥarakāt) are written above or below a base grapheme and combine with it.

Again, ASCII and Unicode ignore all this, attribute to all graphemes (consonants, long and short vowels) equivalent code points and aligns those numbers in a horizontal ordered sequence.

## *Frictions*

Both in the Arabic and Devánāgarī scripts, the issues are not apparent in the input and visualization phases, thanks to software managing typing on a real or virtual keyboard and rearrangement of glyphs on the screen, including ligatures and diacritics.

However, in the phase of text processing issues emerge. This includes most simple operations such as string matching on a web page or a database: if an Arabic user types a word with the ḥarakāt, she will not find its instances encoded without the ḥarakāt, and the other way around, unless a specific algorithm helps sidestepping the problem.

## *Arabizi*

Real or virtual Arabic keyboards facilitate the typing of a text in fuṣḥā (the high, unifying variant of the language), with the Arabic script.

But when young users text or chat on a mobile device in a vernacular Arabic variant, they increasingly tend to write the Arabic language in Latin characters, simpler to key on those devices, engineered in the West.

The resulting script is called "Arabīzī" (Arabi + Anglizi, English) or "Franco-Arabic", and mixes Latin letters and numbers. Short vowels may be written or not, and no diacritic is used,

for example to distinguish long and short vowels. Basically, those users confine themselves to the simplest and most "standard" encoding: ASCII.

This is an often overlooked aspect: technology can help with the glitches of the encoding of non-western scripts. See the extraordinarily complex Google search "Did you mean?" algorithms as an example. But not all technology is available everywhere. On a cellphone, typing in ASCII is just so much easier than typing in Arabic.

### *The political impact*

Though arguably unplanned, this "technological colonization" of writing is political, because scripts, and the conception of the language that they imply, are identifying aspects of many cultures. The case of Arabic is evident.

In the early 20th century, Turkey and Arabic populations split, tearing the Ottoman Empire apart. Turks, in search of a national identity after the western model, replaced the Arabic script with the Latin one. On the other side, Arabs and Maghrebis rising up against the Ottoman Empire identified with the Arabic language and script.

As surprising as it may seem to westerners, the substantially syllabic structure of the Arabic script and its distinction of status between consonants, long and short vowels, play a role in the perceived unity and identity of the Middle Eastern world. A unity that spans through time, from the Quran to today, and in time, from Morocco to Iraq.

In the perception of Arabic speakers and in its grammatical tradition, consonants and long vowels are sufficient to identify the root of a word.

But there is more at stake: graphemes representing consonants and long vowels - the written part of a word - remain largely identical in time and space. On the contrary, the actual pronunciation of some consonants, and above all short values - those parts of a word that are left out of the script - vary largely in time and, even more, in the regional variants of the language.

A word in fuṣṣḥā is the same word in the Quranic past and today, East and West, as long as one only writes its consonants and long vowels, i.e. only within the Arabic script. Writing short vowels, or more precisely making them semiotically pertinent, implies destroying the cultural, social and potentially political unity of the Arabic-Islamic world.

This helps explaining reactions in the Arabic world against "Arabīzī".

Probably, if computers had been invented in Saudi Arabia or Israel, digital text encoding models would have been molded around the specific structures of semitic languages, and in some scripts some graphemes would have had encoded as structural (consonants and long vowels in Arabic, consonants in Hebrew or Devānāgarī) and others as their modifiers.

Such a model is definitely possible from a technological viewpoint. I myself, in my scholarly digital edition of the "De nomine" by Ursus Beneventanus (IX century, <http://www.unipa.it/paolo.monella/ursus>), used TEI XML markup to model the difference of status between base graphemes and abbreviation signs in the medieval Latin handwritten graphical system. The technology is there, if a strategic interest calls for it. The issue is not technological, but political.

### *Conclusion: some hopes*

In the Middle East reactions to social and political discomfort sometimes turn to religious fundamentalism and violence. Personally, I firmly condemn those aspects, but I think that the defense of the Arabic cultural unity and identity is an understandable reaction to a perceived western exploitation.

In an ideal scenario a prosperous and free Middle East would not be exploited in the globalization arena or oppressed by corrupt regimes. This Middle East would safeguard its cultural identity, including the specific characteristics of its language and script, its perceived unity in time and space, without needing to use that identity as a defensive or offensive weapon.