Culture as education: From transmediality to transdisciplinary pedagogy

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Abstract. For the past three years, the Transmedia Research Group at the Department of Semiotics, University of Tartu, has been developing open access online materials for supporting the teaching of humanities-related subjects in Estonian- and Russian-language secondary schools. This paper maps the theoretical and conceptual starting points of these materials. The overarching goal of the educational platforms is to support cultural coherence and autocommunication by cultivating literacies necessary for holding meaningful dialogues with cultural heritage. To achieve the goal, the authors have been seeking ways of purposeful harnessing of transmedial, crossmedial and other tools offered by the contemporary digital communication space. We have started with an understanding of culture as education – a model which is grounded in cultural semiotics and highlights the role of cultural experience and cultural self-description in learning literacies. From these premises we proceed to explicating the value of a transdisciplinary pedagogy for methodical translation of the theoretical concepts into practical solutions in teaching and learning culture.

Keywords: cultural literacy; semiotics of culture; transdisciplinary pedagogy; transmediality; digitality

The aim of this paper is to map the theoretical and contextual starting points for the online environment *Education on Screen* (EoS) created by the Transmedia Research Group at the Department of Semiotics at the University of Tartu. The primary focus of the group has so far been application of cultural semiotic framework in creating study materials for humanities-related subjects and topics

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for secondary school students and teachers. Given the cultural context of digital media convergence, the materials have been presented in the form of open access online platforms harnessing crossmedial and multimodal tools and strategies, while balancing a general explication of a chosen theoretical concept or problem with thorough treatment of an empirical example in each case. So far, we have released three platforms: *Literature on Screen* (LoS), which is focused on cinematic adaptation of literary texts; *History on Screen* (HoS), which explicates the notion and operating mechanisms of historical memory; and *Identity on Screen* (IoS) featuring a multi-level treatment of the notion of identity. This article looks into the first two of them.

From a more general conceptual viewpoint, EoS and all its contents exist as part of the research project *Culture as Education: Transmediality and Digitality in Cultural Autocommunication*. The aim of the project is to develop the principles of intermediary analysis of culture, to explicate the possibilities of such analysis in empirical studies, and create educational materials supporting their application in school education. The project is based on the methodological innovation that semiotics of culture has brought to the understanding of the new media environment, and on a transdisciplinary dialogue with the humanities, pedagogy, and social sciences (Papst 2004[2]; Werlen 2015; Stockhammer 2012; Klein 2014; Monk *et al.* 2017). Intermediary analysis of culture is based on the view of culture as a process, in which simultaneity is more important than temporal sequence and in which intersemiotic, interdiscursive and transmedial mediation occurs. Its additional objectives include engaging in cultural analysis phenomena that have been considered peripheral from the viewpoint of logocentric culture; introducing the new media environment more fully in practical analysis of culture; improving its uses in school education; and exploring the educational nature of culture.

Development of education necessarily is a transdisciplinary process, a dialogue between theoreticians and practitioners. Semiotics participates in this process as well. One direction of the semiotic development of education stems from general semiotics and its keywords are 'sign' and 'semiosis' (see Semetsky, Stables 2014; Semetsky *et al.* 2016). Another direction – also taken in the present paper – is based on semiotics of culture and its keywords are 'culture', 'text', 'language', 'mediation' and 'autocommunication'. By conceptualizing culture as education we first and foremost refer to the understanding that acquiring a cultural identity

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[2]   Papst, Josephine 2004. Transdisciplinarity: The unifying paradigm of humanities, natural and social sciences. *TRANS. Internet-Zeitschrift für Kulturwissenschaften* 15 was retrieved on 24 September 2018 from http://www.inst.at/trans/15Nr/01_6/papst_b_15.htm.

presumes learning cultural languages. The latter include most prominently the languages of different media used in the given culture for meaning making and communication that exist within a transmedial continuum. Cultural languages are learned through the process of acquiring cultural experience, including school education. Given that the essence of culture is the translation of messages into different cultural languages, the development of communication technology has a strong influence on the translatability and comprehensibility of culture. Also in our experience, the technological tools and platforms that students use in their everyday communication and the (transmedial) cultural experience acquired via these can support the process of educating. In more concrete terms:

> The re-interpretation of the starting text, the multiplicity in the approach to events and characters, and the extraction of fictional elements and induction of new ideas and values, activates an ability to connect knowledge and assumptions from the fictional world with those of the real world. This can lead to new perspectives and practices which increase the students' interest and dynamics of the academic environment. (Sánchez-Martínez, Albaladejo-Ortega 2018: 60)

Another key quality that such general integration of knowledge with simultaneous acquiring of concrete competences allows is the development of a global world-view:

> Transdisciplinary pedagogy is an effective learning methodology for increasing discussion about global sustainability. [...] Transdisciplinary learning promotes an atmosphere of metacognition within the inquiry process. [...] Transdisciplinary teaching is the most effective approach to support teachers' and students' successful integration of a varied discipline discussion in order to create global sustainability in our highly-connected society. (Soublis Smyth 2017: 66, 71)

The future, therefore, belongs to transdisciplinary collaboration, both in advancing teacher training (Alagumalai *et al.* 2013; Gibbs 2015) and subject-based education (Jao, Radakovic 2018). In addition to (educational) reconceptualizing of everyday cultural experience (Cockell *et al.* 2011; Sanford *et al.* 2014), the transdisciplinary approach facilitates supporting for the development of cognitive skills and thinking tools such as: "(1) observing; (2) patterning; (3) abstracting; (4) embodied thinking; (5) modeling; (6) play; (7) synthesis" (Henriksen 2018: 2). While drawing on these ideas, we would also claim that the cultural semiotic treatment of culture is close to the methodology of transdisciplinary research and several principles of transdisciplinary pedagogy are inherent in cultural semiotics as well.

At the same time, the most important unit of culture for semiotics of culture and its conceptualization of education is still the notion of the text, as the reader's activity is conceptualized as a dialogue or communication *with* the text (instead of a decoding *of* it) (Lotman 1988). Therefore, the educational interpretation of the artistic text lies at the centre of our project. Habits of reading and interpretation, skills of textual analysis, strategies of keeping texts in cultural memory and texts as mediators of (historical, mythological, psychological) time and space form the basis of cultural literacy. Transmediality and crossmediality currently appear as two main directions of communicative processes, whereas the heterogeneity of texts and new ontological features of text in the new media environment necessitate a theoretical and educational conceptualization of digital texts and digital reading. The latter oftentimes takes place on platforms where partial reading serves a holistic purpose, i.e. harnessing the affordances of digital media convergence, textual fragments are presented in a manner that allows for the creation of a holistic understanding of the text. As regards theory, it is also important to see continuity in cultural processes and to analyse mechanisms of sustainability of cultures through development of new modes of communicating not only with contemporary culture but also with cultural heritage, which offers new ways of rendering the latter relevant or "their own" for new audiences. In the following, this framework is further explicated in five subsections, while their complementarity is emphasized by applying them on the empirical material from EoS. The central questions that we seek answers to are:

(1) How to support dialogues between literary texts and young readers more accustomed to audiovisual media?

(2) How to support dialogues between cultural texts and readers with "alien" cultural backgrounds?

(3) What does it mean to be culturally literate in the contemporary world, and how to support a multifaceted understanding of literacy in school education?

(4) How do the means of cross- and transmedia strategies and the digital environment help to pave the way to achieving the above goals?

Our first project LoS is based on the best-selling Estonian novel by Andrus Kivirähk *Old Barney or November* (2000) and its critically acclaimed cinematic adaptation by Rainer Sarnet *November* (2017). Being deeply rooted in Finno-Ugric folklore and featuring a pseudo-historical story set in the feudal times the novel is characterized by multiple references to the cultural context and the same applies to the film, even though they appear to be very different stylistically. The second project, HoS, took off from the autobiographical novel trilogy *The Little Comrade* (2008–2018) written by Leelo Tungal about her childhood in Stalinist Estonia and its cinematic adaptation of the same title by Moonika Siimets (2018). The contents

of both platforms are offered in a multimodal form and include overviews of the theoretical approach, verbal, visual, auditory and audiovisual excerpts from the film, behind-the-scenes material and film's reception on public broadcasting channels and social media, excerpts from the novel, as well as tasks developing analytical skills and interactive assignments for implementing creativity in multimodal forms both individually and in groups.

Learning (through) cultural texts

The use of new tools characteristic of digital learning environments presupposes a change in the mediation of the studied material, thus also changing the way we learn and actualizing the need for intermediary analysis. One of the key affordances of digital educational platforms is simultaneous mediation in different sign systems and cultural languages. This means that conceptual juxtaposition of the means of verbal text, videos and film, music and sound files, pictures etc. is much easier compared to an analogue classroom. For instance, the subpart of HoS in which the role of the radio and music in Stalinist propaganda is discussed mediates the topic through an excerpt from the novel, a still frame from its cinematic adaptation, a video clip featuring a short video lecture and an interactive task containing recorded music and written texts. Thereby, the learner faces the results of a process that Suhor (1984: 250) has described by the notion of transmediation – "translation of content from one sign system into another" – in the context of curriculum studies and becomes involved in the process of communication harnessing multiple cultural languages.

Such mediation of material by means of different sign systems initiates a complex dialogue between the multimodal environment and the learner's consciousness, having an important pedagogical effect. The learner is constantly engaged in translating between outer texts, namely the texts of digital media on the platform, and an objective-imaginative code of his/her consciousness, which results in the creation of the texts of inner speech. The code of inner speech consists of all the previous experiences of various cultural languages, forming a special language of inner speech (Zhinkin 1998). Zhinkin points out that our perception of reality forms an inner language of representations, namely a language of images, and characterizes the way we understand other languages. He claims that "understanding, that is, the reception of messages, should be viewed as translation from one language into another. Moreover, a language of representations must be one of these languages, since the first, perceived step toward the knowledge of reality is made up of them" (Zhinkin 1998: 161). Inner

speech is a complex notion representing a certain universal code necessary for understanding and memorizing different texts of culture. For instance, if we say 'radio' we simultaneously attribute various imaginative features to it, such as what colour it might be, what music it would play or what sound quality it has. All these attributes derive from previous cultural experience. This means that inner speech is a non-verbalized form of speech that consists of sign systems already internalized through cultural experience. Its main difference from real speech is that phrases of inner speech do not possess grammar, are predicative and connected in agglutination (Vygotsky 1982, 1991). The internalized sign systems are therefore merged together, making inner speech an important tool of meaning making on the one hand, and a preparatory activity for transforming a thought into an utterance in various forms on the other hand. Thus, inner speech is an important tool for developing creative thinking, since it is able to recall features of different modalities, such as pictures, sounds or feelings in order to associate them with a certain object or concept.

The use of various texts of culture in describing an object might help us recall and attribute more features to it, thus stimulating the work of inner speech. The more we stimulate inner speech and the more resources this inner language can use in order to understand the texts of culture, the more we activate imaginative and creative thinking. In a pedagogical sense, the use of various media in describing a particular object studied stimulates inner speech in order to build a better image of the object of study, which is also necessary for associative memorizing (Vygotsky 1991: 168–170). Engaging the learner in the process of translating cultural texts from one sign system into another via the language of inner speech, appears to be an effective tool for facilitating meaning making and creativity. The materials on EoS include a number of activities for interpreting verbal cultural texts in the form of collages, alternative scripts and sketches for designs as well as musical arrangements and videos.

Such process was described by Vygotsky (1991: 288) as learning "towards acquisition of your own system of experiences". Creating new texts in response to the existing ones has a psychological effect (Vygotsky 1991: 289), yet at the same time it serves a crucial pedagogical function, facilitating the development of literacies: "...it's impossible to enter an artistic text completely, in case you are absolutely extraneous to the technique of its language" (Vygotsky 1991: 291). Communication with cultural texts by means of different cultural languages can thus not only be able to support the development of creative thinking, but can also lead to a better understanding of the principles of meaning-making of different cultural languages as well as create conditions for raising the relevance and readability of cultural texts for different audiences.

Text and its audience

The semiotic viewpoint presupposes that any artistic text is encoded in more than one sign system. Lotman (1988) defined the literary work as a message encrypted not only in a natural language, but also in an artistic language and in differently structured interrelated cultural codes. In a similar way, Umberto Eco (1979: 5–7) suggested that an author produces an artistic text by relying on a whole "ensemble of codes" that includes but is not limited to a linguistic code, ideological and stylistic overcoding, common and intertextual frames. Roland Barthes (1990: 18–20), in his turn, approached the question from the other side and proposed five codes that the reader can use to decipher a work of art – hermeneutical (to analyse a story), actantial (to analyse a fabula), semic (to analyse general content), symbolic and cultural codes (to analyse content on deeper levels). Although these scholars had their own specific, and in some aspects different, standpoints on the matter, all of them shared the idea that multiple overcoding of an artistic work turns reading (watching, listening) into a complicated analytic and creative process. A reader (spectator or listener) should be able to understand a work of art through the recognition of codes that constitute it. Moreover, he/she should be ready to interpret an artistic text and connect it to the context of his/her own cultural and personal experiences.

According to both Lotman and Eco, by choosing certain codes the creator of an artistic text determines its "model reader" (Eco 1979: 7–8) or an image of the audience (Lotman 1982: 81). In other words, if we understand the production and reception of an artistic text as a communication act, then the model reader will be a receiver who is familiar with all codes used by the author. In theory, this condition can be achieved in two ways. For instance, the author may orient a message to a reader who belongs to a similar cultural tradition and shares similar experience; in this case a text will be created in the intimate language "for oneself" that to a great extent depends on the presumption of the reader's contextual knowledge. In the other case, the author may create a text in a language "for others", considering a much wider audience that needs detailed explanation of a context or avoidance of certain topics. However, when it comes to actual works of art and actual readers, everything turns out to be much more complicated. Firstly, most artistic works are balanced between the two poles and there might be both codes understandable to a wide audience as well as codes comprehensible only to a few in one and the same text. Secondly, codes used by an author and codes that a reader applies to an artistic text never coincide completely, and some of them may even contradict each other. This aspect becomes still more apparent if we take into consideration that in contemporary world texts may easily cross all possible borders and interact with diverse audiences belonging to different cultural backgrounds.

The idea of multiple overcoding highlights the multiperspective nature of reading, as a receiver may concentrate on one or several codes that constitute a work of art and need not pay attention to others. For example, he/she may be interested mainly in the inner poetics of a text, its genre tradition, or the context of the author's overall oeuvre and biography, etc. All the different interpretations that may appear in this perspective will be considered as extraction of information from the given text. However, if the reader applies codes that are not connected to the author and his/her intentions, we may speak of the involvement of the text in the production of new messages. This is the case, for example, when a reader receives a work of art through the prism of a social discourse that is significant in his/her culture and time, but is inconsistent with the culture and time of the author. Although new meanings that readers bring into a text might be seen as signs of misunderstanding and misinterpretation from a certain point of view, according to Lotman, generation of new information is a no less important function of artistic work than the simple transfer of a message from the author to the reader.

In LoS and HoS we invite the users to read fragments of artistic texts from specific perspectives. In LoS we concentrate on the complex mutual relations between the literary source and its adaptation(s); in HoS we consider the novels and the film as part of memory culture. In order to do that, readers should understand the texts well and be ready to work with their heterogeneous structures. As was indicated above, our material is deeply rooted in Estonian culture and even though the novels have been translated into several languages and both screen adaptations have been shown at international film festivals, the texts contain a variety of culture-specific codes that might not be comprehensible for readers who are not closely familiar with the Estonian cultural context. Also, the potential audience of the EoS environment includes international users as it exists simultaneously in Estonian, Russian and English.

To help a broader audience enter a dialogue with the chosen texts, we created interactive maps. On the one hand, these resemble traditional literary commentaries as we provide the readers with the necessary contextual knowledge that should clarify the texts. On the other hand, our commentaries are different from the traditional ones, as we try to motivate the readers to reflect over the acquired information and relate to it. For example, in the case of LoS the map has two levels. Firstly, we concentrate on explaining the Estonian folk stories and historical realities that underlie the artistic universe; secondly, we try to connect these to an international context. For instance, if we tell readers about the mythological creature called '*kratt*' (treasure-bearer), we also offer comparisons with somewhat similar characters in the folklore of other cultures. While explaining the motif of the werewolf, we suggest thinking about contemporary

texts in which it is also present. By this we have attempted to demonstrate both the specialty and the universality of Estonian cultural codes, while connecting different contexts may help the readers to notice the general patterns in the culture-specific material and therefore empathize with it more. In the case of HoS, attention was paid mainly to those complicated cultural and historical concepts that symbolize the spirit of the Stalinist era in Estonia. We recorded small video lectures about the repressions, the cult of personality, the propaganda, the atmosphere of fear, and created gamified tasks to motivate the users' reflecting on these topics. For instance, in one of the videos the lecturer – the writer Andrei Hvostov – explains the untranslatable Estonian expression '*vene värk*' (literally 'Russian stuff') that appears in the novel several times and is used mainly for negative evaluation of the ways things were done in the Soviet Union or by Russian people. Significantly, he uses examples from different cultures, naming other expressions that describe typical behaviour of unwanted government or unwanted neighbours. In order to draw the users' attention to the question of translatability/untranslatability, the video is followed by a task of explaining different Soviet realities with the help of pictograms. This allows the learners to check their understanding of the discussed realities and evaluate the potential of other means of expressions besides the verbal one in complicated communication. Each concept on these interactive maps thus reveals cultural codes of the text and becomes a catalyst for further discussion.

Creation of the basis for an interesting and enriching dialogue among people with different cultural backgrounds is a problem that cannot be overestimated in the contemporary world (see Medina 2010; Kostogriz, Tsolidis 2008). The existence of a common natural language is only one aspect of solving this problem, while the need for relevant topics and interest in the cultures of other interlocutors are also factors of primary importance. Artistic texts featuring an abundance of material for decoding may thus serve both as an introduction to the context of a foreign culture, but also ignite conversations on cross-culturally relevant subjects.

The reception of an artistic work is a dynamic process that depends on the memory of the audience and codes that this audience may recognize and apply in their dialogues with the text. In our projects we have sought a balance between shaping the interpretation of *November* and *The Little Comrade* from particular educational perspectives as well as supporting creative juxtapositions and inter-pretations. Our experience has confirmed that if each new "alien" artistic text is a gate to a new culture, then each "alien" reader with a new background represents a reviving power for the artistic text.

Cultural literacy

The question of how to teach literature and, more generally, culture is inevitably linked with our understanding of what constitutes a culturally literate person. Defining what it means to be culturally literate, however, poses a remarkable challenge for the contemporary educational field. During the past decades, the notion of literacy has branched out into new spheres of cultural practices (media-, visual-, digital-, multicultural literacies, but also health and landscape literacies, etc.) acquiring a variety of meanings along the way. The rapid increase in what has been conceptualized as different types of literacies indicates that the nature of knowledge required for successful operating in the cultural environment we live in, is undergoing some drastic changes.

According to Gunther Kress (2003: 1), the "move from the now centuries-long dominance of writing to the new dominance of the image and, on the other hand, the move from the dominance of the medium of the book to the dominance of the medium of the screen" is one of the most profound changes that have taken place in the past decades. This in turn widens the gap between education and schooling – namely that "between the historical apparatus of the popular state-run school, on the one hand, and the rich and varied educational opportunities provided by media, in all its new and burgeoning manifestations, on the other" (Green, Beavies 2013: 43). In addition, the educational system must figure out how to prepare students to navigate on the local and the global level of society simultaneously (see Findlow 2018). In the context of these changes the question of what it means to be culturally literate in the contemporary world becomes a cornerstone for any educational innovation project that tries to tackle these challenges.

Before answering this question in the context of EoS, it is necessary to clarify how the notion of 'cultural literacy' is used in this article. According to Paul Gilster 'being literate' indicates not only the ability to read and write but goes beyond it: "it has always meant the ability to read with meaning, and to understand. It is the fundamental act of cognition" (Gilster 1997: 2). Elaborating this definition further from verbal language to the level of society in general, we could define cultural literacy as the ability to 'read', use and understand different sign systems that are present in one's culture. Cultural literacy in this sense can serve as an umbrella term that can include a variety of literacies through which we make sense of the world around us. Hence, we can reformulate the question of cultural literacy into a more general wondering and ask what it is that allows us to understand the culture we live in.

If we permit ourselves to make a vast generalization about the extremely diverse field of literacy studies, we can distinguish two views on the question posed above.

The first one is related to a more traditional approach that prioritizes shared cultural knowledge as the key to successful participation in a culture. The other one focuses on how information is mediated in culture and on the skills necessary for handling different media as the most valuable knowledge in navigating the cultural space.

The principles of the former approach to 'cultural literacy' are well elaborated by Eric D. Hirsch. In his words, literacy implies first and foremost a national culture that is based on common knowledge or collective memory, which guarantees successful communication between the members of this culture (Hirsch 2002: XII-XIII). According to Hirsch (2002: XV) it is the currently fashionable skill-oriented approach that has led to a decline of cultural literacy among students by disregarding the importance of knowing the traditional history, myth and national literature. In Hirsch's view it is possible to solve this problem by gathering together all the information that forms the foundation of one's culture, which he himself has attempted in *The Dictionary of Cultural Literacy: What Every American Needs to Know* (first edition published in 1988).

The second approach is to a large extent represented by the sphere of 'new literacies' (see Leu *et al.* 2017) which serves mostly as an umbrella term to a variety of different literacies that are connected with the development of the new media technologies. One of the key points in understanding new literacies as formulated by Julie Coiro *et al.* (2008: 41) is that they include "new social practices, skills, strategies, dispositions, and/or literacies" required for the effective use of new technologies. Promoting skill-based literacy (see Bawden 2001) is also partly related to globalization and multicultural societies. Concentrating on the form in which the information is presented as a more universal ground for analysis makes it possible to avoid the culture-specific content. The reason for this is that in the framework of 'new literacies' educating a global, culturally literate citizen is focused on deconstructing of identity rather than acquiring fixed items of cultural knowledge (Halbert, Chigeza 2015: 157).

On EoS, these opposing understandings come together within the framework of semiotics of culture. It is possible to distinguish cultures that describe themselves as an aggregate of normative texts, and others that model themselves as a system of rules that determine the creation of texts (Lotman, Uspenski 1978[1971]: 218). As stated by Lotman and Boriss Uspenski (1978[1971]: 218):

> Each type of culture generates its own particular ideal of Book and Manual, including the organization of those texts. Thus, with orientation towards rules, a manual has the appearance of a generative mechanism, while with orientation towards text, one gets the characteristic (question-answer) format of a catechism, and the anthology (book of quotations or selected texts) comes into being.

The two above-described directions of defining what kind of knowledge is the most valuable for participating in culture can be seen as representations of these two types of culture: the 'new literacy' approach is oriented towards a 'manual of rules' (grammar), and the approach described by Hirsch strives towards an 'anthology of selected texts'. However, it is important to keep in mind that this typology does not actually describe the way any culture is in itself, but only the way we perceive it. The types are reflections of our own value systems and both tendencies are actually always present in any culture. That is why, in the context of our projects LoS and HoS, enhancing cultural literacy attempts to combine both approaches and views them as complementary. Developing cultural literacy on our platforms is realized on three different levels: culture-specific content, cultural languages and general workings of culture.

Culture-specific content

Undoubtedly, social unity of any cultural space is to some extent based on shared texts that form the foundation of cultural identity. Through those texts culture sustains its cohesion both among its current members and, at the same time, with its previous periods of existence. That is why reading canonical texts is an important part of cultural education. However, understanding these texts can pose a problem both on the synchronic and the diachronic axes of culture. Firstly, every society consists of people with different cultural backgrounds and thus knowing the cultural context represented in these texts cannot be taken for granted. Secondly, texts describing the distant past may seem full of codes that are foreign and exotic to a young reader as if they were telling a story of an unknown far-off culture – even if they are members of the same cultural space.

For this reason, explaining culture-specific content is necessary for educating culturally literate students. To achieve this goal within the educational projects on EoS, we have implemented the interactive maps described in the previous section to introduce aspects of folklore, the period of the manors, and the Stalinist era in Estonia to contemporary students.

Languages of culture

Still, focusing on canonical texts in culture cannot be the sole dominant in teaching culture. It is crucial to keep in mind that these canonical texts are not static entities with fixed meanings. In culture, texts are constantly translated between languages of culture that mediate meanings using different sign systems.

Every new translation can step into a dialogue with previous versions of the text adding new layers of interpretations to cultural memory.

The everyday cultural experience of contemporary students to a great extent revolves around the phenomenon of constant retelling through different sign systems. In order to be able to grasp those shifts in meaning that happen as a result of these translations, it is necessary to pay attention to the specifics of the languages of culture. This means being able to understand how texts are constructed and represented in different media and being able to use this knowledge to create new texts. For example, one of the main focuses of the project LoS is the question of how literature is translated into the language of film and how the film in turn is received into culture via metatexts in different cultural languages. Students can follow the multi-step process of the written word becoming audiovisual information and experiment with this translation themselves in tasks such as creating a storyboard or choosing a soundtrack for a movie scene, or else dissect the varying reception of the text on different social media platforms.

General workings of culture

On this level, cultural literacy is understood as the ability to perform analysis of culture on the metalevel. The framework of cultural semiotics makes it possible to model the processes that govern text generation and organization in cultural spaces as universal. Through making it feasible to find traits in the workings of culture that are common for the majority of societies, these present a common ground of analysis on the global level even in the case of culture-specific content. To give an example, in the HoS project students are invited to reflect on the relation of history and power. Although the example is based on Soviet Estonia the idea itself – that of narrating history always being to some extent in the service of the present-day society and politics – can be applied to any society. In the current media-saturated context and from the viewpoint of intermediary analysis, we would next need to specify the notions of transmediality and crossmediality and then look into digitality as both a condition and a tool for our purposes.

Transmediality and crossmediality

The practice of screening a film in class to illustrate a given topic is not uncommon. What is crucial here from the perspective of literacies, is reflecting on not only what the film mediates, but also on how it does this, and how this is both similar to and different from the ways that other films, as well as texts in other

media and modalities, mediate the same topic. This can be, for example, the question of how a film mediates the past, i.e. both one of the poetics chosen by the given author, as well as one of the audiovisual means of mediating the past in general. Any given historical film is also an example of culture's self-organization and its search for the most accurate and acceptable ways of representing itself and its past. The readability of a text is clearly related to an understanding of its medium-specific affordances and constraints for the transmedial variation of an object (a topic, a character, an event etc.). This capability appears a logical constituent of literacy in the contemporary media-saturated world, characterized by simultaneous processes of convergence and divergence in different domains of media culture.

An important attempt at conceptualizing transmediality in relation to literacy has been made by Scolari and his colleagues (Scolari *et al.* 2018; Ciastellardi, Di Rosario 2015), who have framed the notion of transmedia literacy as "a set of skills, practices, values, priorities, sensibilities, and learning/sharing strategies developed and applied in the context of the new participatory cultures" (Scolari 2017: 126) and specified transmedia skills as ranging "from problem-solving processes in video games to content production and sharing in the context of web platforms and social networks; the creation, production, sharing and critical consumption of narrative content (fanfiction, fanvids, etc.) by teens is also part of this universe" (Scolari *et al.* 2018: 803). The accentuation of the cultural context of creation, production and reception to complement traditional immanent textual analysis appears especially valuable here. A complementary account of how learning is happening not only in formal but also in informal environments and the conceptualization of third-space literacies stemming from this is also offered by Potter and McDougall (2017).

From the perspective of semiotics of culture, acknowledging the aspect of reception of culture implies recognition of the effect of one's cultural memory on the reading of a given text. Upon its première or first print, a text enters a network of texts in different media and discourses, becomes integrated into it and starts acquiring new meaningful layers. The previous cultural experiences of young learners – the texts and reception practices familiar to them – determine the nature of the transmedial textual network that the new text joins and within which the reader makes sense of it. From this viewpoint, in addition to literariness, a literary text also has implicit visual, auditory and multimodal dimensions that affect its interpretation in the reader's mind and memory.

In order to elaborate on the interrelationships between different media for our present purposes, we propose a distinction between two types of dynamics: the transmedial and the crossmedial ones. Both of these rely on the mechanism of

intersemiotic translation, but when the former pertains to the processes at the level of culture's self-regulation and autocommunication, the latter describes the level of communication between cultural agents. One could also describe these via a distinction between source-oriented and target-oriented processes and, in the methodological perspective, relate it to the understanding of the orientation of cultural mechanisms. One and the same culture can be understood as a culture of a (nation) state or of smaller interest groups, who control and direct textual processes by controlling politics, ideology, marketing, the school system and mass media. By generalization, the latter could be termed as the direction of crossmedia, which is based on channelling certain messages into culture by consciously using the tools of different media. The other direction stems from cultural life in which the basis for textual creation is the creativity of individuals or small groups, which together constitute a uniform culture. To signify this uniformity in multiplicity, 'transmediality' seems a suitable term.

By 'transmedia' we thus refer to the pulverization of a text into new texts in different media. This process is characterized by a certain spontaneity and unpredictability of textual growth that can take place over extended temporal periods, being punctuated by significant temporal and interpretational gaps. Unlike the case of crossmedia, a transmedia text as a whole is not formed in a coordinated manner by one author or a small group of authors. Instead, each individual target text that stems from the intersemiotic translation of the source text has its own dominant. The dominants of the individual texts within the transmedial whole might vary significantly and even appear to contradict one another. They could originate from different aspects and layers of the source and depend on their author's interpretation of the source text as well as on the text's dialogue with the current cultural context. This is well exemplified by cinematic, theatrical, etc. adaptations of canonical literary oeuvre that periodically set the source text in a dialogue with different socio-cultural contexts and means of mediation. It is evident that the transmedial whole only exists on the level of memory, where the versions are integrated in accordance with the current hierarchy of cultural codes and languages. This is why Sütiste and Torop (2007: 203) have framed transmediality as the mental aspect of a text's being in culture. The empirical examples of transmedial pulverization addressed on EoS include intersemiotic translations of Kivirähk's novel *Old Barney or November* and the textualized experience of the Stalinist era in Estonia.

Our first case, LoS, concentrates on Sarnet's film *November*, which is also an intersemiotic translation of ethnographic photographs by Johannes Pääsuke, which largely determines the overall visual atmosphere as well as the casting of several nonprofessional actors. This aspect alone renders the film very different from,

say, the operatic version of *Old Barney* by Tauno Aints and Urmas Lennuk that features schooled voices on a stage furnished with stacks of Euro-pallets. These two versions of *Old Barney* also illustrate the inexhaustible reservoir of dynamism within an artistic text, realized upon contacts with new contexts (Lotman 2001: 18) or extra-semiotic sphere (Lotman 2009: 115) from the viewpoint of the system of the source text. Such versions clearly have a relation of complementarity, not substitution, in culture and should be regarded as such also within formal education.

Our second example, HoS, discusses how it is not only textbooks or academic writings that frame our understanding of the historical past, but also artistic texts in a variety of media, contributing different modalities to the model of the past in our memory. This standpoint is unanimous with views expressed in cultural memory studies by Erll who regards mediality as "the very condition for the emergence of cultural memory" (Erll 2008: 392), but also with Ann Rigney's concept of "transmedial recursivity" (Rigney 2005: 21) via which she explains the ways that the working memory of a culture is the "result of various cultural activities that feed into, repeat and reinforce each other" (Rigney 2005: 20). In sum, the transmedial dynamics concerns the ways in which invariants are expressed in the medial variations of a source text.

By the keyword of 'crossmedia' we signify the integration of texts expressed in different media into one target text. We have in mind a coordinated structure that can be described also on the level of expression. The creators of a crossmedial whole have proceeded from an agreed-upon dominant and employed a coherent system of codes. Within this framework, thus, projects defined as 'transmedia storytelling' would be classified as crossmedial, whether stemming from the context of commercial entertainment (Jenkins 2006), history education (e.g. Dusi *et al.* 2017) or else. These principles characterize also LoS and HoS. As the purpose of LoS was explaining the phenomenon of cinematic adaptation of literary text to secondary school students, only the fragments and layers that more explicitly resonate with the purpose and fit into the content structure were selected and highlighted both from the novel and the film. Analogously, all the artistic and non-artistic texts curated into a whole on HoS could in principle be included into an open number of alternative sequences and configurations accentuating their other components. In this case their reading was motivated by the purpose of discussing the concepts of historical memory and artistic modelling of the past, so that is the ground on which these texts were set into a crossmedial dialogue. This was again facilitated by the specific structuring logic of the content, but also by the unified visual field and other features supported by digitality. The latter keyword points also to a genealogical difference between transmedial and crossmedial practices.

While transmediality is an ontological characteristic of culture in general, pertaining to its capability of self-organization and drive for self-understanding, then crossmedia projects have spread and prospered significantly wider in digital, especially social media circumstances that offer tools for integrating the means of different media and modalities in a conceptual way for the purpose of mediating a narrative or thematic whole to a given target audience.

From universal principles to the specifics of digital environment

While new media can be considered "an old media which has been digitized" (Manovich 2001: 65), some contemporary trends are associated exclusively with digital media. These features include digital distribution of knowledge, software control of data, mix of the older and newer cultural conventions, faster execution of algorithms, use of metamedia, and new aesthetics (Manovich 2001: 27–49). According to different studies, the specificity of digital media can be both beneficial and harmful for learning. On the one hand, digital technology helps to increase the readability of existing texts. For instance, it allows integrating different media and teaching materials; bringing together dispersed collections; increasing the searchability; choosing between different authorial variants or versions with new and old spelling; using built-in dictionaries without breaking the flow (Deegan, Tanner 2004; Mackey 2001; Schreibman 2002). On the other hand, the digital medium is often associated with over-reliance on auditory and visual features that distract the attention; problems with remembering the plot of the digital texts; spatial instability resulting from an inability to track the progress physically and visually (Mangen *et al.* 2013; Lamb 2011). While taking into account the limitations of digital media, EoS puts their unique features into use.

As stressed above, in addition to verbal language, human communication has always included other semiotic resources, including images, sounds, movements, gestures and spatiality (Kress, van Leeuwen 2006[1996]), which have become even more explicit in the digital age. Digital environment allows overcoming spatial limitations of the pre-digital media and highlighting the heterogeneity and fluidity of literary experience. As it can also provide almost unlimited storage capacities, it brings into question the principles of selection and organization of the material. This raises new theoretical problems for textual analysis: "When texts become more complicated and narratives are told across platforms, what are the consequences for our abilities to undertake textual analysis? Where are the limits of multiplatform texts, and how are we to construct the unit for textual

analysis? Where can we draw the boundary between text and context?" (Bolin 2010: 74). Indeed, reading in the age of the internet "may seem to be no more nor less than individual, unassessable chaos" (Hunt 2000: 111). Being a crossmedia phenomenon, EoS helps to combine relevant materials onto coordinated platforms, thus facilitating the curatorial work of students and teachers, and makes it possible to tackle the crucial problems of a flood and fragmentation of online information and of disruptions of cultural continuities.

Digital environment fuels the creative and synthetic aspects of learning: while exploration of any topic has always required building a coherent whole from different pieces, the internet provides far more options than were available in a pre-digital age. Instead of focussing solely on the original works, students can embrace a whole variety of forms making sense of the transmedia universe of the text. Both LoS and HoS offer a wide range of multimodal materials, such as fictional and nonfictional texts, excerpts from films, music, games, maps, paintings and tests. Students are encouraged to compare the versions of the story in different formats, analyse the modelling capacities of different media and establish the relations between them.

With the help of technology, it is possible not only to digitize already existing texts and practices, but also to create new ones. Edutainment is a trend in media production characterized by the dissemination of knowledge through entertaining formats, such as games, videos and physical environments. In the field of literary education, edutainment is often used as a tool for facing a considerable decline in reading motivation. Rather than being a symptom of ignorance or laziness, the unwillingness of students to read books can be explained by a distance between the cultural context of the book and that of the students. This makes it difficult for the reader "to "climb aboard" the text" (Iser 1972: 282) and establish a connection to the material. As was claimed by Louise M. Rosenblatt (1970: 5), "[t]he enjoyment of literature remains as ever the source from which all its other values spring". The importance of emotional and creative approach to the material is evident from the principles underlying the reading motivation as listed by John T. Guthrie and Kaeli Knowles (2001: 159): conceptual theme, real-world interactions, self-direction, interesting texts, cognitive strategies, self-expression. Games and interactive tasks offered by LoS and HoS range from simple tests with instant feedback to creative problem-solving tasks. For instance, thought-provoking tests on the HoS invite students to spot the difference between the examples related to popular culture and the political cult of personality. A multimedia task teaches students to correlate different sign systems by finding pictographic analogues for Soviet terms – such as '*kolkhoz*' or '*stakhanovite*'. Edutainment helps to give a new perspective on the traditional learning tasks, such as writing essays: on LoS, students can use a

randomizing device that will choose a character, genre and scene to be rewritten from a different perspective. Also, as referred to above, interactive maps – a conceptual part of both LoS and HoS – present important realia and concepts of the texts in a spatial manner, which allows students to educate themselves by freely browsing objects on the map rather than by reading a textbook chapter in a predetermined linear order.

Educational policies in different countries are already acknowledging the need for integrating digital literacies in the school curriculum. On the basis of 46 studies reviewed by Peter Afflerbach and Byeong-Young Cho (2010: 217), strategies used for reading digital texts "appear to have no counterpart in traditional reading". Rather than ignoring digitally-born texts, the school system needs to develop tools for their effective perception, interpretation and analysis. Among other digital competencies, students need to know how to find and assess information online; see problems from digital perspectives; become self-directed learners; obtain digital solutions; learn software quickly; design and create digital solutions (Ventimiglia, Pullman 2016: 42). Both LoS and HoS aim to develop literacies for dealing with multimodal, compressed and often anonymous online texts – posters, trailers, posts on social media. Also, they highlight the social aspect of digital literacy, which is associated with new forms of thinking and communicating: "Digital literacy enables forms of thinking that are not as readily enabled by traditional literacy. Without these forms of thinking and communicating, people are at a social and economic disadvantage. They are unable to think outside of the software they have memorized or to express themselves beyond the no-longer-relevant constraints of the printed page" (Ventimiglia, Pullman 2016: 40). Both LoS and HoS promote participation: the platforms invite students to create visualizations of different kinds – from storyboard to memory collages – and share them on the internet. By taking part in educational activities on EoS, students are not only making sense of cultural autocommunication but also take active part in it themselves.

Conclusion: Books and digitality in transdisciplinary pedagogy

Culture as a complex of communication and autocommunication is based on repetition. Traditionally, one of the most valuable elements in many cultures is the book. Mediating unique literary/artistic texts, books also appear as models of culture. The same text would be published in different books, it can be part of different cultural models from different historical periods. Books are a dynamic

part of culture and the technological environment influences this dynamic. We can describe the historical dynamics of the book as translational (mediational) activity. Traditional translation studies use the notion of seriality to characterize the ontology of translation. The source text is linguistically unique, but also interpretable and translatable into other languages in hundreds of ways, and it is impossible to speak of an absolute quality – there can be very numerous very good translations of the same text. Every new translation is simply a new text in the series, which allows for their comparative analysis. In the digital age traditional translation activity has found a new environment and is a new cultural experience. Cultural space and cultural memory are more compressed, and cultural knowledge is more visible. There is a new type of seriality in translations (mediations):

(1) the method of translation as an orientation to the transmedia world and complementary reading (seriality as the plurality of intersemiotic and intermedia versions of text within culture) = complementary reading outside translation, extratextual reading;

(2) the method of translation as the digital mediation of traditional translation (visual images, animated comments, examples of sounds, etc) = complementary reading inside translation, intratextual reading.

The dynamics of cultural environment forms a new ontology of the text because every text is now clearly interpretable and comparable as translated (mediated) text:

(1) text exists in transmedia space together with remediated versions of the same text as part of cultural experience;

(2) text is a part of mediated culture and collective digital reading; this reading is analytical and complementary;

(3) the seriality of digital cultural mediations can be described

   (a) at the level of intersemiotic and transmedia variations of whole texts, and

   (b) at the level of nanotexts (implying also big data analysis).

The book as a model of culture represents readiness to understand culture as a whole and the same attitude is echoed within the digital book, realized on platforms, sites and digital special environments in place of the printed page. Digital reading is reading, watching and listening a conceptualized whole on a platform where primary and secondary texts (and/or their fragments), interpretations, intersemiotic translations and instructions for users exist together. This conceptual whole has a transmedial nature. At the same time, on the level of culture as a whole, the parameter of education is correlated with the state of cultural memory and cultural identity in a given society.

Thereby we can return to the questions posed at the beginning of this article and briefly rephrase the answers we have proposed to them. One of the most fruitful ways to support dialogues between canonical literary texts and young audiences

more accustomed to audiovisual media is stimulating the inner speech of the audience. This can be done by offering students chances to transmediate the content they have read into other sign systems and cultural languages. In our experience with EoS, such tasks have facilitated making sense of cultural texts on the student's own terms, which also supports memorizing the texts. Support for dialogues between cultural texts and readers with "alien" cultural backgrounds stems from an awareness of the possibly incompatible cultural codes between the dialogue partners. As explicated in the section "Text and its audience", several translational strategies can be employed to reconcile these incompatibilities, simultaneously accounting for the speciality and universality of the cultural codes featured in a given text. In the case of EoS, the emphasis has been laid on Estonian cultural texts, while the materials on the platforms are adapted also for Russian and English users. Dialogue naturally presumes the command of language and literacy, and in this article we have sought to offer a multifaceted conceptualization of contemporary literacy. In this, a balance between canon-oriented and skills-oriented approaches is featured by the help of a cultural semiotic account of cultural self-models. This allows for acknowledging the importance of shared textual memory, while simultaneously accounting for a dynamic understanding of texts and their growth in culture via translations into new media and discourses. All of the above has to do with the contemporary cultural experience of readers, which today is strongly influenced by digitality and crossmediality. The clearest instances of how the digital environment supports achieving the above goals can be seen in easy conceptual juxtaposition of material in different media and sign systems, explicating the transmedial and serial nature of texts in culture, in simplifying edutainment, which potentially stimulates students to think along, and in promoting participation in the process of cultural autocommunication, because experiencing the creative process supports understanding and appreciation of texts created by others.

In summary, the movement of cultural semiotics toward practical theory of education is the purpose of the project *Culture as Education*, in which understanding culture as education is not metaphorical, but implies a model of a complex understanding of culture. The latter, together with educational implementation of the learners' everyday cultural experience, is the basis for transdisciplinary research and pedagogy that allows for supporting the autocommunicative power of cultures and, through this, highlighting cultural continuities as well as strengthening cultural identities and cultures' capability for dialogues with the surrounding world[3].

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Культура как образование: от трансмедийности к трансдисциплинарной педагогике

В течение последних трех лет группа исследования трансмедиа при отделении семиотики Тартуского университета разрабатывает открытые образовательные онлайн-материалы для преподавания гуманитарных предметов в эстонско- и русскоязычных общеобразовательных школах. Статья описывает теоретические и методологические положения, лежащие в основе этого опыта. Проект направлен на развитие навыков, необходимых для содержательного диалога с культурным наследием, и призван поддерживать целостность и автокоммуникацию культуры. Для достижения цели авторы исследуют способы применения современных цифровых форматов, включая трансмедиа и кросс-медиа. Исходной точкой является понимание культуры как образования: эта модель, разработанная в семиотике культуры, ставит на первое место в обучении культурный опыт и самоописание культуры. С помощью трансдисциплинарной педагогики теоретические понятия переводятся в практические решения проблем, связанных с обучением культуре.

Kultuur kui haridus: transmeedialisusest transdistsiplinaarse pedagoogikani

Kolmel viimasel aastal on Tartu ülikooli semiootika osakonnas tegutsev transmeedia uurimisrühm koostanud vaba ligipääsuga veebipõhiseid õpiplatvorme, eesmärgiga toetada humanitaar- ja sotsiaalainete õpet eesti- ja venekeelsetes gümnaasiumides. Käesolev artikkel kaardistab nende teoreetilisi ja kontseptuaalseid lähtekohti. Arendades kultuurilisi kirjaoskuseid, mis on vajalikud sisulisteks dialoogideks kultuuritekstidega, on õpiplatvormide kaugem siht ühtlasi kultuurilise sidususe ja autokommunikatsiooni toetamine. Tänases kommunikatsioonikeskkonnas eeldab see eeskätt rist- ja transmeedia ning erinevate digitaalsete vahendite sihipärast rakendamist. Artikkel lähtub kultuurisemiootilisest kultuuri kui hariduse mudelist, mis rõhutab kultuurikogemuse ja kultuurilise enesekirjelduse olulisust kirjaoskuste omandamisel. Sellelt lähtekohalt selgitatakse transdistsiplinaarse pedagoogika panust teoreetiliste kontseptsioonide tõlkimisse praktilisteks lahendusteks kultuuri õpetamisel ja õppimisel.