

A Dialogue between Distributed Language and Reading Disciplines

Introduction

This special issue grows out of the Reading Symposium: *Skilled Embodiment: Learning from Symbolizations* held in Odense, Denmark on 27-28 August, 2018. The core idea pursued here was the possibility of moving forward the traditional paradigm of reading and writing, in which both are taken to be technologies and implementations of technologies by an autonomous *cogito*. The movement forward involved, instead, taking a distributed language perspective (Cowley 2011). In contrast to the argument in which reading is often theorised as processes used to interpret ‘text’, a distributed perspective replaces this view’s tendency to deploy the concept of code with due attention to the embodied and multi-scalar nature of the activity. Rather than posit reading in a rather abstract way, as if all reading were more or less the same – that is, an individual, silent and inward act of mental interpretation – reading is traced in terms of the repertoire of bodily attributes and capacities that are required to actualize it, as well as the interplay of internal (the aforementioned capacities) and external (contexts, situations, technologies, cultural practice). Habitual linguistic action allows for construing symbolizations as neurophysiological processes which (re-)evoke parts of an individual’s life experience of encultured social activity. While symbolizations are often treated as words or verbal patterns (forms and lexicogrammar), a distributed view puts emphasis on how the material and spatio-temporal features involved in action-perception cycles – from the bodily or haptic actions required, to the physical spaces of action – constitute reading and impact understanding and imagination.

The distributed perspective puts to the test the idea that language is a particular *thing*, operating in standardized and codifying fashion. A distributed view explores the way in which language is enacted, instead, as a set of co-ordinations of cognition, and not isolated in one subject, that involve multi-scalar activities of the body rather than mere inventories located in minds or brains. Reading, commonly construed as a set of cerebral inventories, needs to be put to the test in a similar way to language, therefore. A very different view of reading emerges if it is considered in terms of habitual or skilled embodiment; an activity in which body-environment enactment shapes experiential dynamics that structure understanding. In different settings, humans use hands to fetch the text, fingers to turn the pages or touch the keyboard or switch channels on the remote control; they use orality to bring forth aesthetic and rhythmic flow, to respond to shocks (e.g. with a gasp), as well as other facial and bodily engagements. And as humans respond in reading, they also imagine sounds, feelings and situations, use visible expression, structure and process information, change the position of their body in the world, write notes, grind teeth and so much else that is distributed, piecemeal, across the body and the space of participation rather than in a mental filing cabinet. There are therefore compelling questions that must be asked about reading in various locations, time-scales and contexts, tactile engagement with ‘texts’, learning and prospects for understanding, plus questions regarding what is the said or the unsaid in multi-scalar reading processes.

The *Skilled Embodiment: Learning from Symbolizations* symposium addressed these questions in a very preliminary way. Yet, while the contributions still remain in the foothills of the mountain of work to be done, they are much augmented from the original discussion of August 2018. Indeed, this is evident in the sheer size of some of the articles that appear in this special issue, reflecting the complexity and multi-connectedness of discussions in this field. One reason for this complexity, of course, is that the extant literature on reading is voluminous, unevenly developed and complexly overdetermined.

Reading and cognition

A recent book on reading by an Oxford academic opens with the statement that “The neurology, or neuropsychology, of reading remains a relatively primitive field of research” (Jack 2019: 1). The book then goes on to studiously avoid discussion of that field of research, opting to restrict its focus to perspectives on reading which, to the extent that they consider cognition at all, do so in terms of mental inventories of codes and symbolizations. To some extent, this approach is understandable. The literature on reading has been very much geared to investigations or overviews which bracket questions of cognition. Of course, simultaneously, that literature is constantly raising questions of cognition, usually unwittingly.

An established area of the literature on reading concerns book history. Firmly entrenched in the academy, book history spans the interests of the antiquarian, the forms and designs of the book and the sociology of reading. Even in its putatively most straightforward appearances (Howsam 2014; Lyons 2013; Lyons and Marquilha 2017; Darnton 2007), however, book history necessarily abuts questions of how reading takes place in cognitive terms. These questions can arise out of the way in which book form or design inculcates different kinds of reading (Tschichold 1991; Fischer 2003; Lyons 2009; Hammond 2015) or out of observations on modalities in the book, as in the history of illustrated manuscripts (Walther and Wolf 2001; Meehan 1994; Kerrigan 2014). Possibly the most influential extension of book history, then, is related to these questions of reading and cognition, through analysis of reading in relation to the media in which it is enmeshed. The Toronto School, associated, especially, with Marshall McLuhan, necessarily invokes cognition in its central thesis that the advent of each new medium propels a new stage of cultural evolution. Thus, orality and literacy (Ong 1982) have fostered new cognitive orientations, as has the technology of writing (Havelock 1986), the arrival of print (Eisenstein 1979), as well as subsequent electronic media (McLuhan 1995: 89-216). Furthermore, embodied cognition is implicit in all the Toronto formulations on media in that the medium is posited as an extension of aspects of the sensorium rather than an extension of disembodied thought.

If form and design has been a prevalent concern in book history’s approach to reading, the most recent manifestation of that has been in the last decade’s debate’s on digital reading, particularly the respective virtues of ebooks vs. print. That debate, embedded in questions of digital reading and writing, has experienced shifts from one direction to another, even in its relatively short history (Rockinson-Szapkiw et al 2013; Gooding 2013; MacWilliam 2013; Kiefer and Velay 2016; Nichols 2016; Baron 2017; Henningsgaard 2019; Clinton 2019). Indeed, it has begun to raise questions of what actually constitutes a book (Kovač et al 2019) as well as what can reasonably be called reading. If skim reading is the ‘new normal’ (Wolf 2018) in digital culture, for example, then what is the fate of the phenomenon now called ‘deep reading’, the erstwhile accepted understanding of the reading process as involving prolonged concentration and undivided attention? This question applies, certainly, to reading in the extended sense of engaging with texts that are largely non-linguistic: any parent in the third decade of the 21st century will be able to offer accounts of their teenager’s inability to watch any film or television programme for more than a few minutes at a time because of constantly responding to Instagram alerts or other short messages on their smartphone. Whatever the wrongs or rights of these scenarios are found to be in journalistic accounts, it is apparent that what is reading, once more, is not a question of a coherent and autonomous *cogito*.

After many years, this point has started to become clear in the literature on reading as literacy. This vast field, comprising reading’s role in pedagogy (Hodges 2015), the problem of reading disorders such as dyslexia (Stanovich 1988; Elliott and Grigorenko 2014; Seidenberg 2017: 326 ff.), the accession to reading of deaf children (Goldin-Meadow and Mayberry 2001), linguistic and psycholinguistic approaches to language acquisition (Smith 1971, 1973; Ziegler and Goswami

2005) among many others, including the much-discussed ‘simple view’ of reading based on the straightforward ideas of decoding and comprehension (Hoover and Gough 1990; Hoover and Tunmer 2018), has been riven by controversy over the best ways to teach children to read. Indeed, the controversy has been fierce the extent that the debates are known as the “reading wars” (Pearson 2004; Kim 2008; Castles et al 2018), with phonics featuring prominently in them. Indeed, phonics is pitted against a seemingly more holistic view, ‘the whole language approach’, which only really considers literacy as a matter of linguistics, despite its apparent emphasis on environments. Although the debate is very worthwhile, with so much obviously at stake, perhaps the prevalence of phonics has prevented extended discussion of the role of embodied cognition in learning to read. Although not explicitly focusing on phonics, but a possible case in point, is the illuminating and persuasive work on literacy carried out by social semiotics (Kress 1993, 2003, 2010; Kress and van Leeuwen 1996; Narey 2017) in which research demonstrates children’s agency, creativity and their multimodal bearing in literacy training. As with many publications on multimodality (although, see Machin 2014), there is a strong sense that linguistics is still to the fore and that what has been discovered beyond linguistics is not the multifarious nature of the body’s, the senses’ and the environments’ role in habits, skills and meaning-making, but merely the prevalence of pictures in contemporary media and society.

Notwithstanding this narrow ambition of multimodality studies, research into the role of reading in society has been important in casting light on incarnations of cognition. Book history and the sociology of reading has often converged to make the focus of discussion the various dispositions that add up to ‘literary taste’. Studies which are ostensibly about the institution of the book – and the United States has been particularly well-served with classics in this sphere (Hart 1950; Davis 1984; see also Radway 1999; Salwak 1999) – often metamorphose into studies of the dispositions of readers. This focus, too, seems to be the fate of accounts of readership in society (Auerbach 1965; Josipovici 1979; Manguel 1996; and the aforementioned Jack 2019). Possibly the most influential work of this kind, because of its implications for cognition and its conclusions about cultural evolution consonant with those of the Toronto School, has been that of Ian Watt. His work on the rise of the novel (1957) was clearly part of the fledgling sociology of reading (Burns and Burns 1973; Laurenson and Swingewood 1972; Barker et al 1976; more recently, see Lauristin and Vihalemm 2014). It contributed to this field with reference to the growth and history of key ideas such as individualism, but also to the sense of how reading is central to what the Welsh cultural theorist Raymond Williams (1961) called a ‘structure of feeling’. In some ways, such a perspective is related to ‘literary taste’. Yet, Watt also analysed reading in terms of more minute imbrications with cognition. In his work with Jack Goody (1968), he shows how private reading, facilitated by the production of multiple copies of books in *print* with the precise aim to be consulted in solitary circumstances, developed cognitive modes such as inner dialogue, the confessional and private, individual experience in general. It was from this habit of reading and its associated cognitive modes that practices of close and scholarly reading arose and about which has grown up a huge body of literature and discussion during the last century in particular (see Copley and Siebers, this issue). The non-public and personal nature of reading, of course, is predicated on the existence of writing. As (Goody and Watt 1968: 62) observe, writing, “by objectifying words, and by making them and their meaning available for much more prolonged scrutiny than is possible orally, encourages private thought”. The relationship between reading and writing, as technologies and as drivers of cognitive dispositions, is common to a number of the articles in this special issue (Kravchenko; Trybulec; Johannesen, Thibault, Longcamp, Stuart and Baber; Trasmundi, Schilhab, Kokkola and Mangan).

In the wake of the Toronto School, and Ong (1982) in particular, the literature on writing as a technology has burgeoned. Ong’s conclusion, startling even amidst McLuhan’s medium theory, was that writing restructures consciousness. However, controversies over the relationship between

speech, language and writing have raged even without the question of consciousness explicitly entering the equation. Typically, writing has been cast in a folk definition – which may well be a straw man – as a mere secondary mode of representing speech. The literature on the origins of writing remains inconclusive, although contemporary archaeologists reviewing the merits and failings of pictographic theory of language origins do sometimes tend to claim that writing ‘represents’ (Schmandt-Besserat 1996, 2010) or ‘records’ language/speech (Morley and Renfrew 2010: 1). Two of the most vociferous responses to the issue of representation of speech in the status of writing have come from the very different approaches of deconstruction and integrationism. In the former, Derrida (1976) famously took Saussure to task for his ‘marked’ binarism of speech/writing. In integrationism, Harris (1995, 2000), also criticising Saussure, insists that writing is far from inhabiting the unmarked place in the speech/writing binarism. Equally, the demarcating line between writing and speech is not simply undecidable as the Derridean formula would have it. Rather, writing is absolutely constitutive of speech and language. The argument is laid out in the contribution by Duncker (this issue, below). For current purposes, it suffices to note that, again, writing is seen to have a constitutive bearing in cognition: not only does it do something for people, as in discussions of its origins in tokens and economics, it also does something *to* people.

Yet while writing has occupied such a prominent place in people’s language, communication, skills and habits, it is as well to note here that, despite in some ways providing the template for all media, since the middle of the twentieth century it has become apparent that reading is a much broader process than the technology of writing originally entailed. The emergence of the idea of the *text* (cf. Marrone 2014), developed in semiotics, has not only facilitated transdisciplinary approaches but also passed into common parlance. Starting with the writings in their original languages of Barthes (translated into English 1977, 1981) and Lotman (translated into English 1982), the concept of the text levelled the playing field of reading: rather than a ‘work’, which indicates some higher purpose of an authorial genius, the ‘text’ indicates a fabric of devices designed through habitual sign use to reach a particular audience. Any collection of signs whatsoever is a text. A text calls upon specific dispositions of reading no matter whether the text is chirographic, linguistic, in print, visual or audio-visual or combinations of all of these. It would be impossible, now, to identify a discrete body of literature on textuality, so vast has the field become. Nevertheless, the concept of text obtains not only in respect of some of the contributions in this special issue which do not concern themselves with written texts alone, but also on the issue of multi-scalar action in language and cognition. If the putatively cerebral activity of reading a book can be shown to belie a world of embodied cognition, then consider how such multi-scalar actions occurs across other media. The observation allows for a consideration of the specificities of actions with regard to particular media, as well as the commonalities across media and actions.

Arguably, it was the concept of the text which opened the gates for an efflorescence of theories of reading and reception in the late twentieth century to the present. More than in literary and written/print text studies, the study of reception had developed in media and communication theory, particularly in the Payne Fund Studies of the 1930s (see Lowery and DeFleur 1995: 24-43), Cantril’s (1940) study of the responses to Orson Welles’ version of *The War of the Worlds* and, later, ‘uses and gratifications’ research (Katz and Lazarsfeld 1955). Although some literary approaches had speculated on, or simply assumed, how readers might respond to texts, including those approaches in proto-sociology-of-reading (Leavis 1932), it was not until Barthes and Lotman had posited reader response as immanent in textuality that the bulk of work on the ‘reader in the text’ (Suleiman and Crosman 1980; cf. Luke 1996, Browne 1996) was launched.

In the late 1960s, with the formation of the Konstanz School, named after the newly-founded university, the process of reading became central to the discussions of Wolfgang Iser, Manfred Fuhrmann, Jurij Striedter and, especially, Hans Robert Jauss (1982), and

Wolfgang Iser (1974, 1978, 1989). The latter's phenomenological investigation of the act of reading, derived from the work of Roman Ingarden, posited that cognitive processes of protension and retention took place as a reader moved through a fictional text. This *Rezeptionsästhetik* (Holub 1984; Freund 1987) was supremely individual in character, wholly cerebral and theorized solely with reference to canonical literary fiction. It occupied a pre-eminent place in what came to be known as 'reader-response theory' (Tompkins 1980; Gloversmith 1984; Bennett 1995) in the English-speaking literary world, but it was certainly contested by more broadly semiotic and interpretative approaches (for example, Fish 1980). These latter challenged the structural temporality of reading suggested by the Konstanz School and, later, by cultural and communication studies, which questioned whether reading could ever take place in an isolated phenomenological bubble.

While 'reader-response' gained traction in literary theory, the main inspiration for the renewed interest in reading in cultural and communication studies was the work of an American literary scholar, Janice Radway. In *Reading the Romance* (1984), she undertook a quasi-ethnographic study of a self-constituted community of readers of the contemporary romance genre. In addition to investigating the literary, stylistic or narratological qualities of the romances preferred in the community, including some shrewd questions about failed and 'near-miss' romances, Radway also interrogated the times, places and situations for reading. Although eschewing opportunities that arose in the study for exploring embodied reading and questions of cognition, the research gave impetus to others in cultural and communication studies who were investigating a socially- and institutionally-inflected distributed perspective which broadly could be understood as a 'reading formation' (Bennett 1986). Other quasi-ethnographic studies partaking of this perspective in respect of the reading of audio-visual texts included Ang (1984) and Morley (1980) as well as a revived 'uses and gratifications' approach in Liebes and Katz' (1986) cross-cultural study of readings of *Dallas*. With their quasi-ethnographic and, sometimes, fully ethnographic bearing, cultural and communication studies approaches to reading were able to also consider the role of 'paratexts' in reading – not only the extra-textual cues (Cobley 2000) such as the below- and above-the-line publicity which surround texts, but also the social practices of contemporary reading (Fuller and Rehberg Sedo 2013), including the shared activity of book clubs or groups, which can justly exemplify the *distributed* nature of reading (see Thomas, this issue).

Arguably, cultural and communication studies approaches represented one step towards the notion that there is no such thing as 'the text itself', but only a distributed reading of it in a culturally-determined moment. If this is the case, then the work on reading and embodied cognition which (at least temporally) succeeded it, sometimes from a neuropsychological perspective, demonstrated that reading was also psychologically determined in ways hitherto neglected or disregarded. Based partly on advances in brain science and discoveries in the neurology of language, the neuropsychology of reading has spent its early years coming to grips with the fact that language is natural but reading is a technology that has been invented (Seidenberg 2017). It has also been focused on what happens to the brain when children accede to literacy. As Wolf (2016: 4) puts it, "When we learn to read, our brain has to create a totally new circuitry that reflects many important influences, beginning with the type of writing system to be learned". Thus, the ways in which humans learn to read – the media, methods and situations involved – are crucial not just for obvious or trivial social reasons but because they "will influence the formation of the reading brain circuit in ways we do not yet fully understand, but that are imperative to research in this moment of cultural change" (Wolf 2016: 4). As the aforementioned ebooks vs. print debate has attempted to make clear, the specific media of reading is a matter of no small consequence. What neuropsychology of reading has foregrounded – in the leading work of Stanislas Dehaene (2009), for example – is that 'neuronal recycling' is a fundamental neurological process whose manifestation is often to be found to accompany remediation (Bolter and Grusin 1999). Although the picture in regard to reading and

media use is not yet clear, authorities such as Naomi Baron (2015), as well as Wolf, have started to raise questions regarding whether the practice of ‘deep reading’ is suffering or even dying out as readers multi-task with shorter attention spans. Yet, it should be said that even while neuropsychology of reading, with its prehistory of investigation into reading disorders, is constituted by a substantial literature – in 2015, for example, Martin et al were able to carry out a meta-analysis of no less than 40 selected fMRI studies of reading in children and adults (cf. Price 2012) – much work remains to be done. In particular, since the majority of neuropsychological research on reading seems to be focused on the brain and the eyes, rather than other sensorimotor processes in the human, embodied cognition poses a significant challenge for future neuropsychology (Cardona 2017; Anderson 2014).

Studies of reading as embodied have appeared in various semblances for the last twenty years or so. Embodied reading has been researched or discussed in terms of comprehension (Claus and Kelter 2009; Glenberg 2011; Shiang 2018; Adams et al 2019; Fischer and Zwaan 2008), anti-colonial strategies (Taylor 2007), dance and reading achievement (Corcoran 2018), in multimodal teaching (Yandell 2008), ebook use among children (of course – Hermansson 2017), embodied reading as part of general interactivity (Gahrn-Andersen et al 2019) and in augmented reality (Hellermann et al 2017), among many others. Sometimes, embodied cognition in reading simply refers to some bodily experience depicted in a fictional text that the reader ‘feels’ in some corresponding way that is deemed bodily (White 2015). Sometimes it refers to general “literary experience” (Sumara 2003), while at other times it can be the “driving sensory signal” that the literary text provides (Kukkonen 2016: 164). Some research features incidental reference to actual activities of the body during investigation; some is very specific about multi-scalarity in reference to bodily activity; some features reading situations where reading is accompanied by physical manipulation of toy versions of objects in the text (Glenberg et al 2004).

Yet, the work on reading that is currently probably closest to the project represented in this special issue is that of Anne Mangen and her collaborators. In a series of individual and collaborative articles, she has written persuasively on a number of the pressing topics in contemporary reading research: empathy in the reading process (Kuzmičová et al 2017; Mangen et al 2018); e-reading vs. print (Mangen et al 2013, Mangen et al 2019) – including research and analysis with different demographics, for example, teenagers (Tveit and Mangen 2014) and young children (Mangen 2010); writing in different modalities (Mange 2015; Mangen and Balsvik 2016) and narrative engagement, comparatively on paper and tablet (Mangen and Kuiken 2014). What Mangen’s work across these areas has adumbrated is the tactile nature of reading, the multiple nature of the embodied responses that reading technologies hail, the sometimes fragmentary experience that readers undergo during reading interactions, as well as the relations between fiction, transportation and empathy in readers’ engagement, the latter topic having been re-drawn pretty much definitively for post-cognitive-revolution studies of narrative by Suzanne Keen (2007). All of these inform the particular concern in Mangen’s works with the fate of ‘deep reading’ across different reading technologies; not coincidentally, with allusion to how cognition might be enhanced, she posits an embodied perspective as a potential for unifying the sciences and humanities (2016: 476).

Perhaps unsurprisingly, the article to which Mangen contributes in this special issue (with Trasmundi, Schilhab and Kokkola) focuses on multiple sensory modalities in reading and their educational implications. One thing that, in contrast, may seem surprising about Mangen’s work on reading is that it is not at all preoccupied with the definition and status of language. The core literature in the field, broadly conceived, in the last hundred years, has been concerned, sometimes obsessively, with language. After all, language considered as a ‘thing’, artefactual, whose stock-in-trade seems to consist of codified meanings, is perfectly congruent with the idea of reading as an exclusively cerebral decoding process stimulated by designed artifacts. Yet, even in this formulation, reading is, implicitly at the very least, associated with parts of the body besides the brain – with tactile dimensions, with

situations of reading and with broader cultural determinations of the act of reading. Latterly, as has been seen, the literature has turned to the idea of embodiment, in common with the move usually made earlier by the ‘non-literate’ arts. It has done this at a time when considerations of the cognitive bearings of reading also turned to neurology for answers and/or new horizons. Yet, what still seems to be required at this juncture, in addition to an appreciation of how reading is embodied, is a serious consideration of how reading is embedded in cultural processes and how it is therefore distributed beyond the mythical, autonomous, coherent *cogito*. The distributed perspective, therefore, seems to offer a major opportunity for recasting some of the concerns of the extant literature and for mapping or seeking out new ones.

The distributed perspective

A distributed language perspective challenges, first and foremost, the idea that language is symbolic and, secondly, that language is located and represented in the human mind (Cowley, 2011). The notion ‘distributed language’ emerged from combining distributed cognition (Hutchins, 1995) and the critique of the “language myth” which had been carried out by integrational linguistics (Harris, 1995). The core idea was to present a clear conception that rejected any code-based view of language. Similar to human distributed cognition, language was treated as embodied, distributed, and traced to multi-scalarity of human action rather than temporally or spatially-localised brain or body parts. Naturally, then, an extended and distributed take on language impacts on how reading is to be conceived and investigated. Furthermore, it does so in ways that contrast with the literature on book history, twentieth-century theories of reception and the neuropsychology of reading. Often, this is because the literature in question has failed to broaden its conceptions of language and cognition.

Whereas computational views of language and cognition only emphasise syntactic functions of a language system, they have little to say about how language relates to human forms of life. By contrast, in the distributed perspective it is possible to show how human thinking and language are interactionally grounded and related to specific forms of cultural practices. How humans engage with reading materials impacts reading cultures. Digital devices prompt specific interactions and kinds of engagements that involve sensorimotor actions that are different from, say, analogue reading practices. However, if readers’ linguistic and cognitive engagement with the world shapes cultural niches, language is a diachronic skill that emerges in the guise of specific forms of coordination, which are embedded in particular material environments. Therefore, linguistic experience alters ways of seeing and engaging with a linguistic community; in other words literacy constrains how readers attend to the world, including its books, digital devices and multimodal affordances. In turn, the material world also constrains how readers attend to things: how they gesture, look and articulate meaning or understanding. Together, the distributed perspective on language, therefore, emphasises human action, its temporally- and spatially-distributed conditions and its local and future functions.

In addition to how the distributed perspective enhances the study of reading, the study of reading is itself an exemplar case for pushing the distributed perspective in more ambitious directions. Having prioritised the actional basis for the co-ordinated behaviour associated with ‘language’, the conceptual backbone of reading requires investigations of more than interactional co-ordination of linguistic bodies. In reading, emphasis needs to fall on linguistic experience, the experiential basis of literacy and the grounding of reading skills or habits. Furthermore, the distributed perspective proves its value in the study of reading because emphasis, at once, falls on both the social and individual constituents of skilled embodiment and meaning-making. How humans read is, in one scale, similar since the process can be described by referring to underlying social mechanisms in identifying aggregates of digital marks. However, in another scale, reading is a unique skill that relates to who you are. Why you grab a text, how you approach a book, what you attend to within the

book and how you experience what you do is just as unique as your own voice. The distributed perspective enables investigations of how readers read differently or individually, when at the same time allowing discussion of how communities read.

Di Paolo et al (2018: 304) suggest “we are still a long distance from being able to say what happens while we are reading a text.” However, it is our contention that to be able to study what reading is, this special issue has needed to bring together approaches from reading fields as diverse as book history, literacy, history, linguistics, embodied cognition, philosophy and integrationism to the distributed perspective. The aim is to encourage a dialogue between often isolated fields within reading research so, when joining forces, it is possible to produce more nuanced and interdisciplinary investigations of reading that fit recent perspectives of language and cognition. The articles that make up this special issue attempt to realize this goal.

The articles in this special issue

Alexander Kravchenko’s article commences this special issue with a consideration of how the development of the human intellect is enhanced by reading, on the one hand, and impeded by ‘information technologies’, on the other. His focus is sensorimotor activity and its special role in learning. Kravchenko argues powerfully, that neglect of “the world on paper” in favour of the digital world not only deprives young individuals of the essential formative experience of operations on second-order abstractions, but shrinks the world of *Homo scribens* to that of a society concerned with current daily needs.

Dorthe Duncker’s article, ‘On the integrational approach to reading and writing in the works of Roy Harris’, focuses on the way in which the distributed perspective presupposes integrational theory’s insistence on the unique contextualization of human communicative activities. This being the case, the article finds there is often difficulty in distinguishing between one human signifying activity and another. In intriguing fashion, the article uses as a case study a 19th century attempt to read markings on rock at Runamo, Sweden. It demonstrates the fact that there is no such thing as pure inscription since writing and reading integrate diverse activities. Therefore, the attempt to decipher the Runamo ‘runes’ ran into the difficulties of distinguishing writing from non-writing. Yet, the issue raised is not just a matter of fuzziness but, rather, how reading and writing depend on the constant re-making of communication in context.

In ‘Reading constructs: skilled linguistic action’, Stephen Cowley uses a case study to show how readers engage with written materials to both select details and project what he calls an “imagined source” (of meaning e.g. an authorial intention). Associated with decoding, Cowley argues that such “inner process” is a myth of reader activity when one considers the range of material patternings in which readers are embroiled, along with their judgments that are informed in different ways by experience. Patternings are seen as inviting specific kinds of sensorimotor activity which is set off against judgements and the results will often rest on the “already read”.

In his article for the special issue, Marcin Trybulec argues that the cognitive dynamics of speech and writing, in their divergence, affect levels of metalinguistic awareness. Hinging on the distinction between “reflective” and “reflexive” the paper attempts to provide a “deeper understanding and an appropriate level of granularity in describing metalinguistic awareness”. In the process, the paper also attempts to reconcile key points in integrationism, the distributed language perspective and metacognitive theory of writing.

Christian Johannesen, Paul Thibault, Marieke Longcamp, Susan Stuart and Chris Baber lay out the terms of ‘graphetic empathy’ derived from a research project investigating the relation between (i) gestures, (ii) graphic traces and (iii) perceptions. Specifically, they open their discussion by asking “When you read a handwritten letter or Christmas card from a family member or friend, does the flow of their handwriting make you feel their presence more than if their words were typed?”

The research throws up interesting suggestions regarding how graphetic traces may “retain the kinetic melody of the manual gestures that produced them”.

In ‘A distributed perspective on reading: implications for education’ Sarah Bro Trasmundi, Theresa Schilhab, Lydia Kokkola and Anne Mangen discuss the methodological and educational challenges and opportunities that an embodied cognitive and distributed language perspective entails for literacy and education research. They show how a distributed perspective is not only a matter of drawing on multiple sensory modalities in the here-and-now that conglomerate in the human sensorium; it also highlights the interconnected habits that enable readers to enact cultural practices based on writing systems. In that way, skilled linguistic action allows readers to construe symbolizations, re-evoking parts of their individual life experience.

Christian Benne’s article, ‘Tolle lege’ provides a complement to Derrida’s excursus on Freud, the ‘scene of writing’. The article proposes the “scene of reading” to promote an argument about the complexity and variety of reading practices and the urgency of historical and literary perspectives on current debates about the nature, scope, pedagogy and future of reading. Using an example from St. Augustine, hearing a voice telling him to take up a book and read, the article suggests a thoroughly embodied scenario, the scene of reading, in which a Christian conversion took place.

‘The #bookstagram: distributed reading in the social media age’ by Bronwen Thomas considers the way in which social media has a key role to play in contemporary reading through its figuring of paratexts and ‘reading formations’. The article focuses, in particular, on hashtags and shared acts of reading on Instagram through the #bookstagram - images of books that users say they are currently reading. Far from being merely narcissistic displays, the article suggests that the #bookstagram shares acts of reading in a way that evokes the sensory, the sensual and a form of ‘embodied reenactment’.

Lastly, Paul Copley and Johan Siebers report on a project that involves reading closely. ‘Close reading and distance: between invariance and a rhetoric of embodiment’ re-assesses the work of I.A. Richards in the presentation of survey research in Higher Education. Focussing on the responses of academics to questions about close reading practices they use in their research and teaching, the article finds that, for the majority of respondents, close reading is not considered in terms of embodied practices or habits and not necessarily for reasons to do with Richards’ original project. Rather, close reading is posed as a ‘transferable skill’ bequeathed to students, betraying a particular pedagogical ideology of quantifiable goods.

As a whole, the articles in this special issue attempt to move in the direction of providing approaches to reading that are, as Wolf (2016: 10) advocates, “linguistically, cortically, cognitively, emotionally, and societally” (Baron 2015: 10) orientated.

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