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***ArsTeXnica* #27–28 (April and October 2019)**

*ArsTeXnica* is the journal of G<sub>U</sub>IT, the Italian T<sub>E</sub>X user group ([www.guitex.org](http://www.guitex.org)).

***ArsTeXnica* #27 (April 2019)**

CLAUDIO BECCARI, Editoriale [From the editor]; pp. 3–4

A short overview of the present issue.

CLAUDIO BECCARI, Language management and patterns for line breaking; pp. 5–28

Language management is supported by different files according to the language manager `babel` or `polyglossia`; they are similar to a certain extent, but differ in the way they handle the language patterns. There are also small differences when using X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X compared to Lua<sup>A</sup>T<sub>E</sub>X. Obviously patterns are different from language to language, but there are also some languages with variants. Therefore the language-supporting compiler-structure has to manage a variety of situations.

CLAUDIO BECCARI, La bandiera europea e la sezione aurea [The European flag and the Golden Ratio]; pp. 29–33

The European flag contains a circle of twelve five-pointed stars distributed at the vertices of a regular dodecagon. This article shows how it is possible to draw the flag using only the `picture` environment, both to draw the stars and to put them in the correct position.

ROBERTO GIACOMELLI, Parsing di opzioni in Lua<sup>T</sup><sub>E</sub>X [Option parsing in Lua<sup>T</sup><sub>E</sub>X]; pp. 34–41

This paper explains how to implement a parser in Lua — the elegant and easy to use programming language included in Lua<sup>T</sup><sub>E</sub>X — for a list of options in  $\langle key \rangle = \langle value \rangle$  format.

Such a parser is useful in package development, allowing an option system specifically designed for efficiency and syntax expressiveness.

JEAN-MICHEL HUFFLEN, Antichi sistemi di notazione musicale [Early musical notations]; pp. 42–52

Some music engraving programs, such as MusiX-<sub>T</sub><sub>E</sub>X and LilyPond, support rendering of Gregorian chant’s square notation on four-line staves. In this tutorial we explain how scores using this notation are organised. Then we show how it developed until the notations used in the early baroque era. [Originally published in proceedings of Bacho<sub>T</sub><sub>E</sub>X 2018. (*Tr. Tommaso Gordini.*)]

JOSEPH WRIGHT, `siunitx`: passato, presente e futuro [`siunitx`: Past, present and future]; pp. 53–56

[Originally published in *TUGboat* vol. 39, no. 2 (2018), pp. 119–121. (*Tr. Tommaso Gordini.*)]

FRANK MITTELBACH, Il concetto di ritorno al passato per le classi e i pacchetti [A rollback concept for packages and classes]; pp. 57–63

[Originally published in *TUGboat* vol. 39, no. 2 (2018), pp. 107–112. (*Tr. Claudio Beccari.*)]

***ArsTeXnica* #28 (October 2019)**

CLAUDIO BECCARI, Editoriale [From the editor]; pp. 5–7

A short overview of the present issue.

GIANLUCA PIGNALBERI, MASSIMILIANO DOMINICI, Introduction to L<sup>A</sup>T<sub>E</sub>X and to some of its tools; pp. 8–46

Writing has a long history. Shorter is the history of typesetting and even shorter is the history of digital typography. Nevertheless, the latter has gained an unprecedented importance because of its capability to speed up the process of giving human beings well-composed information.

Our lessons, of which this is number zero, are focused on a digital typesetting system that has come to light in the late 1970s. It was intended to typeset scientific books; it is used to typeset nearly everything. It is T<sub>E</sub>X.

In this short course we will give an overview of how T<sub>E</sub>X and its most famous macro package L<sup>A</sup>T<sub>E</sub>X help engineers, scientists and professionals to compose their documents, whether they are books, papers, reports, presentations, posters, or any other material.

ENRICO GREGORIO, T<sub>E</sub>X, L<sup>A</sup>T<sub>E</sub>X and math; pp. 47–57

We discuss some aspects of mathematical typesetting: choice of symbols, code abstraction, fine details. Relationships between math typesetting and international standards are examined. A final section on typesetting of numbers and units reports on some recent developments in the field.

GUIDO MILANESE, Bibliographies, L<sup>A</sup>T<sub>E</sub>X and friends; pp. 58–64

This article deals with the treatment of bibliographies within a L<sup>A</sup>T<sub>E</sub>X framework and workflow. A comparison of BIB<sub>T</sub><sub>E</sub>X bibliography format with other widely used formats shows that BIB<sub>T</sub><sub>E</sub>X has several advantages. The classical BIB<sub>T</sub><sub>E</sub>X programme is now obsolete, and `biblatex` + `biber` offer a highly customisable choice for bibliographies in any research

area. GUI environments are also discussed, as well as possible future developments.

AGOSTINO DE MARCO, Graphics for L<sup>A</sup>T<sub>E</sub>X users; pp. 65–101

This article presents the most important ways to produce technical illustrations, diagrams and plots, which are relevant to L<sup>A</sup>T<sub>E</sub>X users. Graphics is a huge subject per se, therefore this is by no means an exhaustive tutorial. And it should not be so since there are usually different ways to obtain an equally satisfying visual result for any given graphic design. The purpose is to stimulate readers' creativity and point them in the right direction. The article emphasizes the role of `tikz` for programmed graphics and of `inkscape` as a L<sup>A</sup>T<sub>E</sub>X-aware visual tool. A final part on scientific plots presents the package `pgfplots`.

GRAZIA MESSINEO, SALVATORE VASSALLO, Presentations with Beamer; pp. 102–109

In this article we briefly introduce the L<sup>A</sup>T<sub>E</sub>X class `beamer` for presentations. We give some tips to build an effective presentation and describe the main features of the class.

CLAUDIO BECCARI, The TOPtesi package. Typesetting a PhD thesis with L<sup>A</sup>T<sub>E</sub>X; p. 110

This article uses the information given in the previous five tutorials in order to describe how to use the TOPtesi L<sup>A</sup>T<sub>E</sub>X package to typeset a PhD thesis. This package has a specific option to configure the typesetting of such a thesis in the format agreed upon by ScuDo, the doctoral School of Politecnico di Torino.

ULRIKE FISCHER, Creating accessible PDFs with L<sup>A</sup>T<sub>E</sub>X; pp. 135–137

This article describes the current state and actions planned for the future to improve the accessibility of PDFs created with L<sup>A</sup>T<sub>E</sub>X, as it is currently undertaken by the L<sup>A</sup>T<sub>E</sub>X Team.

D. AHMETOVIC, T. ARMANO, C. BERNAREGGI, A. CAPIETTO, S. CORIASCO, B. DOUBROV, A. KOZLOVSKIY, N. MURRU, *Axessibility 2.0*: creating tagged PDF documents with accessible formulae; pp. 138–145

PDF documents containing formulae generated by L<sup>A</sup>T<sub>E</sub>X are usually not accessible by assistive technologies for visually impaired people (i.e., by screen readers and Braille displays). The L<sup>A</sup>T<sub>E</sub>X package `axessibility.sty` that we developed manages this

issue, allowing creation of PDF documents where the formulae are read by such assistive technologies, through the insertion of hidden comments. In this paper we describe the evolution of the package, that in the latest version also automatically generates the tagging of the formulae. The package however does not generate documents tagged according to the PDF/UA standard.

GIANLUCA PIGNALBERI, Uno script bash di ausilio alla redazione di manoscritti [A bash script to help edit manuscripts]; pp. 146–156

A manuscript editing session puts us in full view of a series of authors' repeated bad practices. Entering corrections entirely by hand can be a source of oversights. We will see how a bash script allows us to minimize them.

JEAN-MICHEL HUFFLEN, A direct bibliography style for ArsT<sub>E</sub>Xnica; pp. 157–159

We describe the `mlb-arstexnica` program, part of mlBIBT<sub>E</sub>X's new version, and suitable for generating bibliographies for ArsT<sub>E</sub>Xnica articles. First, we recall the notion of direct bibliography style related to mlBIBT<sub>E</sub>X and mention the advantages of such a program. We show that our program provides additional services suitable for ArsT<sub>E</sub>Xnica, compared to BIBT<sub>E</sub>X's bibliography style `arstexnica.bst`.

CLAUDIO FIANDRINO, *smartdiagram*: The package and its journey; pp. 160–163

The `smartdiagram` package was born as a response to a question on TeX.stackexchange. The challenge was to emulate a feature that Microsoft PowerPoint provides: the capability of automating a diagram with animations. This feature allows the creation of diagrams from lists, so the user interface had to be as simple as possible, i.e., a list. In this article, I review the basic idea that overcomes the challenge and I expose the main features of the package along with a bit of its history.

CLAUDIO VINCOLETTO, *Metamorfosi dei tipi sublacensi* [Metamorphoses of the Subiaco typefaces]; p. 164

The first and accurate digital revival of a classic typeface, based on medieval calligraphy and used for the first time in Italian incunabula. A copy of this original was employed by the last representative of the private press movement.

[Received from Massimiliano Dominici.]