

Digital Epigraphy at the Greek Epigraphy Laboratory, Ca' Foscari University of Venice

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CLAUDIA ANTONETTI - STEFANIA DE VIDO

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Claudia Antonetti - Ivan Matijašić
Venice Squeeze Project
Digital Library of Epigraphic Squeezes Open Access¹

1. *Introduction*

The *Venice Squeeze Project* – a biannual project beginning in September 2017 – aims at creating an open access digital library of epigraphic squeezes. The first step is the 3D digitization of the paper squeezes of Greek inscriptions preserved at the Greek Epigraphy Laboratory, Ca' Foscari University of Venice (<http://www.unive.it/pag/27275/>; <http://virgo.unive.it/archeolab/index.php?it/264/laboratorio-di-epigrafia-greca>). A further step is the creation of a digital library through the collaboration with the *E-Stampages project* which will allow a free, expandable, and inter-operative online collection of squeezes. The final cultural goal is to contribute to the international recognition, enhancement, and safeguarding of archives of squeezes in Italy and abroad.

2. *What are epigraphic paper squeezes? Definition and functions*

The epigraphic paper squeeze is the reproduction of a stone inscription on a soft lime-free paper, a multidimensional mirror-image representation of the original texts. The paper, cut of the required size, is drawn through the

¹ The *Venice Squeeze* and *AXON* projects of the *Greek Epigraphy Laboratory*, Ca' Foscari University of Venice, were presented at the *15th International Congress of Greek and Latin Epigraphy*, Universität Wien, 28th August - 1st September 2017: <http://virgo.unive.it/venicepigraphy/>.

water and placed on the cleaned stone; the paper is then pounded all over with a thick brush; once it has been impressed on the surface, it is left to dry and finally removed with care. This technique, already in use in the eighteenth century, does not generally damage the surface, even if its use on fragile stones is not always recommended. The squeeze, which allows to preserve the text inscribed on the surface of a stone, can be carried around with ease and inspected with different lights from different angles of view. If the stone is damaged or discoloured, the squeeze is often superior to a photograph for the understanding of the inscribed text. Paper squeezes can be easily compared with one another and they are useful when working with fragments of inscriptions. If an inscription has been destroyed or has disappeared after a paper squeeze has been made, the squeeze represents the only surviving testimony of the inscribed text².

Apart from their effective usefulness as tools for the study and for scientific editions of inscribed texts, the epigraphic squeezes have also an intrinsic value for cultural heritage, being documents on their own that deserve to be preserved, archived and safeguarded³.

3. Online collections of epigraphic squeezes

There are many examples of collections of epigraphic squeezes organized as digital libraries:

- CSAD, University of Oxford:
<http://www.csad.ox.ac.uk/CSAD/Images.html>;
- Squeeze Collection at the Ohio State University:
<http://epigraphy.osu.edu/collections/greek-squeeze>;
- Aleshire Center for the Study of Greek Epigraphy, Berkeley:
<http://aleshire.berkeley.edu/holdings/images>;
- Epigraphic Squeeze Collection at the British Institute at Ankara:
<http://www.biaatr.org/squeeze>;
- Epigraphic Squeezes at the University of British Columbia:
<https://open.library.ubc.ca/collections/squeezes>;
- The Berlin-Brandenburgische Akademie der Wissenschaften provides an online list of their squeezes: <http://ig.bbaw.de/abklatsche>.

These websites and databases, even if useful, have many weak points: no communication with one another; no use of common standards for the organization of metadata; no 3D images; finally, the possibility to enlarge the collection has not always been included. The purposes of the digitization of epigraphic squeezes must be considered with due attention in order to establish a common digital library.

² Cf. Summa 2012 and <http://www.bbaw.de/IG>.

³ Cf. Lamé 2011.

4. *The Venice collection: from the paper squeeze to 3D images*

The first step of our project is the 3D digitization of the paper squeezes of Greek inscriptions preserved at the *Greek Epigraphy Laboratory*. The collection, which includes 614 squeezes, is the most complete, consistent, and homogeneous collection in Italy. It dates to the early 1980s and has since been increased by Claudia Antonetti through research activities in Greece and Sicily. The preliminary 2D photographic campaign of the squeezes has already been accomplished in 2013/2014 by Michela Social. The catalogue of these images consists of *recto* and *verso* pictures of each document (see fig. 1: Sample of catalogue, Museum of Thyreion, inv. no. 2, text: Ἀριστομήδης; fig. 2: Image of a squeeze, Museum of Agrinion, inv. no. 46, text: Νίκων / Κόμψις / Μουσίς / Λέων). A database of the images has been set up by Luigi Tessarolo: elaborate searching options have been developed using *Filemaker pro 12*. Each squeeze has been catalogued according to international standards for metadata and linked to the picture of the corresponding Greek inscription, as well as to the bibliographical documentation. The collection arrangement follows the place of origin or the actual location of the inscriptions (Museums or private collections): it reflects a strong regional coherence, mainly North-Western Greece and *Venetia et Histria*, which is not covered by any other archive (see fig. 3: Squeezes of Greek inscriptions, archive of the *Greek Epigraphy Laboratory*: North-Western Greece, total: 563; fig. 4: Squeezes of Greek inscriptions, archive of the *Greek Epigraphy Laboratory*: *Venetia et Histria*, Sicily etc., total: 51;

<http://virgo.unive.it/veniceepigraphy/squeezes/chisiamo.php?lingua=it>).

5. *From 3D images of squeezes to an open access digital library*

The second step of the project will be to set up an online collection organized into a digital library in partnership with the *E-Stampages project* (<https://cahier.hypotheses.org/e-stampages>) directed by Prof. Michèle Brunet (CNRS/Lyon) with the collaboration of Adeline Levivier (EfA-HiSoMA), Amélie Perrier (EfA) and Patrick Desfarges (MOM). *E-Stampages* coordinates an international network of collections of epigraphic squeezes. The collaboration between the *Greek Epigraphy Laboratory* and *E-Stampages* has been chosen among the strategic projects 2017-2021 of the *École française d'Athènes* (<http://www.efa.gr>)⁴.

The digital library will include both 2D and 3D images. 3D images will be created with the *Digital Epigraphy Toolbox* developed by the members of

⁴ Cf. Levivier - Leblanc *et al.* 2016; Levivier 2016. See: <https://www.efa.gr/index.php/fr/ressources-documentaires/les-archives-estampages>.

the Digital Epigraphy and Archaeology project at the University of Florida (Prof. Angelos Bampoutis, Prof. Eleni Bozia: <http://www.digitalepigraphy.org>). The 3D digitization of squeezes is achieved through the bidirectional scanning of the squeeze using a typical 2D office scanner with a 300 or 600 dpi resolution. The scanned images are then being processed by the algorithm developed by the team of the *DEA* project. The 3D object thus obtained can be digitally inspected from different angles: it allows for a precise observation of the engraved letters and marks⁵.

6. *Exploitation of metadata for a digital library*

The digitization and online upload of epigraphic paper squeezes is a complex operation because it involves the twofold nature of the documents: on the one hand a squeeze is a documentary source for the study of ancient history and societies, on the other hand its character is strictly related to the cultural heritage. Until now, the nature and the purposes of the digitization of epigraphic squeezes have not been considered with the due attention. One of the objectives to pursue is to develop a common and shared set of information for the description of each document. The purpose however is not to publish a new scientific digital edition of the text that each squeeze represents: the envisaged plan for the digitization of epigraphic squeezes is to offer the essential data for the identification of each document: 1) the monument where the inscription was originally carved; 2) the inscription, *i.e.* the engraved text that has been copied on a paper squeeze; 3) the squeeze itself.

The *E-Stampages project* has proposed a shared hierarchy of metadata for the digitization of squeezes: 1) descriptive metadata, with the necessary information on each squeeze along with the “scientific” information on the inscription and the monument; 2) technical information related to digitization and 3D reconstruction; 3) administrative and electronic storage of the squeezes for archival purposes; 4) the digital representation of the squeeze (*i.e.* the picture); 5) the 3D image reconstruction created with pictures of the squeeze.

7. *Dissemination and interoperability*

The project relies on an open-source system for the management of the content, *i.e.* *Content Management System (CMS)*. For a clear organization of the content, the digital library should reproduce the structure of an archive and maintain internal coherence: it should be accessible to the specialist and non-specialist users alike.

⁵ The process is thoroughly described in Bampoutis - Bozia *et al.* 2010.

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The digital library of the *Venice Squeeze Project* will provide links to the geographical databases:

- *Trismegistos Places* <http://www.trismegistos.org/geo/index.php>

- *Pleiades* <http://pleiades.stoa.org>.

It will also rely on the online vocabularies developed by the *EAGLE* project (<http://www.eagle-network.eu>).

8. Major cultural goals of the project

The third and last objective of the *Venice Squeeze Project* is to contribute to the international recognition, enhancement, and preservation of archives of squeezes. The aim is to reach – through the Italian Ministry of Cultural Heritage and Activities and Tourism (*Ministero dei Beni Culturali e delle Attività Culturali e del Turismo*, MiBACT) – the acknowledgement of epigraphic squeezes as essential elements of the cultural heritage, and thus to safeguard them just like the rest of the historical, cultural, and archaeological documentation (photographs, paper archives, plaster casts, etc.).

In order to reach and enhance the third objective, the staff of the *Greek Epigraphy Laboratory* in Venice aim at the establishment of an international network for an open access collection, preservation, and exploitation of squeezes. The *Greek Epigraphy Laboratory* will represent a coordinating centre for the creation of a common digital library of the collections of Greek squeezes in Italy and within the current and past Italian archaeological missions in Greece, Turkey, and Libya. A survey of all the preserved squeezes in various institutions and libraries in Italy and abroad is essential to enable the constitution of a common digital library. It will also contribute to the knowledge of the history of the epigraphic science in the nineteenth and twentieth centuries. All institutions owning a collection of squeezes are welcome to contact the project coordinator or the delegated chief of the project (Postdoc contract starting in September 2017) to work in collaboration with the *Venice Squeeze Project* (<http://www.unive.it/pag/12221/>).

cordinat@unive.it

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The AXON project

AXON is a database of Greek historical inscriptions conceived within the Greek Epigraphy Laboratory (Director, Prof. Claudia Antonetti; see <http://virgo.unive.it/venicepigraphy/index.php>), with the financial support of the University Ca' Foscari of Venice.

Since October 2014 the members of the AXON project have been developing a database which includes a great variety of Greek inscriptions of different chronology, typology, and territory of origin. The most recent advances of traditional epigraphy as well as the scientific acquisitions in the Digital Humanities have been taken into account. The selection of texts has been made according to a broader notion of 'historical' inscription, including not only significant military, political, and institutional texts, but also those inscriptions which are essential for the social and cultural understanding of the Greek world.

AXON (<http://virgo.unive.it/venicepigraphy/axon/public>) includes texts from the birth of the Greek polis in the Archaic age to 31 BC, a chronological frame traditionally related to Greek History (though a future extension of this chronological limit is not excluded). The epigraphic entries have been prearranged in order to allow a wide and well-structured description of each document. At the same time, a common and coherent lexicon has been produced, which will permit an easier indexing of significant words and will make future searches much quicker.

Each entry is related – whenever it seems appropriate – to other entries in the AXON database. A hyperlink connects the entry with other digital editions of the same text (if available), or with other useful websites, possibly containing images.

Since the contributors to the project (i.e. the authors of the entries) are experts from different Italian and European universities (and not all of them are familiar with the Digital Humanities), and given the great number of entries planned in the near future, the necessity for a simple and easily understandable interface for the input of data was an essential issue to the project from the very beginning. Guidelines to EpiDoc have been taken into account in order to produce a clear structure for the input of data:

<http://virgo.unive.it/venicepigraphy/axon/public/axon/pagine/materiali>.

Our aim is to establish a growing community of experts, students, and enthusiasts to increase the number of contributors through lists of inscriptions which have not yet been assigned. At the same time, it will be possible to

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suggest other texts which are not included in the lists:

<http://virgo.unive.it/venicepiigraphy/axon/public/axon/pagine/collaboratori>.

To achieve these aims, the project follows an EpiDoc-friendly structure (fig. 5) and is compatible with Europeana EAGLE project, especially in the use of a common terminology.

The website is designed to allow for many search options:

<http://virgo.unive.it/venicepiigraphy/axon/public/axon/ricerca/avanzata>.

Beyond the “full text” search and another based on the number, title and author of the entry, three other search-possibilities will also be available:

1. browse all the entries according to the inscriptions’ typology, chronology, and area of origin (figs. 6-7);
2. access the entries through an interactive map;
3. perform an advanced search based on different categories: bibliography; keywords; object’s description and preservation; chronology; text (single words or phrases, typology, dialect, alphabet, letter-form etc.).

The AXON project, as an example of a digital edition of inscriptions with a high degree of clarity for contributors and users, is a useful tool for teaching Greek epigraphy as well as ancient history. Many contributors are university lecturers / professors of Greek Epigraphy, and the scientific committee includes high school teachers and instructors in classical languages, making AXON especially well-suited for educational purposes and for use by students: for engaging them, for example, in the composition of entries. The interoperability of the AXON website and the cross-references to other Digital Humanities projects are essential elements in the development of this discipline.

Each entry is created by an expert contributor and is subject to double-blind peer review, thus assuring an important contribution to the scholarly community. At the same time, the hyperlinks to other websites and digital editions will make it easier for the user to check immediately all similar projects. Finally, the indexing allows for the easy discovery and use of specific information, and will be of fundamental importance for gather together groups of documents according to particular research needs.

In conclusion, the AXON project aims at a collaboration of expert scholars from different fields: epigraphy, ancient history, dialectology, archaeology, digital humanities. It can produce valuable results in the domain of the digital editions of inscriptions and, more generally, contribute to the advancement of classical studies, opening them up to a broader audience through the worldwide web.

To promote and guarantee the dissemination of each individual entry

(with its own DOI), the AXON database has recently become a biannual journal, published by *Edizioni Ca' Foscari* and provided with an ISSN. The first volume of the journal has been published in June 2017 and is now available in open access on URL:

<http://edizionicafoscari.unive.it/it/edizioni/riviste/axon/2017/1>

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Abstract

Questo contributo presenta due progetti del Laboratorio di Epigrafia greca del DSU di Ca' Foscari Venezia: il *Venice Squeeze Project* e *AXON*. Il *Venice Squeeze Project* intende contribuire al riconoscimento, alla valorizzazione e alla preservazione degli archivi epigrafici d'autore, a cominciare dal ricco fondo conservato nel Laboratorio veneziano, ma in una prospettiva di collaborazione internazionale. *AXON* comprende sia il database liberamente consultabile sia la rivista on-line pubblicata per le Edizioni Ca' Foscari: esso propone analitiche schede digitali provviste di descrizione, lemma e apparato, testo, tradizione, commento e bibliografia di una selezione di iscrizioni greche scelte in base alla loro rilevanza 'storica'.

This paper presents two important Projects of the Greek Epigraphy Laboratory, Ca' Foscari University of Venice: the *Venice Squeeze Project* and the *AXON Project*. The *Venice Squeeze Project* intends to set up an online collection of the squeezes of the Venetian Laboratory and to contribute to the recognition, enhancement, and preservation of archives of squeezes. The *AXON Project* - database and on-line journal - includes digital entries of a selection of greek historical epigraphical documents: each entry gives a presentation of the inscription with philological elements, text and translation, commentary and bibliography.

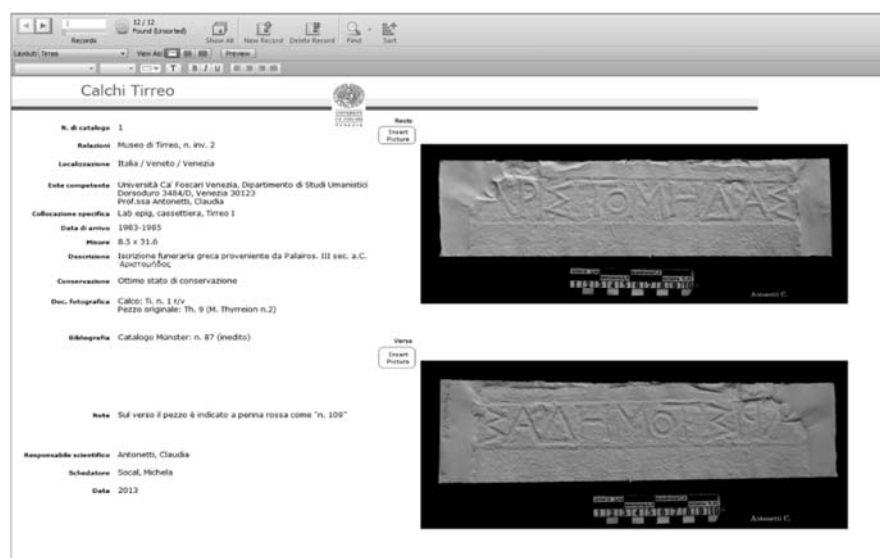


Fig. 1

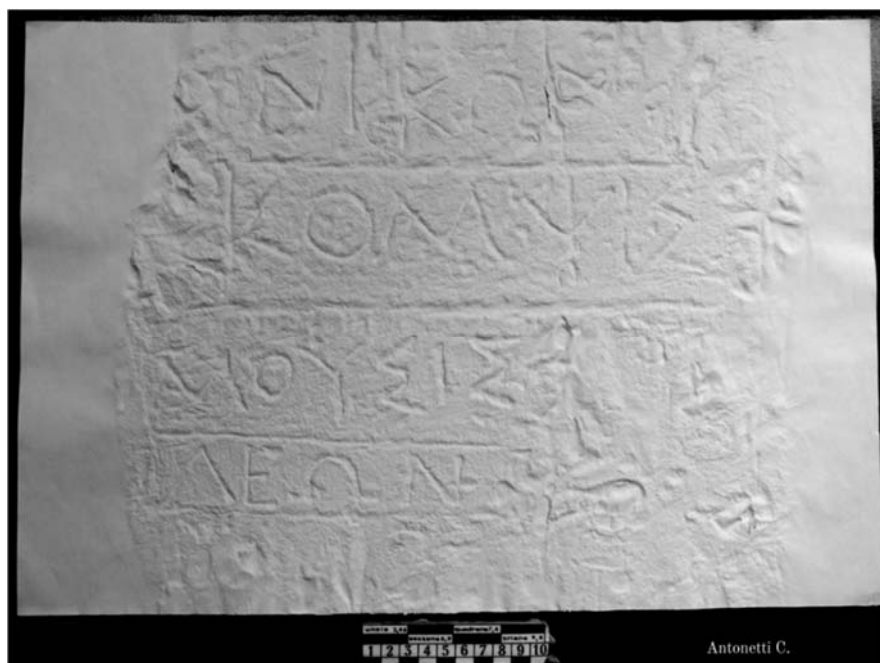


Fig. 2

- Thyreion [207]
- Naupactus [14]
- Thermon [121]
- Agrinion [189]
- Callio [31]
- Calydon [1]

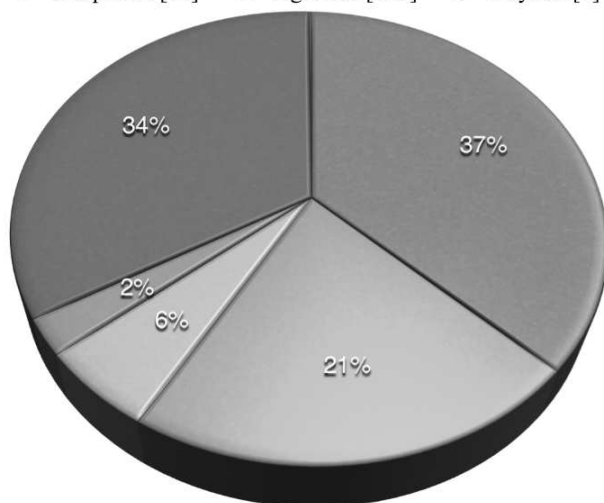


Fig. 3

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- Piazzola sul Brenta (PD) [21]
- Museo Arch. Venezia [7]
- Seminario patriarcale (VE) [9]
- Altinum [1]
- Tauromenium [6]
- Delphi [1]
- Korinthos [1]
- Delos [5]

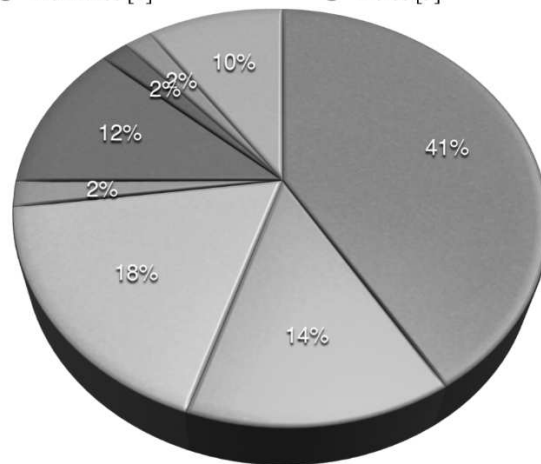


Fig. 4

Tra le tombe della **Necropoli di San Montano [Ischia]** (Isola d'**Ischia [antica Pitecusa]**, antica **Pitecusa [Isola di Ischia]**), la nr. 168 (fine VIII sec. a.C.) contiene i resti di un individuo di sesso maschile, di età compresa tra i 12 e i 14 anni, accompagnati da uno dei corredi più cospicui mai rinvenuti in una tomba pitecusana: 27 reperti ceramici in tutto, di cui (caso unico) 4 **crateri**, 2 euboici e 2 locali. Tra i materiali ceramici, spicca una **kotyle [(vaso)] rodia** (universalmente nota come **Coppa di Nestore**), risalente alla seconda metà dell'VIII sec. Su di essa, dopo la cottura, è stata incisa in **alfabeto euboico** un'iscrizione metrica di tre versi, in **dialetto ionico**. Nel v. 1 (**trimetro giambico**) la coppa identifica se stessa come proprietà di **Nestore [proprietario della Coppa pitecusana]** (secondo il modello delle **iscrizioni di possesso**), mentre i vv. 2-3 (**esametri**) contengono la più antica declinazione di un topos costitutivo della **poesia simposiale** greca, vale a dire l'associazione del vino e della **pratica simpotica** con l'elemento erotico. Sin dalla prima edizione del **graffito**, ha goduto di largo consenso l'ipotesi che il **Nestore [proprietario della Coppa pitecusana]** della coppa dovesse essere identificato con il **Nestore [re di Pilo]** re di Pilo, proprietario, secondo **Omero**, *Iliade* 11.632-637, di una sontuosa coppa, alla quale l'autore dei nostri versi avrebbe voluto in qualche modo alludere. Più recenti orientamenti critici escludono invece questa identificazione, e propongono di riconoscere in Nestore il reale proprietario della coppa, da identificarsi nel padre del fanciullo sepolto nella tomba, o forse nel fanciullo stesso, cui essa fu offerta come estremo simbolico dono delle gioie del **simposio** e dell'amore, che gli furono precluse da prematura morte.

Inserisci nel commento

- Personaggi
- Divinità ed eroi
- Luoghi, regioni, popoli
- Nomi geografici
- Lessico politico e istituzionale
- Parole importanti
- Fonti antiche

Fig. 5

Ricerca Cancella tutto

RICERCA FULL-TEXT

Cerca le schede che contengono tutte le parole

▷ DATI GENERALI

▷ BIBLIOGRAFIA

▷ PAROLE CHIAVE

▼ SUPPORTO

Tipologia

Luogo antico di ritrovamento

Regione antica

Luogo moderno di ritrovamento

Luogo di conservazione

▷ CRONOLOGIA

▷ TESTO

Fig. 6

▷ SUPPORTO

▷ CRONOLOGIA

▼ TESTO

Cerca nel testo tutte le parole

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|---|---|---|---|---|---|---|
| α | β | γ | δ | ε | ϕ | ζ | η | θ | ι | κ | λ | μ | ν | ξ | ο | π | ρ | σ/ς | τ | υ | φ | χ | ψ | ω | |
| a | b | g | d | e | v | z | h | q | i | k | l | m | n | c | o | p | k | r | s | t | u | f | x | y | w |

Tipologia

Struttura

Tecnica di scrittura

Colore alfabeto

Alfabeti regionali

Lettere particolari AND

Andamento

Dialetto

Ricerca

Fig. 7