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Literature and/as (the) Digital. An Introduction

Résumé

Dans le contexte de ce numéro spécial et d'un certain nombre d'autres publications et initiatives récentes, l'introduction pose trois questions principales. Premièrement, quelle est la pertinence et la validité des approches computationnelles de la littérature et des études littéraires ? Deuxièmement, symétriquement, quelle est la pertinence de la littérature pour les méthodes numériques en général et pour l'informatique et les humanités numériques en particulier ? Et, troisièmement, dans quelle mesure la littérature a-t-elle un impact sur le numérique en tant que média et phénomène culturel global, ou, autrement dit, dans quel sens pourrait-on dire que la littérature *est* le (post)numérique ? Sans prétendre répondre à ces questions, l'introduction revisite brièvement et / ou spéculer sur certaines des considérations et contributions connexes les plus significatives, parmi lesquelles les articles de ce numéro sont spécifiquement placés dans la même perspective plus large.

Abstract

In the context of this special issues and a number of other recent publications and initiatives, the introduction poses three main questions. First, what is the relevance and validity of computational approaches to literature and literary studies? Second, symmetrically, what is the relevance of literature to digital methods generally and to computer science and digital humanities in particular? And, third, to what extent does the literary impact the digital as all-engulfing medium and cultural phenomenon, or, otherwise put, in what sense could one say that the literary *is* the (post)digital? While not claiming to answer these questions, the introduction briefly revisits and/or speculates on some of the most significant related considerations and contributions, among which, the articles in this issue are specifically placed in the same wider perspective.

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LITERATURE AND/AS (THE) DIGITAL. AN INTRODUCTION

Three Questions

The literary, the digital, the computational... Is there any way one can study or 'do' literature nowadays and bypass digitality or not use any computational programs or apps? And, asking the question from a more specific and specialized angle, to what extent computational approaches to literature, or digital/computational literary studies, are *the* valid way to study literature nowadays? But I want to ask the symmetrical question here as well: what is the relevance of literature and literary studies to the digital – to algorithmics and artificial intelligence (AI) – in general and to computational approaches in the humanities in particular? To Digital Humanities (DH) and the ways in which the D and the H in DH shape each other? And while exploring possible answers, and based on the contributions to this special issue, I want to pose yet another question, a third one. How does the literary (if it does) impact the digital as all-engulfing space, mode of existence, and cultural phenomenon? In what ways, if any, the literary in the (post)digital age represents, shapes, or even *is*, the digital?

These are of course very complex and challenging questions and the bibliography (at least the one related to the first of them) is really vast. The very contributions to this special issue I believe represent – every single one of them as well as together – significant responses to, and/or reformulations/recontextualizations of, at least one of these questions while referring the reader to further abundant readings, and I will introduce each of these contributions shortly. But for now I want to outline the main concerns informing such questions and the resulting potential answers and/or ramifications while briefly highlighting some of the most relevant publications, authors, or milestones. I am therefore not embarking on an overview, but on a brief theoretical discussion that nevertheless presupposes practical insights and extensive bibliographies (at least implicitly).

Computational Literary Studies, Digital Literary Studies, Computational Approaches to Literature...

Computational approaches to literature, "literary computing", "digital literary studies" (DLS), and/or "computational literary studies" (CLS) have a long, rich, and at times bumpy history. In 1988, Rosanne G. Potter¹ was already speaking of "the difficulties of a synthesis" of literary criticism and literary computing and deploring

¹ Rosanne G. POTTER, "Literary criticism and literary computing: The difficulties of a synthesis" in *Computers and the Humanities*, volume 22, 1988, pp. 91–97.

that some of the computer scientists had too fast forgotten about their literature-related interests and tasks...

But what were the latter about? Much of the conversation at the time was revolving around authorship attribution – given a certain text the task is to find the most probable author from a limited set of authors – and what in time came to be known as stylometry – quantifying authors' style [or stylistic evolution] particularly based on the most frequent words, phrases or other discourse features in their works. When CLS refers strictly to that – as is the case in a recent and much needed historical and critical overview from Chris Beausang² – it goes as far back as 1963 while its recent history and most remarkable results gravitate around Delta difference between texts.³ Still, as Petr Plecháč shows in his contribution to this issue, there were – so far unknown but to a significant extent nevertheless valid – earlier attempts to apply similar methods dating no later than the 1940s... A long history, therefore, culminating in the past couple of decades with remarkable results obtained by authors such as David L. Hoover researching fiction⁴ but not only,⁵ and Jan Rybicki applying such methods in literary translation⁶. Rybicki did in fact take this to the next level when – together with Maciej Eder – he enacted a paradigm shift by automatically processing not only just a few representative or topic-sensitive words (as customary practice would have it before) but thousands of them and thus showing that Delta performs best beyond certain frequency ranks (3,000 specifically).⁷

Yet computational approaches to literature involve many more other things, and if CLS for instance tends at times to be the term attributed to the above-mentioned authorship and stylometric aspects, DLS has proved to be a more inclusive concept. In the *Companion to Digital Literary Studies* edited by Susan Schreibman and Ray Siemens⁸ the overarching theoretical framework advanced in the introductory chapter is the “new media encounter”, that is, the encounter, in simultaneously “‘social networked’ and intensely personal” contexts, between the literary and the digital⁹ (and not only between the literary and quantitative

² Chris BEAUSANG, “A Brief History of the Theory and Practice of Computational Literary Criticism” in *Magazén*, Vol. 1, Issue 2, December 2020, <https://bit.ly/37Ux71r>.

³ See Petr PLECHÁČ's article in this issue for an explanation of the concept and its correlate measurements and history.

⁴ See most recently David L. HOOVER, *Modes of Composition and the Durability of Style in Literature*, New York, NY, Routledge, 2020; different compositional approaches are stylistically compared – handwriting, dictation, etc. – and translation gets in focus as well.

⁵ David L. HOOVER, Kieran O'HALLORAN, and Jonathan CULPEPER, *Digital Literary Studies: Corpus Approaches to Poetry, Prose, and Drama*, New York, NY, Routledge, 2014.

⁶ Cf. for instance Chris TANASESCU and Raluca TANASESCU, “Chapter 24: Literary Translation in Electronic Literature and Digital Humanities” in Kobus MARAIS, ed., *Translation beyond Translation Studies*, New York, NY, Bloomsbury, 2021. In press.

⁷ Jan RYBICKI and Maciej EDER, “Deeper Delta Across Genres and Languages: Do We Really Need the Most Frequent Words?” In *Literary and Linguistic Computing*, 26(3), 2011, pp. 315-21. For the whole research context and comparative overview of Delta approaches, see BEAUSANG 2020.

⁸ Susan SCHREIBMAN & Ray SIEMENS, eds., *A Companion to Digital Literary Studies*, Oxford, Blackwell, 2008.

⁹ Alan LIU, “1. Imagining the New Media Encounter” in SCHREIBMAN & SIEMENS 2008, [https:// bit.ly/3f7oNzM](https://bit.ly/3f7oNzM).

approaches, although the latter are also included). Consequently, topics range from modeling in/for literary studies¹⁰ to the “virtual codex” (the e-book)¹¹ to digital poetry¹² to “algorithmic criticism”¹³ to so many others. In his contribution, Stephen Ramsay for instance foregrounds his notion of algorithmic criticism as literary criticism prompted or even informed by computational approaches and results. He notes a binary in the current research and its notable antecedents (e.g. Potter’s above-cited article) involving, on the one hand, science (and a desired sort of scientific criticism) and traditional-modern literary criticism, on the other. He traces that back to Father Busa’s foundational statistical approaches to theological exegesis from the 1940s thus offering an origin story that is not one of authorship attribution but of text analysis (and therefore making the origin of computational literary analysis the same as that of DH). While empirical quantitative (literary) text analysis and qualitative hermeneutic literary criticism naturally tend to dismiss each other, Ramsay argues they should in fact be made to converge. This would require a “revolution” on the part of text analysts involving gearing computational methods towards providing intriguing “patterns” (the goal of all literary criticism anyway, be it computational or not, states the author) instrumental in “assist[ing] the critic in the unfolding of interpretive possibilities” and in articulating her hermeneutic *inventio*.¹⁴

A method illustrated by Ramsay is *tf-idf* (term frequency-indirect term frequency, in natural language processing/NLP) as an effective means to in-depth distinctions between fragments of a text, or texts within a corpus, helping in his example to distinguish between voices in Virginia Wolf’s fiction. Yet *tf-idf* has been used for other even more creative kinds of *inventio*. A collective of poets, translators, and coders edited for instance “a computationally assembled anthology” of poetry by combining the above-mentioned method and another NLP, in-house (“graph poem”) diction classifier, to discover patterns in a corpus of poems represented as a network and automatically expand the latter with poem-nodes having certain specific stylistic features.¹⁵ In their contribution to this issue, to give just one more example, Torres and Guerreiro Dias use a *sui generis* algorithmic rhetoric to formulate and develop their argument involving reviewing and classifying Portuguese experi-

¹⁰ Willard MCCARTHY, “21. Knowing...: Modeling in Literary Studies” in SCHREIBMAN and SIEMENS 2008, <https://bit.ly/3f82oC8>. See also Arianna CIULA and Øyvind EIDE, “Modelling in digital humanities: Signs in context” in *Digital Scholarship in the Humanities*, 32(suppl_1), 2017, pp. i33-i46.

¹¹ Johanna DRUCKER, “11. The Virtual Codex from Page Space to E-space” in SCHREIBMAN and SIEMENS 2008, <https://bit.ly/3C86tjN>.

¹² Christopher FUNKHOUSER, “Digital Poetry: A Look at Generative, Visual, and Interconnected Possibilities in its First Four Decades” in SCHREIBMAN and SIEMENS 2008, <https://bit.ly/3AN2mYV>. See also C.T. Funkhouser, *New Directions in Digital Poetry*, New York, NY, Bloomsbury, 2012.

¹³ Stephen RAMSAY, “26. Algorithmic Criticism” in SCHREIBMAN and SIEMENS 2013, <https://bit.ly/3A1elSr>. See also Stephen RAMSAY, *Reading Machines. Toward an Algorithmic Criticism*, Urbana, University of Illinois Press, 2011.

¹⁴ RAMSAY 2013, n.p.

¹⁵ MARGENTO, eds., “US” *Poets Foreign Poets. A Computationally Assembled Anthology*, Bucharest & Ottawa, Fractalia, 2018. See also, Alan SONDHEIM, Brian Kim STEFANS, Johanna DRUCKER, John CAYLEY, and MARGENTO, “Our Shared World of Language: Reflections on ‘US’ *Poets Foreign Poets*” in *Aymptote*, May 30, 2019, <https://bit.ly/2VPPSAU>.

mental and digital poetry. Such applications go indeed beyond the above-mentioned binary – quantitative approaches vs. traditional-modern literary criticism – while making computational analysis, hermeneutics, and even creative work converge.

Or, do they? As a matter of fact, one cannot speak of computational approaches to literature without mentioning the substantial and long-standing critique of, when not frontal opposition to, or even denial of, DLS or CLS. The subject is again too vast to cover here, so I will just make a quick mention of some of the most relevant concerns and briefly revisit a few of the most significant references. As Beausang remarks in the already cited article,¹⁶ the main opposition to CLS came from the very beginning from post-structuralist¹⁷ critics who saw in its empirical and statistical foundations a rudimentary, simplifying, if not reactionary approach to literature. The core tenets of this critique have remained the same to this day, but then, paradoxically, the continued refinement of computational approaches – and the attendant theoretical standpoints and experiments – rendered the methods able to tackle uncertainty and output shades of differences in updated spectrum-based tactics.¹⁸ Nan Z. Da’s much debated “computational case” against CLS, for instance, mainly focuses on improperly applied machine learning methods or farfetched if not mystifying interpretations of their output (e.g., Andrew Piper’s discernment of signs of conversion in the evolution of St. Augustine’s style)¹⁹ and not so much on the informing theoretical assumptions. Besides, as Kesarwani et al. argue in their article in this special issue, Da’s statements and computational examples are – like, unfortunately and paradoxically, others in the CLS camp too – impaired by a bias against underrepresented genres, mainly poetry, but to a certain extent drama as well.

The growing popularity and refinement of machine learning (ML) and NLP are in and of themselves responses to the skepticism regarding, and strong arguments in favor of, their applications in literature or the humanities more generally.²⁰ A fundamental (and elemental) fact usually ignored by the skeptics is that

¹⁶ BEAUSANG 2020.

¹⁷ Meanwhile post-structuralism itself arguably is an outdated paradigm in the age of “post-mediatic intermediality”, the latter involving a dynamic and approach nevertheless typical of digital writing and digital space. See Jean-Marc LARRUE and Marcello VITALI-ROSATI, *Media Do Not Exist: Performativity and Mediating Conjunctures*, Amsterdam, Institute of Network Cultures, 2019.

¹⁸ Ibid. pp. 194-5; a most salient example is that of Ted Underwood’s work on genre detection, of which more below.

¹⁹ Nan Z. DA, “The Computational Case against Computational Literary Studies” in *Critical Inquiry*, 45(3), 2019, <https://doi.org/10.1086/702594>. See also Piper’s response, Andrew PIPER, “Do we know what we are doing?” in *Journal of Cultural Analytics*, Vol. 1, Issue 1, 2020, <https://bit.ly/3igarim>.

²⁰ There is also a growing body of Computer Science literature tackling literature-relevant issues successfully without necessarily worrying about disciplinary or traditional literary theory-related skepticism. Cf. for instance, Justine KAO and Dan JURAFSKY, “A Computational Analysis of Style, Affect, and Imagery in Contemporary Poetry” in *Proceedings of the NAACL-HLT 2012 Workshop on Computational Linguistics for Literature*, Montreal, Association for Computational Linguistics, 2012, <https://aclanthology.org/W12-2502>; also, Chris TANASESCU, Diana INKPEN, and Bryan PAGET, “Classification of Poetry by Meter and Rhyme.” *FLAIRS 29: Proceedings of the 29th Florida Artificial Intelligence Research Society Conference*, Association for the Advancement of Artificial Intelligence, United States, 2016, pp. 244-249, <https://bit.ly/3A1Rg1O>. Cf. as well the special issue on “Computational Linguistics and Literature” of *Frontiers in Digital Humanities* guest-edited by Stan SZPAKOWICZ, Anna

mathematical judgments – including some of the ones elementally informing NLP – can be qualitative as well. And so can be their literary or humanities-oriented deployment. In periodical studies, for instance, computer-based qualitative approaches have been developed based on the topic modeling of either large datasets²¹ or, as is the case of Birkholz and Budke’s contribution to this issue, manually annotated ones the qualitative analysis of which is intertwined with the quantitative analysis of the networks representing them. What’s more, in deep learning, the more recent ML and NLP paradigm, the complexity – and to a certain extent, incomprehensibility – of the text analysis-relevant models, processes, and even results could (or maybe should) make skeptics, traditional-modern-school literary critics included, jealous.²² Difference and undecidability, post-structuralist prominent concepts, are there and, moreover, they involve parallels to human knowledge acquisition, reasoning, and even creativity. As Bethany Nowviskie once argued, the convoluted ways in which deep learning models... learn is in certain respects as complex and hard to understand as (even if not, one may add, isomorphic to) the ways in which humans learn and analyze information.²³ That kind of complexity, well beyond the (anyway crude) tags of rudimentary empiricism or nuance-insensitive statistics at times attached to DLS/CLS, is the driving force behind contemporary cutting-edge approaches to both computational literary analysis and creative poetry generation.²⁴ Furthermore, the latter is indeed entitled

FELDMAN, and Anna KAZANTSEVA, 2018, <https://bit.ly/2VZKmvT>. More recently, DLS scholars started to adopt a computer science-informed standpoint themselves. Cf. for example, Wenyi SHANG and Ted UNDERWOOD, “Improving Measures of Text Reuse in English Poetry: A TF-IDF Based Method” in K. TOEPPE, H. YAN, and S. K. CHU, eds., *Diversity, Divergence, Dialogue – 16th International Conference*, iConference Proceedings, 2021, pp. 469-477.

²¹ Michael S. EVANS, “A Computational Approach to Qualitative Analysis in Large Textual Datasets” in *PLoS ONE*, vol. 9 issue 2, 2014, <https://bit.ly/2TL6Kb2>.

²² The effectiveness of computational approaches and tools has been documented in literature pedagogy as well. See for instance W. Webster NEWBOLD and Herbert F. STAHLKE, “Poetry I: Teaching Verse with CAP” in *Computers and the Humanities*, Vol. 24, 1990, pp.177–185; also, C. RYBAK, “Poetry” in R. FROST DAVIS, M. K. GOLD, K. D. HARRIS, and J. SAYERS, eds., *Digital Pedagogy in the Humanities. Concepts, Models, and Experiments*. MLA Commons, <http://bit.ly/2CwFxxN>; in Spanish, Clara MARTÍNEZ CANTÓN and Pablo RUIZ, “La evaluación de herramientas como modo de aprendizaje e introducción de las Humanidades Digitales en el aula universitaria. La experiencia docente ‘Poesía distante’” in *Didáctica (Lengua y Literatura)*, Universidad Complutense de Madrid, 31, 2019, pp.171-190.

²³ Bethany NOWVISKIE, “Reconstitute the World” on the author’s blog, June 12, 2018, <https://nowviskie.org/2018/reconstitute-the-world/>. In more recent NLP research, the human way of learning languages is sometimes considered as a potentially much better model which does not rely on huge amounts of data (the way deep learning does) but on a quicker and more robust capacity to generalize based off of much limited exposure. Cf. Tal LINZEN, “How Can We Accelerate Progress Towards Human-like Linguistic Generalization?”, *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics*, ACL 2020, pages 5210–5217, <https://arxiv.org/pdf/2005.00955.pdf>. On the unclear way in which ML algorithms reason and make decisions more generally see Tobias BLANKE, “AI and humanities: new intelligence with attention to detail”, University of Amsterdam, n.d., <https://bit.ly/3BQ00YV>. In the wider context of DH, Blanke asserts that the major contribution of the humanities to AI is questioning and researching the latter’s ethics. See for instance the talk given at UCLouvain, Tobias BLANKE, “Researching the Digital Human – Where are the Humanities in Artificial Intelligence?” 2020, <https://bit.ly/2THGKgZ>.

²⁴ For the former, cf. for instance Chris TANASESCU, Vaibhav KESARWANI, and Diana INKPEN, “Metaphor Detection by Deep Learning and the Place of Poetic Metaphor in Digital

to the kind of algorithmic criticism Ramsay has advanced for human-authored literature particularly since having a pronounced human-computer-interaction (HCI) dimension.²⁵

Literature's Relevance to Computationality. A D-shaping H in DH?

From an even wider angle, DHers like Tobias Blanke, who has a background in both moral philosophy and computer science, can (and have) peremptorily point(ed) out the contributions of the humanities to AI²⁶ and DH. The relevant theoretical framework of such inquiries involved the ways in which the H currently reshapes or should reshape the D in DH. This is one of the many possible tie-ins with the second question posed at the beginning of this introduction, as literature has been now and then envisaged as the agent of such symmetrical scrutiny.

Katherine Bode, to give an iconic example, while noting Franco Moretti's unquestioning trust in algorithms, made a strong point in favor of a critique of algorithms coming from humanists and specifically those in DLS. She illustrated herself such a notion while working on Australian fiction, on digital collections more generally, and on periodicals featuring literature in particular.²⁷ Another milestone in that respect is a collection edited by a researcher with a similar background in book history, Lisa Gitelman, one in which contributors explore both the humanities and science (mathematics included) in making a coherent point about data being always cooked – “*Raw Data*” *Is an Oxymoron*.^{28/29} More to the point here, Lisa Marie Rhody fused feminist poetics with text mining to uncover gender-biased editorial politics (on poets.org for instance); she also refined NLP methods related to what is customarily considered to be “small” words, including pronouns, articles, and prepositions” and to topic modeling to capture difference of tone in women poets

Humanities” in *FLAIRS 31: Proceedings of the 31st Florida Artificial Intelligence Research Society Conference*, 2018, <https://bit.ly/2P5LV6M>. For the latter, see JHAVE, *Big-Data-Poetry*, 2016, <https://github.com/jhave/Big-Data-Poetry>.

²⁵ David Jhave JOHNSTON's 12 collections of poetry *ReRites* released in 1 year (2019) and representing by and large the output of the *Big Data Poetry* project cited in the previous footnote, have the following subtitle, “Human + A.I. poetry. Generated by a computer. Edited by a human” (<http://glia.ca/rerites/>). Johnston frames his poetics – and digital poetry by and large – in an even more inclusive way, as a form of digital/AI animism, in David Jhave JOHNSTON, *Aesthetic Animism: Digital Poetry's Ontological Implications*, Cambridge, MA, MIT, 2016.

²⁶ BLANKE 2020.

²⁷ Katherine BODE, *Reading by Numbers: Recalibrating the Literary Field*, London, Anthem Press, 2012. Also, Katherine BODE, *A World of Fiction: Digital Collections and the Future of Literary History*, Ann Arbor, University of Michigan Press, 2018, alongside her more recent work on The Australian Newspaper Fiction Database.

²⁸ Lisa GITELMAN, ed., “*Raw Data*” *Is an Oxymoron*, Cambridge, MA, MIT Press, 2013.

²⁹ For a more detailed and technical overview of (text) data-modeling approaches in DH see Julia FLANDERS and Fotis JANNIDIS, *The Shape of Data in the Digital Humanities. Modeling Texts and Text-based Resources*, New York, NY, Routledge, 2018.

where the language or theme resembled those of male poets.³⁰ Adopting a similar genre – even if not gender – focused approach to “small words,” more specifically known as stopwords in NLP, another team of researchers has consistently experimented with relevant computational poetry analysis outputs in various contexts.³¹

One of the main tenets of this latter project is the relevance of poetry (when tackled with computational analysis algorithms and graph theory apps) beyond the genre and also to fields like computer science (ML and NLP specifically), DH, literary studies and criticism, and performance studies.³² Asking complex questions about the literary and working to solve the complex attendant computational tasks will inevitably veer into multiple relevant other subjects and interests, and, more often than not, raise pertinent questions and offer possible answers in those fields as well. While working on computationally classifying genres and exploring their “life span”, Ted Underwood managed to establish their fundamental societal (and consequently historical) nature. Such results are already remarkable for the fields of literary studies and theory, and the sociology of literature altogether, yet they also occasion reflections, and philosophical and practical conclusions, on topics including supervised (machine) learning and the latter’s effectiveness in diachronic (genre-focused) text corpus analyses. Moreover, they gesture towards a new computational concept and method transferable to other kinds of data, i.e., “perspectival modeling”.^{33/34}

These considerations and advancements warn against considering the above-mentioned D and H (in DH or beyond) immovable, impregnable, or airtightly demarcated. If there is hardly any way to write, read, and/or publish literature nowadays without involving the D, there is also no D without the human (so far). More and more new avenues are therefore continuously opened, as we have already seen, for the H – and consequently, literature – to investigate, question, or (re)shape the D.³⁵ Which takes us to the third question posed at the beginning of this

³⁰ Lisa Marie RHODY, “Why I Dig: Feminist Approaches to ‘Text Analysis’” in Matthew K. GOLD and Lauren F. KLEIN, eds., *Debates in the Digital Humanities*, Minneapolis, MN, University of Minnesota Press, 2016, <https://bit.ly/3icROvF>.

³¹ Chris TANASESCU, Diana INKPEN, Vaibhav KESARWANI, and Prasadith KIRINDE GAMAARACHCHIGE, “A-poetic Technology. #GraphPoem and the Social Function of Computational Performance” in *Digital Humanities Benelux Journal*, Volume 2, “Digital Humanities in Society”, 2020, <https://bit.ly/3cY9JlD>.

³² The *Graph Poem* project (and the correlate #GraphPoem computational poetry performances, cf. <https://bit.ly/2U2CCII>). Regarding the relevance of poetry to NLP and DH beyond the genre and the literary see for instance TANASESCU et al. 2018 and KESARWANI et al. in this issue. With regards to performance, see TANASESCU et al. 2020.

³³ Ted UNDERWOOD, *Distant Horizons: Digital Evidence and Literary Change*, Chicago, IL, University of Chicago Press, 2019, pp. 35-6 et infra.

³⁴ The notion of literature and the humanities at large being involved in shaping computational approaches and the digital per se is far from representing a new agenda. Drucker most notably began raising the question over a decade ago in Johanna DRUCKER, *SpecLab: Digital Aesthetics and Projects in Speculative Computing*, Chicago, IL, University of Chicago Press, 2009, a book illustrating her contention that humanists must play a role in designing models of knowledge for the digital age.

³⁵ From the contributions to this issue, the one by Kesarwani et al. for example underline the relevance to NLP and computer science more generally of the specific poetry analysis algorithms and tools they present. Feldman also underscores the importance of what may seem a strictly linguistics

introduction related to the relationship between the literary and the digital in the most general and inclusive sense of the term.

The Literary as the Digital?

Rather than considering a possibly complete coincidence or bijective correspondence between the two, the question refers to the ways in which (if any) the former functionally or even representationally speaks to at least some of the most salient characteristics or manifestations of the latter. For reasons different from the first question – no fathomless explicitly relevant bibliographies involved in this case – or the second one – there is no budding corpus of theoretically articulate consistent approaches – trying to answer this third question would still also implicate an ample discussion. It is just that in this case the possible clues for addressing the issue could be anywhere and everywhere – or, one may wonder, maybe nowhere – while there are nevertheless contributions (even if only a handful of them so far) or statements within larger contexts explicitly dealing with this. I will therefore point out just a few items as suggestions for ampler future conversations.

A first and potentially foremost relevant feature of literature in digital space is its incessant protean self-contradicting and paradoxical versatility continuously subverting or violating absolutely any genre definition or boundary. As Corentin Lahouste puts it in his article in this issue, what characterizes electronic literature (e-lit) is the total “*absence de bornes*”, absence of any limits or boundaries. To give just one quick example, digital poetry can refer to works in which there is no language at all³⁶ (except for the underlying programming ones) and are thus undistinguishable, in terms of genre, from digital art,³⁷ except perhaps for the terms or tags used by the authors or critics to describe them. This combined with the fact that the Web is in and of itself a form and source of ubiquitous and incessant writing has already led to some stunning critical notions. Sandy Baldwin for instance, while acknowledging

and literature-relevant task – idiom detection – to NLP in general and, as a matter of fact, to any and all possible NLP tasks. The first section of this issue is then replete with H-based critical questions and creative endeavors reshaping or repositioning the D. In as much as this section of the introduction is concerned though, I preferred to simply state the main relevant directions so far (as they speak to the contributions to this issue as well): the ethical, cultural, and political critique of algorithms and the rise of humanistically-informed computational analysis methods. A culmination of the former is represented by the widening field of “critical code studies” (CCS) that gained prominence recently but goes at least a decade back, see Mark C. MARINO, *Critical Code Studies*, Cambridge, MA, MIT, 2020; see also the CCS special feature forthcoming in *Digital Humanities Quarterly*. These directions have already outputted palpable – if inchoate or not yet fully established – approaches that potentially take the question past the realm of the hypothetical or the speculative from an AI angle. It is the extent to which this angle is currently more and more informed by such H-based concerns that I find at stake here.

³⁶ This has of course traditional avant-garde and conceptualist forerunners, but that is beyond the scope of this discussion.

³⁷ Among the most significant periodicals featuring literature and/as digital art and performance without bothering to distinguish between genres, arts, or subjects, see for instance *Place*, a “platform” that hosts creative and critical work as well as digital space/art gallery events, <https://bit.ly/3sVAP4K>.

the paradoxical status of contemporary e-lit in an extreme fashion – by saying that there is currently no e-lit³⁸ – has asserted that the problem of (e-)lit is actually writing the Web.³⁹ In their contributions to this special issue, Andrew Klobucar and Álvaro Seiça advance expanded concepts of writing in their own turn; while Seiça speaks of intermedial approaches to writing that go beyond the literary in bridging the popular (also the commercial) and the avant-garde, Klobucar speaks of “vagueness machines”. The latter refer to HCI literary writing integrating programming and thus critically exposing and creatively repurposing the mystifying claims of clarity in digital culture at large. In doing so, digital literary writing integrates – and subverts – the dominant (corporate and ubiquitous) writing of the digital and repositions it into larger, more complex and inclusive paradigms. This can – and has already – be(en) envisioned within the context of e-lit translation, seen by Jan Baetens for instance as a model for “understanding software culture” and at the same time significant steps towards a (general) theory of writing as digital (literary) translation.⁴⁰ Furthermore, in most recent approaches, complexity in literary translation has been advanced and detailed – in its computational implementation – as the timely framework for bridging DH and translation studies into comprehensive trans- and post-disciplinary paradigms.⁴¹

A development following from such expanded and expansive notions of writing and/as translation is viewing the Web per se as a work of literature and/or viewing literature as *the* Web genre. There are different takes on this, ranging from the post-romantic – the internet is the ultimate poem⁴² – to the philosophical and essayistic – digital space is informed by a sonic economy best understood in certain of its manifestations (such as memes) by drawing on Bachelard’s poetics of space⁴³ – to the computationally poetic: poetry is *the* digital genre given its inherent networked, performative, communal, and “placing”/site-shaping functions.⁴⁴ On the other hand, literature and/as the Web involves diversity, multilingualism, post-

³⁸ Sandy BALDWIN, *The Internet Unconscious. On the Subject of Electronic Literature*, New York, NY, Bloomsbury Academic, 2016, p. 45.

³⁹ Ibid., p. 23.

⁴⁰ Jan BAETENS, “Creating New Constraints: Toward a Theory of Writing as Digital Translation” in *Electronic Book Review*, 2018, <http://bit.ly/2HA9vIZ>. Baetens reviews in his piece the article Maria MENCÍA, Søren POLD, and Manuel PORTELA, “Electronic Literature Translation: Translation as Process, Experience and Mediation” also in *Electronic Book Review*, 2018, web: <http://www.electronicbookreview.com/thread/electropoetics/translative>.

⁴¹ Raluca TANASESCU, “Chapter 4: Complexity and the Place of Translation in Digital Humanities: Post-Disciplinary Communities of Practice in the Translation Studies Network” in Reine MEYLAERTS and Kobus MARAIS, eds., *Exploring the Implications of Complexity Thinking for Translation Studies*, New York, NY: Routledge, 2021. In press. See also the crucial importance of translation in Jen Bervin’s poetics as discussed by Andrew Klobucar in his contribution to this issue.

⁴² Jerome ROTHENBERG (and Heriberto YEPEZ, ed.), *Eye of Witness. A Jerome Rothenberg Reader*, New York, NY, Black Widow Press, 2013.

⁴³ Stephen KENNEDY, *Chaos Media: A Sonic Economy of the Digital Space*, New York, NY, Bloomsbury Academic, 2015. It is in Kennedy’s acceptance of the term that I am referring myself to “digital space” in this paper. Critical metaphors developed by Kennedy in the book for digital space also include the digital city and (the literature-informed) cabinet of curiosities.

⁴⁴ Cf. Chris TANASESCU, “Community as Commoning, (Dis)Placing, and (Trans)Versing: From Participatory and ‘Strike Art’ to the Postdigital” in *Dacoromania Litteraria* 3, 2016, pp. 10-44, <http://bit.ly/2nqr0P2>.

colonialism, feminism, and, consequently, breaking away from hegemonic narratives. In her contribution to this issue, Maria Mencía ticks most of these boxes by introducing a global community of e-lit women authors challenging male and Anglophone hegemony. She also questions the e-lit-generations narrative as framed by Leonardo Flores (see below) and so does another contemporary critic, Thorsten Ries, for relatively similar reasons. Yet Ries places in fact a question mark on the whole ELO (Electronic Literature Organization) paradigm for three main reasons: first, the generational model implying a linear narrative of progress from one generation to the next, second, the critical emphasis on the “screen performance” level of literature at the expense of the multiple other relevant technical elements, and, third, a focus on western/Anglo cultures that fails to grasp and account for much more linguistically and culturally complex global landscapes and communities.⁴⁵ In their contribution to this issue, Patras et al. instrumentalize similar concerns from a complementary distant reading perspective involving eleven European languages and literary corpora. In studying novel titling practices across the continent in the 19th and early 20th centuries, the authors raise new questions regarding transnational influence, communities of practice, and literature audiences while congealing themselves into a contemporary multilingual and transnational DLS community in their own right. Communities in such contexts (and not only)⁴⁶ emerge therefore as closely related to (literary) corpora and collections, and, inevitably, to issues of taxonomizing and preserving the latter. From Matthew Kirschenbaum’s “.txtual condition”⁴⁷ to more recent efforts from scholars like Stuart Moulthrop and Dene Grigar⁴⁸ to initiatives such as the Digital Literature Lab at the Royal Library of Belgium and UCLouvain jointly to DH journal special issues on digital-born archives in widening international contexts,⁴⁹ this has been an ongoing concern. Raising the issue, or undertaking to solve the challenge, of structuring, classifying, and preserving (e-)lit collections in their intermedial and linguistic/cultural multidimensionality directly or indirectly addresses the issue of taxonomizing and saving any data and, ultimately, the Web per se.

Developing and/or working with *computational* ontologies for such collections and, consequently, for the (intermedia data on the) Web, inevitably involve revisiting

⁴⁵ Thorsten RIES, “Digitale Literatur als Gegenstand der Literaturwissenschaft. Ein multi-modales Forschungsprogramm” in Hannes BAJÖHR and Annette GILBERT, eds., *Text + Kritik*, Vol. X/21, Sonderband Digitale Literatur II, 2021, [in print].

⁴⁶ Cf. for instance the just mentioned global community of e-lit women authors described by Maria Mencía in her contribution to this issue. Closely related as well is the impressively large and active community of Portuguese experimental and digital poets looming from Torres and Guerreiro Dias’s argument in their article in this issue as well. Regarding the topic of communities in e-lit (again, in an Anglophone context), see also Scott RETTBERG, Patricia TOMASZEK, and Sandy BALDWIN, eds., *Electronic Literature Communities*, Morgantown, WV, West Virginia University Press, 2015.

⁴⁷ Matthew KIRSCHENBAUM, “The .txtual Condition: Digital Humanities, Born-Digital Archives, and the Future Literary” in *Digital Humanities Quarterly*, 7.1, 2013, <https://bit.ly/3foS4pD>. See also Bénédicte VAUTHIER, “The .txtual condition, .txtual criticism and .txtual scholarly editing in Spanish philology” in Thorsten RIES and Gábor PALKÓ, eds., *International Journal of Digital Humanities*, Special Issue on Born-Digital Archives, Vol. 1, Issue 1, 2019, <https://bit.ly/3m2BHDh>.

⁴⁸ Stuart MOULTHROP and Dene GRIGAR, *Traversals. The Use of Preservation for Early Electronic Writing*, Cambridge, MA, MIT Press, 2017.

⁴⁹ Thorsten RIES and Gábor PALKÓ, eds., *International Journal of Digital Humanities*, Special Issue on Born-Digital Archives, Vol. 1, Issue 1, 2019, <https://bit.ly/3fNQfma>.

the *philosophical* ontologies relevant to the digital age. In her contribution to this issue, Johanna Drucker distinguishes between writing *like* and *as* an algorithm, the latter describing her own experiments as a (cyber)writer but also gesturing towards a new ontology of both speaking and spoken subjects. Drucker wonders “*who the spoken subject of such discourse [composed when writing as an algorithm] might be. Other machines? Other texts produced in similar manner? Other writers of code or encoded authors?*” (my emphasis). Tanasescu et al.⁵⁰ have speculated on such evolving ontologies particularly in the context of community-performing interactive-coding intermedia events (#GraphPoem, i.e., *data-commoning webformances*). The latter involves “processually overlapping humans (as technological and poetic beings), poems (as performative inscriptions in digital space), and machines (as computationally implemented “*a-poetic*” algorithms and artificial intelligence)”.⁵¹ Klobucar expresses quite similar concerns in his contribution to this issue while speaking of “ever-expanding, interconnected human-machine network[s]” and digital poetry works as “technical organisms”⁵² and placing at the crux of his argument a “most pressing” question, “how clearly do they [such literary works] speak to each other”.

Within such fluctuating ontologies, “literary works” can represent, as is the case with Klobucar’s two central examples (see below), hybrids or syntheses of poetry collections, computer code, and media/modes of “reading-writing”.⁵³ Under the circumstances, the status of the book in the post-digital age becomes itself protean and representative of a more and more “bookish” culture. In developing her notion of “bookishness”, Jessica Pressman⁵⁴ gives illustrative examples of both (early) electronic and print literature in which the book symbolizes a form of resistance to a pernicious digital; but she also considers cases in which the book intermedially fuses traditions and strategies towards a revived literary of the (post)digital age. The book thus seems to have gone full circle in Pressman’s account: while it helped to establish literature as a ‘serious’ subject in the 19th century through the widely-spread personal attachment to reading and to books as objects, it can presently boost the literary and the significance of literature and literary criticism once again through a kind of subjective attachment – i.e., “bookishness” – that “rebelliously” opposes neoliberal intrusion and brings back a balance between the personal and the communal *within* the digital sphere.

Last but not least therefore, literature speaks to the architecture of our culture’s space and to digital space as commons, medium space, or space(s) of

⁵⁰ TANASESCU et al. 2020.

⁵¹ Ibid. n.p.

⁵² Consistent formulations and related interests are to be found in Brian Kim STEFANS, *Word Toys. Poetry and Technics*, Tuscaloosa, AL: The University of Alabama Press, 2017. For a discussion of the latter see also TANASESCU et al. 2020.

⁵³ Cf. Lori EMERSON, *Reading Writing Interfaces. From the Digital to the Bookbound*, Minneapolis, MN, University of Minnesota Press, 2014.

⁵⁴ Jessica PRESSMAN, *Bookishness: Loving Books in a Digital Age*, New York, NY, Columbia University Press, 2020. The book in the digital age is in and of itself a very substantial topic; for an introductory overview see for instance Leah HENRICKSON, “The Book in the Digital Age: An Introduction” in *Publishing History*, Vol. 83, 2020, pp. 7-18.

intermediality.⁵⁵ As previously suggested, sonic economy (alongside its echoic genres and cultures) informs a reality beyond the virtual-real binary within an “anamorphosis”⁵⁶ of “chaos media”.⁵⁷ In their contribution to this issue, Carole Bisenius-Penin and Karen Cayrat look at the porosity of the boundaries between digital and geographical locations particularly as uncovered and taken-advantage-of by digital literature and performance-poetry authors while participating in digital writing residencies. The latter are seen as both institutions and *dispositifs* facilitating a spatialized poetics of convergence in which cityscapes and technologies are combined to explore the above-mentioned hybrid spatiality. Media in such spaces are therefore continuously – “chaotically” and resonantly – translated into each other. There will nevertheless always be something lost in translation – what Øyvind Eide calls the “fall-off”⁵⁸ – just as there will be complex incongruences, e.g. between (literary) texts and maps.⁵⁹ A functional “topophrenia”⁶⁰ therefore conjoining being lost or submerged in medium spaces and creatively sequencing or (re)mixing those media – or rather, “mediating conjunctures”⁶¹ – is a most typical ‘symptom’ of our culture(s) and literatures. Poetry in the case of Christopher Funkhouser’s decade-spanning career and its condensed saga featured in this issue naturally spills into reading and performance recording and documentation, online (intermedia) editorial work, recording studio and/or digital audio editing experimentation and radio show production, e-lit performances – involving in their turn voice, (text or art) projections, and instrumental music feeding into each other – and so on and so on. “Machinery increasingly controls the contexts in which voices are positioned, thus it is important to occupy the many positions where they can be heard” says Funkhouser echoing the statement on digital space topophrenia above alongside the other HCI or cyber-human ontologies referenced in this issue. Voice and discourse in computational contexts are also at the heart of Drucker’s documented experiments and theoretical considerations related to the (*position* of the) spoken subject of an algorithm in her own essay. James Lee and authors in their contribution also combine poetry and audio although for different purposes – analyzing holistically the style of poets across both textual and sonic media diachronically – although they concur with Funkhouser and quite a number of other contributors in

⁵⁵ And in doing so, it hypermedially performs and formalizes time as well, cf. for instance Myriam WATTHEE-DELMOTTE, “Performativité et ritualité du deuil dans l’art numérique : une formalisation de la temporalité” in *Hybrid*, issue 05, 2018, <https://bit.ly/3Cc26Ei>.

⁵⁶ Servanne MONJOUR, *Mythologies postphotographiques. L’invention littéraire de l’image numérique*, Montreal, PU Montréal, 2018, particularly the chapter “Le modèle anamorphique” and the concept of an anamorphic ontology in which binaries like real-virtual make no sense anymore – and are actually not there anymore whatsoever – just as all traditional ontological problematics disappear into an a-priori deformation, of shapes within the shapeless.

⁵⁷ KENNEDY, 2015.

⁵⁸ Cf. Øyvind EIDE, *Media Boundaries and Conceptual Modelling. Between Texts and Maps*, London, Palgrave Macmillan, 2016.

⁵⁹ Ibid. See also Øyvind EIDE, “Text-based Maps. Between Production and Reflection”, talk at UCLouvain, 2020, <https://bit.ly/2V1lrrf>.

⁶⁰ I am borrowing the literary usage of the term from Robert T. Tally while transplanting it into digital space and media. Cf. Robert T. TALLY, *Topophrenia. Place, Narrative, and the Spatial Imagination*, Bloomington, IND, Indiana University Press, 2018.

⁶¹ Cf. LARRUE and VITALI-ROSATI 2019.

at least one respect: they also curate, expand, explore, and/or creatively sample digital (multimedia) archives.

Did such archives come into existence due to their literary focus or are they (tagged) literary for featuring intermedia digital/ized data? This may stop sounding like a facile or obtuse pun when reading Monjour and Vitali-Rosati's contribution to the issue. Pornographic literature – especially the one done by women writers online and particularly in social media – redefines the center and the margins in ways that *re-position* both itself and mainstream male-dominated (“Saint-Germain”) literature. It does so by (re)shaping digital space and mercurially crossing media and revolutionizing their technology and operability: just as cinema benefited from pornography in its early days, so does Netflix owe its existence to compression algorithms and other video-related technologies developed by amateurs for porn. Social media and blog literature, Instapoetry in particular as recently analyzed by Mike Chasar, similarly combines text and, often literally graphic, image/video in pushing the boundaries of accepted social media and literary established practice or etiquette. In doing so, it reconnects with ‘classic’ self-publishing traditions (Walt Whitman and – one may add, for instance – William Blake) and subversive modernist tactics of bypassing editorial (or currently internet/media-controlling) gatekeepers.⁶²

The Articles in this Issue

The contributions to this issue have been broken down into three main sections, “(Trans)Personal, Alternative, and Intermedial Literary Histories”, “NLP & Distant Reading”, and “E-lit 4.0”, and in the following part I will briefly introduce them one at a time. While (some of) the relevant subjects and terms have already been presented in this introduction, e-lit simply joined the conversation as we were going along, and did strongly so indeed by raising claims about writing the Web from the very starting line. Yet here we are on the cusp of reading about some 4.0 approaches without having been provided a proper definition and/or brief overview of the term and its history/ies. The go-to relevant reference at the present moment is Scott Rettberg's eponymous *Electronic Literature*⁶³ where both punctual definitions,⁶⁴ wide-ranging enumerative descriptions, and illustrative examples are offered, while tie-ins with traditional avant-gardes – particularly Dadaism – are elucidated. A tie-in even more relevant to our discussion was also advanced by Rettberg a few years ago when

⁶² Cf. Mike CHASAR, *Poetry Unbound. Poems and New Media from the Magic Lantern to Instagram*, New York, NY, Columbia University Press, 2020, particularly “Chapter 6. From *Murder* to *milk* and *boney*”. Also on the impact/relevance of the literary on/to ‘new media’ see the chapter on the “literary invention of digital photography” in MONJOUR, 2018.

⁶³ Scott RETTBERG, *Electronic Literature*, Cambridge, UK, Polity Press, 2019.

⁶⁴ Literature “native to the digital environment – for the most part they [the literary works] could not easily be produced or consumed in print literary contexts.”, *ibid.* p. 4.

he published a book chapter on “[e]lectronic [l]iterature as DH”.⁶⁵ At the time of this writing a collection by the same title was just released, edited by Dene Grigar and James O’Sullivan,⁶⁶ in which an impressive host of contributors argue in favor of the same equivalence from three major standpoints: contexts, forms, and practices. Quite a number of articles in this special issue refer explicitly or implicitly to e-lit-DH commonalities too: Funkhouser envisages DH avenues of investigation opened by the kind of research and creative work he does in e-lit (reframed as/) and digital sound,⁶⁷ Klobucar revisits the epistemological and cultural-political import of contemporary NLP (a most central DH subject) from an e-lit angle, Seica (who has contributed both to this issue and to Grigar and O’Sullivan’s collection) makes DLS-relevant statements while speaking of kinetic poetry, Bisenius-Penin and Cayrat explore space (another long-standing DH theme) through the lens of e-lit writing residency programs, and so on and so forth. Rather than propounding an identity⁶⁸ though, these contributions explore inapparent intersections and possible modes in which the two fields can enrich and refine each other both critically and creatively while still maintaining a non-ostentatious yet consistent sense of specificity.

Johanna Drucker’s contribution “Writing like a Machine or Becoming an Algorithmic Subject” opens the “(Trans)Personal, Alternative, and Intermedial Literary Histories” section, and it poses a simple and yet potentially widely consequential question. After a very brief yet pertinent introduction on algorithms and their facets as utterances, Drucker borrows from linguistics the concept of enunciation and particularly its correlative, subject position. She then foregrounds the latter’s relevance to literature to ask the question at the core of her argument: who are the speaking and the spoken subjects of an algorithm? Who speaks and who is spoken in an algorithm, particularly in a literary algorithm? The issue is particularly complex given the abstract and at times evolutive or inherently metamorphic nature of algorithms, on the one hand, and the ingrained procedural formalism (what John Cayley would call programmability) of literature in general, on the other. In terms of illustrating this notion, Drucker prefers to give three surprising examples that speak to her in certain relevant personal ways. The first one

⁶⁵ Scott RETTBERG, “Electronic Literature as Digital Humanities” in Susan SCHREIBMAN, Ray SIEMENS, and John UNSWORTH, eds., *A New Companion to Digital Humanities, 2nd Edition*, Hoboken, NJ, Wiley-Blackwell, 2016, pp. 127-136.

⁶⁶ Dene GRIGAR and James O’SULLIVAN, eds., *Electronic Literature as Digital Humanities: Contexts, Forms, and Practices*, New York, NY, Bloomsbury, 2021.

⁶⁷ Funkhouser is right in that there are indeed digital sound-relevant initiatives in both DH and e-lit; for the former, see for instance, Mary Caton LINGOLD, Darren MUELLER, and Whitney TRETTIEN, eds., *Digital Sound Studies*, Durham, NC, Duke University Press, 2018. For the latter, see John F. BARBER, “9. Electronic Literature and Sound” in Dene GRIGAR and James O’SULLIVAN 2021. Barber has also been very active in the DH community on digital sound-related topics for years now; see also recently, John F. BARBER, “Walking Transects to Explore Soundscapes as Digital Humanities Research and Creative Practice” in *IDEAH*, Vol. 1, Issue 1 (DHSI 2017 & 2018), 2020, <https://doi.org/10.21428/f1f23564.ef360075>.

⁶⁸ Dene Grigar states that “[i]n sum, electronic literature *is* digital humanities because of our shared philosophy that a computer is not a tool or prosthesis that helps us to accomplish our work; rather, it is the medium in which we work” (author’s emphasis) in the introduction to GRIGAR and O’SULLIVAN 2021, quoted here from the version published as Dene GRIGAR, “Electronic Literature as Digital Humanities: An Introduction”, *Electronic Book Review*, 01-10-2021, <https://doi.org/10.7273/4fq7-6d24>.

is a 19th century monumental catalog of literary curiosities that she previously examined in an e-lit context – *Amusements Philologiques* assembled by Gabriel Peignot, aka. Philomneste – and the other two are recent – collaborative and cross-artform – works of her own, *Fabulas Feminae* (with Susan Bee, 2015) and *The Fall* (with Brad Freeman, 2018). These examples are far from being smoothly coherent but deliberately chosen for being inconsistent with each other in at least one relevant respect: while Philomneste’s compendium features explicitly algorithmic/ procedural forms, he does not write algorithmically himself, whereas Drucker’s speakers do so in a very particular way. This takes the main question of the contribution to an even more intriguing level: who speaks and who is spoken when a human writer writes not *like*, but *as* an algorithm?

Christopher Funkhouser’s “Applying Poetic Media in the Digital Humanities” is a candid, from-within and bottom-up, confession that intuitively, experientially, and biographically grounds some overarching – and otherwise often just theoretical DH tenets – in one’s own personal research and creative work. A *bildungs roman* in a nutshell, the narrative starts back in the 1980s when the author, influenced or mentored by poets like Allen Ginsberg and Anne Waldman started experimenting with sound and recording devices for poetry composition or documentation, and became active in the field of small press publishing and avant-garde magazine editing. Funkhouser’s “grassroots” approach and collaborative ethos led to combining the two in “media-based editions” of the journals he was co-editing and “resist[ing] ordinary delivery systems and networks” in ways that, as Peter Lamborn Wilson put it, represented acts of “seizing the media.” Such acts render the media “poetic” and poetry digitally intermedial in ways that took Funkhouser deeper and deeper into the digital and the WWW. As an outcome, digital and internet publications such as *The Little Magazine* on CD-ROM, the web-based *We Magazine*, and others helped to showcase works in hypermedia poetry while illustrating the author’s vision on literary voice as mediated, expanded, and (re)contextualized through digital technologies across networks and into “mass culture.” An archiving and documenting poetics and practice thus shapes up, informed by the “DIY ethos” and relevant to both poetry and DH in terms of “data clusters”, “network applications”, and the “content and interactivity” that paved the way to Funkhouser’s involvement in the editing of world top resources such as PennSound or the personal repositories *Funk’s SoundBox 2012* and *Funk’s SoundBox version archival*. Funkhouser’s most recent work involves fusing voice, sounds (particularly musical instruments), and image/animation by means of digital technology and computer programming specifically relevant to DH as a valid type of digital writing.

Servanne Monjour & Marcello Vitali-Rosati’s “Pour une redéfinition pornographique du champ littéraire. Une exploration des marges de la littérature numérique avec les travailleuses du texte” is the first contribution to the issue – in the order in which they are featured – that explicitly works with, and analyzes, a literary corpus. It is a pornographic literature corpus including Francophone women writers or, with the phrase the authors appropriate from one of the authors in the corpus, “text workers” (“travailleuses du texte”), from Belgium, Canada, and France. Pornography is revisited by Monjour and Vitali-Rosati as a long-standing new media pioneer that “invented” for instance online streaming and continuously pushed the

boundaries of media usage and development so that it can fully and freely express its own marginality. From this marginal status, pornography factually triggers the “intermedial transaction” that reshapes not only media but even genres per se. By analyzing the convergence of pornography and electronic literature (particularly the one of the already mentioned “third wave” of e-lit authors), the authors make a strong contention (and a sharp polemical point against established critics such as Olivier Bessard-Banquy), namely that the explosive opportunities offered by the WWW and digital/web-based technologies are far from diminishing the prospects of pornographic literature. Quite on the contrary, the media-informed and particularly intermedial angle of Monjour and Vitali-Rosati allows them to note that from its marginal position, porn literature is currently in the process of reshaping the *champ littéraire* and will soon dictate in mainstream literature as well, just as it played an essential role in the emergence of audiovisual technologies that prevailed against traditional approaches. Paradoxically, therefore, pornography is, and has always been, an institutionally driving force delineating the centre by opposition to its own periphery (that in turn engenders new surfacing centers). The political (“Feminism but not only”) of the literary – particularly the anti-hegemonic kind of “brouhaha literature,” in Lionel Ruffel’s terms – comes then as a logical development heralding a wind of change in “cultures and societies.”

“Close Listening and Synesthetic Reading Across Multiple Poetry Archives: Tracking the Performative Afterlives of a Poem” by James Lee, Ankit Basnet, Holly Virginia Clark, Michael Hennessey, Arlene Johnson, Wendy Burk, and Nidhi Mavani, a cross-disciplinary team at University of Cincinnati, chronicles an episode in Digital Scholarship Center’s “catalyst” model saga involving translating the Ellison Poetry Project into a “smart archive” and researching it in multiple computational ways. The research here actually deals with two archives comparatively, both the above-mentioned one and University of Arizona’s *voca* while zooming in on reading styles of various poetic schools and the formal features of spoken poetry that differ from the printed text or across the two archives in focus. The authors start by making a theoretical case – as prefatory to the subsequent case studies – regarding the usually neglected but nevertheless major significance of poetry readings and performances (in and of themselves and/or complementing printed text criticism) in understanding a poet’s work. This introductory argument draws on authors like Charles Bernstein for the literary implications and Tanya Clement to back up computational analysis-based approaches to sound recordings in general and poetry ones in particular. In addition, the overarching – even if not detailed in this particular paper – digital concept is that of linked data as instrumental in dealing with multiple archives and data, and in making them tractable for researchers and creative writers. The case studies are broken down into three main topics. The first one focuses on the differences between the printed versions of poems and the versions performed at the University of Cincinnati (and recorded for the Elliston archive); the second seeks to identify the points of similarity and difference in poems read by authors at both Elliston and at the University of Arizona’s poetry center, and thus “explore the space between poetry readings;” and the third presents some of the experiments the team ran focused on poetic stress and enjambment. Major US poets – from Robert Frost to Allen Ginsberg to John Ashbery – and international ones – the Israeli Yehuda Amichai and the British-

American Thom Gunn – are featured in illustrative and illustrated waveform and spectrogram analyses run in Sonic Visualiser (of the sound files edited with Audacity) each accompanied by qualitative style-relevant assessments. While pertinent and at times surprising, such investigations and results are nevertheless part of an ampler program that will also involve metadata network analysis and machine learning-based approaches to paratextual elements of poetry readings and performances.

Rui Torres and Sandra Guerreiro Dias are the only contributors to structure their article per se as an algorithm, more specifically as a sequence of sections prompted by function-like definitions and culminating in if-statement-like loops that together amount to a kaleidoscopic argument. In “Performative poetry as program, programmed poetry as performance,” the two authors develop themselves a program involving the three “variables” poetry, performance, and... program and establishing relationships between them as illustrated by an ample overview of relevant Portuguese poetries “spanning five centuries of experimentation with language.” And indeed, while diving into Baroque works (e.g. Fr. José da Assunção’s poetic “labyrinths” from the 18th century), Torres and Guerreiro Dias always find a 20th/21st century tie-in (with Ana Hatherly in the case of the above-cited mystic) as a significant proportion of their examples establish connections and/or ongoing histories starting back in the 1960s and meanwhile still (mostly prolifically) manifest. As the above-mentioned “variables” are algorithmically made equivalent to each other (two at a time), it follows logically that the examples will fall into six categories/sections. Yet true to their thesis, the authors also frame their excursus as a performance theoretically drawing, among others, on Lev Manovich’s notion of software culture as flux, Friedrich Block’s “diabolic poetics”, and Peter Burke’s vision of [historical] processes as *mise-en-scène*. Among the most seminal examples there are the interactive or kinetic poetic works (addressing “users”) by E. M. de Melo e Castro and their legacy – recreated by Pedro Barbosa computationally in the 1980s or “retextulized” by Rui Torres online in 2014 – foundational events such as the collective avant-garde performance *Concerto e Audição Pictórica* presented by poets and musicians in Lisbon in 1965, and PO.EX. The latter is in and of itself *the* comprehensive multifaceted illustration of Torres and Guerreiro Dias’s argument: poetry school and collective phenomenon (reuniting the abundant Portuguese experimental poetry), culturally charged commonplace revisited and politically (situationistically) deconstructed by poets such as António Barros, and digital archive curated by Rui Torres himself who nevertheless transforms it into an “anarchive” as part of his own computationally programmed performance poetry events.

Maria Mencia tells another alternative story she frames as a should-be mainstream one: that of women authors, critics, and scholars of e-lit around the world as represented in the anthology *#WomenTechLit* and what comes in its wake. And she does that in “Why *#WomenTechLit*? Because...” not only from a gender specific perspective but also from a “multi-cultural background of creative research practices, serving to de-centralise and de-colonise anglo-specific monolingualism”. This saga is also a personal history that goes back to Mencia’s own graduate education when she first noticed the underrepresentation of women authors in

academia in general and among cited references in particular. Editing the awarded anthology is therefore part of the lifetime journey Mencia has embarked on trying to set things right in a world in which even the most recent e-lit collections and handbooks still present an unconscious bias or at least lack of balance in terms of gender. The structure of the anthology – replicated at a smaller scale by the article – was devised to match such a complex task, including a general overview of e-lit world’s histories, then essays from the contributors on their own creative work, then critical readings of creative practice, and finally a discussion on early pioneers in the context of the migration of forms through archiving, recovery, preservation, and evolution of their work. The diversity and convergence of issues and approaches occasions a critical revisiting of the concept of e-lit generations, Mencia questioning the delineations made by critics/practitioners like Leonardo Flores regarding a third generation using social media platforms, open-source software, and computational apps without even being aware they do e-lit. She argues such new practices belong in the wider context of digital cultures and are as a matter of fact currently adopted by e-lit authors in all generations. She cites Alex Saum-Pascual in advancing that such platforms and apps are part of the aesthetics and poetics of the work which becomes itself those very platforms and media without even engaging with anything else that typically constitutes the literary qualities of a text... Such theoretical distinctions underlie the inclusive historical and critical global panorama followed by abundant updates on, and distinctions received by, the contributors and other women e-lit authors/scholars since the release of the anthology.

The “NLP and Distant Reading” section is opened by a short contribution from Petr Plecháč on an unknown ancestor of a universally deployed authorship attribution method. In “On an Unknown Ancestor of Burrows’ Delta Measure”, Plecháč discusses a generally neglected chapter from an otherwise influential 1940s study by Georgy Udny Yule that anticipates more complex contemporary methods. The subject occasions a brief and useful history of quantitative methods for authorship attribution and a detailing of the concept of Delta measure as defined by John F. Burrows in the early 2000s – also useful as a lightning (if indirect) introduction to the elemental principles of NLP for text analysis or text mining. Thanks to more recent contributions, Delta has been equated with the Manhattan metric, Euclidean metric, and cosine similarity (in their turn detailed mathematically and graphically by the author). In the referenced section of the book, Yule proposed using the frequencies of word-initial characters to discern authorship, a revolutionary approach at the time. Plecháč critically revisits that chapter by pointing out both the shortcomings and the surprising prescience of stylometric multivariate analysis, alongside its relevance to meanwhile established vector similarity metrics used in (NLP methods for) computational text analysis more generally.

“Thresholds to the ‘Great Unread’: Titling Practices in Eleven ELTeC Collections” by Roxana Patras, Carolin Odebrecht, Ioana Galleron, Rosario Arias, J. Berenike Herrmann, Cvetana Krstev, Katja Mihurko Poniž, and Dmytro Yesypenko is a contribution coming out of the COST Action (Horizon 2020 Framework Programme of the EU) *Distant Reading for European Literary History* and its correlate multilingual database ELTeC covering literature in sixteen languages. Of the latter, eleven languages are covered by the present article that looks into

certain entities – in the NLP sense of entity recognition, i.e., persons, places, and genre – and the related “syntactical” patterns – as in, most frequent combinations of the above-motivated entities. The dataset under scrutiny consists of titles of novels published in the eleven languages across Europe between 1840 and 1920. After briefly revisiting the three main traditions in titology studies – poetics, literary history, and CLS – and noting their insularity, the authors remarkably undertake to combine all three in their approach. In doing so, they establish certain elements of novelty. In terms of data and subject, this represents a pioneering titling practices study run on a multilingual corpus; as far as the computational methods are concerned, the way in which the authors choose to study for instance “syntactical” combinations of entities breaks away from the customary lexicometric approaches adopted by other established researchers such as Bernard, Moretti or Nulty. And, last but not least, the literary theoretical investment is consistent and consequential, involving, e.g., Gérard Genette’s identification and description functions of novel titles now complemented by connotation and seduction/attraction. Entities referring to persons are scanned by profession, status, and/or gender and illustrated across the multilingual corpus by plots made in R and Voyant, and so are place references. In spite of its multilingualism and its wide European relevance, the dataset is at this stage not very large, a bit over 700 titles, which makes possible a rare hybrid methodological combination: manually done “distant reading” (basically the selection of relevant words or phrases in titles across languages) alternated or fused with computationally created visualizations and statistics; such combination is indeed conducive to integrating the otherwise insular above-mentioned approaches. The results and their implications are therefore manifold, as combinations of types of entities unveil unsuspected cultural trends, evolutions in literary styles and tastes, as well as otherwise unpredictable patterns of literary and cultural influence or interaction across the continent.

Idioms, argues Anna Feldman, are an essential part of what makes literature “more compelling, more memorable, more scintillating” and yet detecting idioms automatically is far from being a trivial task. In “Hard Nut to Crack: Automatic Idiom Detection”, Feldman starts her argument by documenting that significant common speech idioms originate in literature, “breaking the ice” (among the abundant examples she provides) being for instance originally Shakespearean and “raining cats and dogs” the coinage of a metaphysical poet, Henry Vaughan. The author then moves on to surveying the theoretical approaches to idioms generally described as multiword expressions (MWEs) whose meaning cannot be derived from the meaning of words that constitute them, that is, they are not compositional (with the immediate consequence that they cannot be translated literally and it is at times impossible to find equivalents in other languages). On the other hand, they are a very diverse class, e.g. some are syntactically flexible some not, and, based on that, the more recent research advances that there is a degree of semantic compositionality in certain idioms... The comprehensive theoretical overview results in a compulsive conclusion, namely that idioms’ only “obligatory property” is after all conventionality. The computational detection of idioms is thus relevant to NLP – any NLP application needs in fact to be able to identify idioms states Feldman – but also to understanding idioms per se as a linguistic phenomenon relevant to so many subjects and walks of life. Previous computational methods fall

into two main approaches, type-based extraction (deciding which phrase in a text is potentially idiomatic) and token-based detection (given a MWE, determine in context where the usage is idiomatic or literal). Solutions range from identifying linguistic characteristics statistically to graph-theory-based representation of tokens and their semantic connectivity to identifying semantic outliers in a text as potential idioms (Feldman's own NLP research), while the most recent approaches look into word vectors in context and take advantage of the syntactic rigidity of idioms at the same time. The author concludes that analyzing the context – and the semantic congruence or incongruence of a phrase with it, as well as quantifying contextual differences between the idiomatic and literal usage of a phrase – is both a red thread going through most of the existing research and a promising avenue. So is also the not so frequent in such tasks sentiment and emotional analysis that has also proven useful in spotting potential idioms especially when combined with the former method.

In “Distant and Close Reading in Literature: a case of networks in Periodical Studies”, Julie M. Birkholz and Leah Budke make an argument in favor of the complementarity of the two ways of reading mentioned in the title “through the lens of network studies”. While certain researchers tend to see close and distant reading as opposed or incompatible approaches, the authors offer a brief history and overview of both, alongside one of network studies applications. They illustrate the latter with their own and others' research in literature and specifically in Periodical Studies to argue in favor of the recommendable if not inevitable combination of the two reading methods.⁶⁹ Distant reading, as introduced by Franco Moretti and further implemented in literature by remarkable others – reviewed by the authors – as a computational approach to large literary data has been at times implemented by means of graph theory applications. Yet Birkholz and Budke notably argue in favor of, and exemplify, the coexistence of close reading and such applications that can visualize, refine, and expand the results of the former. Leah Budke's own work on the modernist magazine and anthology duo, *Others*, is a handy illustration of that as Budke used networks to visualize her diachronic close reading of the magazine's issue and anthology's editions. She then used those networks for researching two main points, how the gender dynamic of the brand was impacted by reprinting practices, and, how there was a marked decrease in material reprinted from the *Others* magazine over the entire run of the *Others* publications. These latter explorations are significantly described by the authors as distant reading, thus providing a tangible example and an argument for the complementarity at stake as bridged by network studies applications. A surprising asset in the context is the classification and theoretical assessment of the latter too, as occasioned by their relevance to the main argument. The overarching framework involve network visualizations, network visualizations and analysis combined, and the computational generation of networks from databases for exploring relational phenomena with network analysis (with an excursus into linked data). In the process though, the authors also make a relevant distinction between quantitative network methods – graph measures on structural

⁶⁹ In terms of arguing that close reading is not the opposite of, but can be complemented if not fulfilled by, distant reading, see also Michael HANCHER, “Re: Search and Close Reading” in GOLD and KLEIN 2016, <https://bit.ly/3xQEAcC>.

aspects of the networks and positions of the nodes – and network qualitative analysis, through visualizations which allow the researcher to attribute characteristics of nodes or edges (positions of nodes, topologies) visually rather than through measurements.

One more contribution relevant to graph theory applications in literature comes from Vaibhav Kesarwani, Diana Inkpen, and Chris Tanasescu (MARGENTO). “#GraphPoem: Automatic Classification of Rhyme and Diction in Poetry” presents two NLP classifiers that have been recently developed as part of the ongoing *Graph Poem* project started over a decade ago and involving automated poetry analysis, computationally assembled anthologies, experimental intra and inter-lingual literary translation, and computational performance poetry. The article begins by introducing the project and quickly recapping some of its main theoretical and methodological tenets (e.g., the holistic approach to poetic features and the representation of corpora as multilayer networks/multiplexes) and the cross-disciplinary relevance to NLP and DH within and beyond the genre as well. The latter aspect also calls for polemically addressing recent controversial contributions questioning the validity of DLS or CLS (such as the already cited ones of Nan Da) by pointing out exactly the lack of genuine consideration given to poetry in such contributions. After a brief literature review relevant to the two features in focus, rhyme and diction (the technical term for vocabulary in poetry), the authors detail the seven types of English rhyme they tackled (two positional and five phonemic) and describe the way in which the rhyme score formulas were devised for quantifying the relevant relationship between pairs of relevant words and then consolidating the latter into an overall rhyme score for the entire poem. The NLP classifier is then run on a dataset of over 12,000 poems and results are discussed for a couple of relevant examples and across the corpus. For the diction analysis part the relevant sub-features are explained, e.g., the abstract/concrete ratio, inflection, verbal density, etc. (seven sub-features), alongside the algorithmic and computational methods and resources used in classifying them. While running the classifiers illustratively on specific poems the authors also speculate about what high or low scores could tell us about poetic styles across the corpus, with the caveat that such quantifications will never tell one whether poems are ‘good’ or ‘bad’... They will instead help to zoom in on poems or excerpts of poems having certain specific stylistic features or zoom out and observe trends, commonalities, and/or disparities across a corpus.

In “Vagueness Machines: Computational Indeterminacy in the Work of Jen Bervin and Nick Montfort”, the article opening the “Electronic Literature 4.0” section, Andrew Klobucar investigates the dialectic of clarity and vagueness in our digitally connective culture(s) especially as addressed, captured, and complexified by works such as Jen Bervin’s *Silk Poems* and Nick Montfort’s *Truelist*. While code and algorithms can be seen as paradigmatically clear, observes Klobucar, they are at the same time some of the most distinctly prevailing metaphors nowadays as well. The urge and impact of precision is apparent especially in NLP algorithms and the ways in which the grammars informing them condition our relation to language, particularly at the huge scale of search engines like Google. And yet the statistical foundational facet of NLP alongside the fluctuating flux-like ontology of the digital

and of our networked universe/infoverse itself (or, as one may prefer to call it, dataverse) readily balance out any uncritical overstatement of precision in such systems, particularly since even “grammars leak”. Klobucar draws on Wittgenstein and his view of grammars and linguistic statements as porous, fundamentally incomplete, and performative, Manovich’s notion of database as symbolic form, and N. Katherine Hayles’s “technotext” revisited as language-informed “constant, active struggle between medium, sign, and operator”. In doing so he assesses Bervin and Montfort’s works as more than just unidirectionally critical of (cultural) algorithmic precision. Vagueness, Klobucar argues these poets show, remains a central feature of digital language processing; and, while the parameters of clarity in language processing may be (sold for being) increasingly precise, ambiguity, as practiced in such poetic works can be enabling. While uncovering through their own inner workings how texts in our culture operate as grammatical systems and as material events at the same time, Bervin and Montfort’s volumes turn out themselves to be their own objects. Poems thus become processors and “vagueness machines” in and of themselves, ontologically indeterminate – since embedded in the “interconnected human-machine network” – and consequently supportive of critical and self-reflexive reading practices.

Carole Bisenius-Penin and Karen Cayrat take their cue from Michel Lussault’s “developed spatiality” and Anne Savelli’s “elastic spaces” in looking at digital writing residencies as writing *dispositifs* (arrangements, arrays, frameworks, facilities, and, last but not least, devices) allowing authors to plunge into the intricacies and opportunities offered by porous distinctions between digital and geographical spaces and thus develop a spatiality of literary text. After theoretically refining the concept of writing residency as fixed and mobile,⁷⁰ spatio-temporal, and collectively experimental, the authors advance the notion of a spatialized poetics of convergence. By drawing on Henry Jenkins’s theory of transmedia and convergence and digital poet Donatien Garnier’s “convergent objects” in which text is inextricably intertwined with its support, the authors articulate their own critical devices for revisiting specific residencies with their specific locations and notable writing projects. Among the latter, Garnier’s own *Arbre Intégral* gets highlighted, a tree-like “web-book” (featuring over a hundred kinetic poems) the reader can navigate on several levels, including the biological, the semiotic, and the political, as well as Anne Savelli’s *Anamarseilles* that the author herself describes in terms of a spatial-literary “anamorphosis” that Bisenius-Penin and Cayrat frame in the earlier-on cited acceptance of Servanne Monjour. Another remarkable work is Boris Crack’s *Bocci Club*, a mix of literature, coding, and music significantly relevant in the context since described by critics as having a geographical structure within which the reader draws a map by moving across the book’s space. The conclusion underlines the fact that a wind of change was brought about around 2010 by digital writers in certain residencies breaking away from more traditional approaches.

⁷⁰ In another recent contribution, Anne Reverseau analyzes the explosive phenomenon of writing residencies in France also as a device (for writers and hosting institutions or authorities at the same time) and, moreover, as a way to transplant, to “graft” the writer onto a new place, or “territory”; see Anne REVERSEAU, “La résidence comme « greffe » de l’écrivain sur un territoire” in *Recherches & Travaux*, issue 96, 2020, <https://doi.org/10.4000/recherchestravaux.2052>.

Those digital writing projects have formulated a spatialized poetics of convergence mixing the experience of the physical location and digital technologies ultimately questioning or playing with the very notion of spatiality at the heart of (the literary) text.

Corentin Lahouste borrows Arnaud Maïsetti's phrase "jeu d'écriture à ciel ouvert" [open-air writing game] for both describing e-lit – or in his terms, literature "developed" on screens – and his own "original" (freewheeling and inexhaustive) synthesis of the formal features of such literature. He also undertakes to refer, more generally, to text in digital media. The first of five points of access he propounds is one concerning a literature in which "the sky is the limit" as it constitutes its own legitimizing network; a literature in which, as Magali Nachtergaele once asserted, the versatility of formats allowed authors to finally free themselves from any formal ideal. As a consequence, e-lit – and the media multiverse it naturally spans – is completely boundless and in a continuous state of flux, and Lahouste provides references attesting to its "centrifugal dynamics" informed by reticular approaches. A third salient feature is then collectivity, which the author exemplifies with projects like *Vases communicants* started by Jérôme Denis and François Boni, an initiative that covered a time span of over 5 years and activated, at its peak, a network of over 600 authors (writing/posting on another writer's site or blog). *Désordre* by Philippe De Jonckheere involved a different approach to collaborative writing in which the authors solicited contributions or received help from other writers and artists which amounted to a sort of digital "history of friendships". The author continues with transparency and immediacy (combined) and then a couple of other such features that are theoretically elaborated and illustrated by a stylistically and medially wide range of relevant works (and figures), including for instance, a "poetic road movie". The conclusion comes itself in the guise of freewheeling fusion of quotes and theoretical judgments, borrowing from René Audet the concept of "interactional matrix" that partly overlaps with the author's enumerated features of "screen literature" and thus represents a plea for critical approaches able to tackle e-lit's "volatile (poetic-formal) freedom".

Álvaro Seça's "Depending or Transgressing? Kinetic Writing that Belongs and Breaks Away" undertakes to tell if not an alternative, a "complementary" history of kinetic poetry: one that would revisit the latter as informed by close-range exchanges with other forms of kinetic writing, mainly used for commercial and advertising purposes, and closely related to early animation and the art of film titles. To that end he draws on Alberto Pimenta's concepts of "dependence" and "transgression" (observing and breaking away from the norm in literature, respectively) and argues that in the case of kinetic poetry one can speak of both the former and the latter at the same time. He then proceeds to examine the history of, and theory relevant to, the terms "avant-garde" and "popular" and notes their intersections, even convergence, particularly within a contemporary digital landscape seen as a "media ecosystem". The latter is illustrated by a 1969 TV intervention by Portuguese poet and artist E.M. de Melo e Castro (the tutelary figure abundantly cited by Torres and Guerreiro Dias as well in this issue) involving the presentation of the video *Roda Lume* [Wheel of Fire], an event which the author analyzes as both popular and avant-garde, and strongly politically subversive at the

same time. Drawing on such examples and Florian Cramer's theoretical work helps to sketch an expanded concept of writing (beyond the literary and even beyond the lingual) that can account for the 'language' of kinetic poetry as well as kinetic writing more widely. The latter refers to movie titles – in the footsteps of John Cayley who previously analyzed them as (forerunners to digital) writing on complex surfaces – advertising, and pop art. These help to bring together – after an erudite excursus into concrete and conceptual poetry – kinetic poetry, on the one hand, and animation and commercial kinetic writing generally, on the other.

Anne Reverseau's interview with Nicolas Tardy concludes the "E-lit 4.0" section and the collection altogether, and on various levels it speaks indeed to all of our three sections in this issue. Tardy is a digital writer, workshop instructor, lecturer, and publisher, whose many hats, as Reverseau notes, are sensibly different and yet solidly coherent. While distinguishing between e-lit and the kind of writing he does – using or combining various, digital or print "venues" (*lieux*) and ways of reading – he develops his own algorithmic, intermedial, and cross-artform strategies and modes of composition. Webcams, text, and/or apps or platforms used for collaborative writing (such as Framapad or Twitter) are conducive to innovative compositional or formatting notions such as "spatialization by motion" (*spatialisation en mouvement*) or, as a publisher, manually designed digital books... The latter, for instance, are a more effective and poetry-sensitive art-based approach to digital books than the automatized general-use (i.e., corporate) ones deployed in generating e-pubs and book pdfs. Reverseau shrewdly steers the conversation from the poet's own works to the digital writing workshops he gives (and their educational and political stakes) to the benefits literature instructors and other educators can draw from his lectures to the economic and cultural challenges of publishing non-conformist digital-form intermedial literature. The versatility and elegance with which Tardy surfs problematic binaries – e.g., digital writing residencies are, in his views, about digital literary production and/or dissemination indeed, but they are also about meeting people in the flesh – emerges relevantly in the conversation, and so does a complex and insightful landscape of boundary-pushing authors, at times enthusiastic yet unpredictable audiences, literary critical receptiveness or... obtuseness, and inevitable financial hardships.

Closing Note and Acknowledgments

While there are still vocal critics of digitality or computability in/for literature, it is exactly the recent advancements in computer science – and machine learning and natural language processing in particular – that render such criticism quite problematic. Prominent concerns including complexity, incomprehensibility, undecidability, uncertainty, (non)translatability, vagueness or ambiguity, overlapping immensity and minuteness, the quantitative and the qualitative conjoined, etc., span and bridge these fields most fluently at present. So much the more so as the humanities and literature specifically contribute more and more substantially to the critique and also the very methodology of artificial intelligence. Besides, literature's

inclusiveness can and does go beyond the digital, or rather renders the digital versatile and/or porous enough to accommodate interests and modes ranging from genetics and biology – see the cases in point of Jen Bervin and Donatien Garnier above – to science-plus-cross-artform approaches, as in the poetics of Elke de Rijcke and Alexander Schellow,⁷¹ to performance.

A question compellingly arising is therefore the relationship between the literary and the (post)digital writ large on, and actually into, our culture(s). As the contributions to this issue make apparent, that relationship can at times go much further and deeper than possibly expected. It is not that literature is literally or completely isomorphic to the digital, but that the – continuously ramifying, complex, and ultimately unsolved – questions we pose about it are the ones that are most critically (and perhaps comprehensively) relevant to the digital too. Could one possibly say that about (any) other art(s) or subject(s) as well? Maybe, since as Romanian surrealist Gellu Naum once put it, one can start [their quest] anywhere, all they'll have to do is follow the "blue thread".⁷² The digital blue thread will nevertheless cross the literary sooner or later, one way or another. The literary of our age, as this collection among other recent endeavors indicate, irrepressibly trespasses any and ultimately all of its traditional, modern, or even currently established boundaries, definitions, features, forms, and (inter)media with a continued versatility that helps it to spill into the most diverse and digitally relevant subjects and walks of life.

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⁷¹ Elke DE RIJCKE and Alexander SCHELLOW, *Physical Poetics*, 2018-2020, <http://physical-poetics.elkederijcke.be/>.

⁷² Cf. Gellu NAUM, trans. MARGENTO and Martin WOODSIDE, *Athanor and Other Poems*, New York, Calypso Editions, 2013.