

# The Literary Canon in the Age of New Media

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**Abstract** The article offers a comparative overview of the diverging courses of the canon debate in Anglophone and Germanophone contexts. While the Anglophone canon debate has focused on the politics of canon composition, the Germanophone debate has been more concerned with the malleability and mediality of the canon. In a development that has largely gone unnoticed outside German-speaking countries, new approaches to discussing current and future processes of canonization have been developed in recent years. One pivotal element of this process has been a thorough reevaluation of new media as a touchstone for both defining literature in the digital age and inquiring into the mechanisms of contemporary canon formation. The article thus aims at introducing the Germanophone approach to canon developed in recent years and its results to a larger scholarly community.

**Keywords** canonization, Germanophone approach, Anglophone approach, digital media

#### 1. The Debate on Canon between Cultural Studies and New Media

Canon is among the central, most enduring, and successful of literary studies' concepts, one emulated by film studies (Rosenbaum 2004) and even applied to rock music (Jones 2008). Yet according to Jan Gorak's (1991: 8) comprehensive history of its genesis and development, canon has been a highly problematic, ill-defined, and widely contested concept since its inception.

This has become most apparent in an ongoing debate that began in the 1970s and has been conducted ceaselessly and with great fervor (d'Haen

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2011; Gorak 1991; Guillory 1993; von Heydebrand 1998). In the United States and Europe, where the concept had hitherto been most widely embraced, the debate has taken different directions. The discussion of the American literary canon—as well as the mainly Anglophone proposals for new or revised national, regional, or ethnic canons-takes the concept of canon as a given, while the analysis focuses on its definition, development, and possible improvement in a specific area or language (Guillory 1993; Kaplan and Rose 1990; Lecker 2013). This branch of the canon debate aims at identifying a corpus of literary texts that is representative of national cultural values. The recent German debate, on the other hand, has been less concerned with these questions than with the nature of the literary canon, the mechanisms through which it is formed, and the powers by which it is maintained, eventually arriving, in many cases, at the underlying question of what "literature" is. Unfortunately, most of this work has not been published in English and thus has largely gone unnoticed on an international level (Hartling 2005: 4).

The goal of this article is threefold: first, to explain why the German perspective on canon differs from the Anglophone tradition; second, to present some central new concepts in the German canon debate and their main proponents; third, to elaborate upon the most radical of these new concepts, namely, the proposal to regard current processes of canonizing digital media as an indicator of the future of the canon and of literature as a whole. Its basic argument is that canon is still a much-needed concept which can be fruitfully applied to digital media and in the process will improve our understanding of canon and canonicity.

The search for and discussion of canon stems from a simple fact—the diversity and sheer amount of cultural artifacts. Nobody could ever hope to read every literary text available, which means that even scholars have to select texts for their research and teaching on a daily basis. Canon is the most important heuristic tool for this task (Winko 2002: 10–11), because it presupposes a consensus about a "core of masterpieces" (Damrosch 2003: 110). The larger cultural function of canon results from the assumption that these masterpieces are not only exemplary in their artistic quality but are in complex ways also representative of more general values connected to or even forming a group identity (Engel 2007: 28–29). Major German nineteenth-century poets, such as Johann Wolfgang von Goethe and Friedrich von Schiller, promoted the idea of a German canon to help forge a common national identity among the various German-speaking peoples (Eibl 1998: 66–68; Gorak 1991: 54–55), while American critics have debated since the 1970s how the canon can be changed to reflect the ethnic and cultural diver-

sity of the United States.¹ Forty years after Paul Lauter launched the discussion in America regarding the canonization of nonwhite, nonmale authors by organizing the first Modern Language Association (MLA) session on the canon at the Chicago convention in 1973 (d'Haen 2011: 29), there is an ongoing analysis, revision, and construction of Anglophone canons in Mexico (Bowskill 2011), the Caribbean (Vásquez 2012), Scotland (Preuss 2012), and Canada (Lecker 2013). The discussion includes questions of individual identity (should the Indian immigrant writer Jhumpa Lahiri be part of a Bengali, Indian, Asian American, American, or postcolonial canon [Dhingra and Cheung 2011: vii]?) and the cultural position of nonethnic groups (has working-class literature influenced the canon [Blair and Gorji 2013]?). This dominant direction in the canon debate in English has been criticized by some of its main researchers for subscribing to a simplistic idea of canon as a hegemonic cultural force (Guillory 1993: 38) and for running the risk of a "mindless celebration of difference for its own sake" (Gates 1993: xix).

In some European countries, especially the Netherlands (d'Haen 2011) and Germany (Herrmann 2012), the canon debate has taken a different turn. German discussions of canon since 1997 have distanced themselves from the cultural studies perspective (Uerlings and Patrut 2012: 8–9). Their "attitude has shifted from seeking ways of changing the canon's core to attempts at identifying this core and its specific structure" (Herrmann 2012: 59; my translation). In other words, instead of trying to revise the canon, the majority of German canon scholars now seek a more complete understanding of the principles by which canon develops.

A major factor for the renewed interest in canonicity has been the emergence of a number of computer-based cultural forms that attracted the attention of humanist scholars: "Web sites and computer games, hypermedia CD-ROMs and interactive installations—in short, 'new media'" (Manovich 2000b: 4). What distinguishes these new media from their predecessors is the combination of five principles: (1) They store information in numerical code and (2) in a modular fashion; (3) the coded, modular information can be processed automatically by machines, which (4) enables the users of these machines to manipulate information easily and virtually without limits. As most older forms of expression can be stored and processed in this fashion, (5) new media can reproduce literature, music, film, and so forth and combine these forms in unprecedented ways (ibid.: 20).

<sup>1.</sup> The vehemence with which the composition of the canon was debated in the United States can be attributed to the historical development that has made Americans often give "particular prominence to world literature as an important component in education and self-improvement; publishers, schools, and libraries have striven to meet this need, shaping and reinforcing a canon of world literature in the process" (Damrosch 2003: 117).

This semiotic universality poses challenges to humanist traditions, the extent of which may not have been fully realized yet (Jenkins 1999: 236). A multimedia text (e.g., a website containing written text, photographs, and music) does not "belong" to any one academic discipline, and it is questionable whether any discipline is equipped with tools and methods for analyzing the complexities of new media. A radical solution to this problem would be to abolish disciplinary borders in favor of a holistic "digital humanities," an approach "more akin to a common methodological outlook than an investment in any one specific set of texts or even technologies" (Kirschenbaum 2010: 56). The more pragmatic, short-term (and thus widespread) alternative has been to consider new media from the individual perspectives of established disciplines. Referring to Viktor Shklovsky's (1970 [1923]: 233) thesis that "new forms in art are created by the canonization of peripheral forms," German scholars have argued for a new definition of literature that includes (i.e., canonizes) forms such as hypertexts (Ensslin 2007; Gendolla 2002; Hartling 2005), video games (Jannidis 2012), pop songs, and music videos (Neuhaus 2002). To canon theorists, studying new media is of additional interest, because "inasmuch as canon formation does not stop with or in newest media, it can be studied closely there, in the test-tube of the computer screen" (Gendolla 2002: 96; my translation). Similar research exists in English, but it is, again, largely oblivious of the German endeavors (Mactavish 2013; Montfort and Wardrip-Fruin 2004; Price 2009).

# 2. A Permanent and Ephemeral Ideal

To understand why the canonization of new media is regarded as a means to a better understanding of the concept of canon, it is necessary to historicize the concept in its many facets. Discussing canon as a monolithic phenomenon would be misleading, because "no homogenizing entity called 'the Canon' ever existed. The various meanings ascribed to the term *canon*—a standard, a sublime truth, a rule, a master-work, an artistic model, and, latterly, a booklist for educational use—stretch across some very different cultural lexicons and have elicited correspondingly diverse methods of transmission" (Gorak 1991: ix). Not least because the term is used in such different ways, few scholars have completely rejected it; on the contrary, "the most significant critics of the canon also function as its defenders" (ibid.: 7).

That the term is still current can also be explained by its great heuristic value for both academics and the general public. "We do live in a post-canonical age," David Damrosch (2006: 44) asserts, but in the same way that the postindustrial age still largely depends on the industrial production of goods, the postcanonical age still needs a canon as a basis, even if only as a

counterexample. There seems to be an "ineradicable cultural need" (Gorak 1991: 7) for a shared aesthetic frame of reference as a part of the notion of "general knowledge," one no longer reinforced by the school system but given playful relevance by game shows like Who Wants to Be a Millionaire, which have become a global phenomenon since the late 1990s (Engel 2007: 24-25). This need has sometimes been linked to a critical mass of available knowledge, symbolized by the ancient Library of Alexandria as the first place that contained more information than any individual could ever process (Brown 2010: 16). On this hypothesis, the recent discussion about making all archived written texts from all cultures and times (estimated at 32 million books and 750 million articles) available on the Internet through digitization, and doing it within the next generation (Vandendorpe 2013: 209), is necessarily a major factor in explaining the renewed interest in the canon concept, both inside and outside the academe. This interest is manifest, for example, in the recent success of canon publications (anthologies and encyclopedias) in European publishing (d'Haen 2011).

Many scholars, however, distinguish between the ill-defined yet pervasive notion of canon as a consensual construct of a (traditionally upper-class) ideal of common knowledge and the discussion of canon among specialists, usually in the form of critique and attempts at reform (Engel 2007: 26). It appears significant therefore that the elusive ideal of common literary knowledge is a "permanent part of our intellectual landscape" (Gorak 1991: 5), yet the term canon is notably absent from most literary glossaries and encyclopedias, presumably because the vagueness and contestedness of the concept disqualify it for treatment in concise introductory articles (ibid.). The conceptual short-comings of the canon concept are frequently highlighted in comparison with its more tangible counterpart, the syllabus: "The difference" is "between the pedagogic imaginary, with its images of cultural or countercultural totality, and the form of the list, as the instance of mass culture's social imaginary, with its simultaneous denial and manifestation of cultural heterogeneity" (Guillory 1993: 37).

The complex interdependence between what John Guillory terms the pedagogical and the social imaginary has produced the misconception that there is a single, well-defined canon of world literature and one appropriate way of reading it (Damrosch 2003: 5). The notion of canon as a universal selection of valuable texts, equally important to every reader, results from a conflation of its didactic and its social dimensions. When a scholar criticizes a text as banal or trivial, this is easily mistaken—especially by the general public—for a universal value judgment, while it is only his or her values, in fact the selection of texts by a specific "professional reader" for very specialized purposes (Neuhaus 2002: 12–13). This misunderstanding has its roots in

the way the concept of canon has developed and is at the heart of much of the debate on canon.

# 3. Roots and Rise of the Literary Canon

As Gorak has compellingly demonstrated, it is a common misconception that the idea of the literary canon has its origins in antiquity. While criticism and value judgments can be assumed to have existed as long as literature (or art in general, for that matter), the concept of a body of works that "will survive the waning of the beliefs that originally produced them," thus becoming "a vehicle or medium for the transmission of a fixed set of orthodox values" (Gorak 1991: 41, 1-2), originated in late eighteenth-century neoclassicism. When William Warburton professes to adhere to the "severe Canons of literal Criticism" in his 1747 edition of William Shakespeare's works (ibid.: 46-47), he still uses the term in the original sense of rule or standard. Meaning literally "straight rod or bar" and connoting straightness in all its usages, canon was widely used as a term of mensuration, not evaluation.<sup>2</sup> Only when Aristophanes and Plato criticized the Sophists for taking the length (kanon) of a sentence as an indicator of quality and when musical composers provoked similar criticism for strictly adhering to mathematical laws (kanones) did the term become associated with value judgments, if only negative ones (ibid.: 9 - 10).

The earliest radical departure from "canon" in the sense of an absolute, unequivocal standard was Aristotle's *Nicomachean Ethics*. There Aristotle speaks of a canon of human behavior, which is descriptive and unwritten, as opposed to the prescriptive written law: "Against the rigidity of *nomos* he emphasizes the flexible, unwritten, and adaptable properties of *canon*" (ibid.: 17). The most influential shift in usage, however, occurred when the term came to refer to "the set of sacred texts a particular religious group accepts as permanently recording truths revealed to it by God" (ibid.: 19). This additional meaning of the term *canon* reflected back on its general usage, which came to be associated with unquestionable authority and the totality of knowledge on a subject, outside which only heresy remains (ibid.: 19–20). This type of canon needed to be strictly enforced for several hundred years and maintained by specialized institutions ever since so that it could become and stay a binding social institution (ibid.: 21–28). The most influential and complete formulation of this viewpoint on canon is found in Augustine's *The* 

<sup>2.</sup> The first historical text bearing the title "Canon" is Polycletus's treatise on the proportions of the human body (445 BCE), which remained for several centuries the authoritative guideline for sculptors (Gorak 1991: 4-11).

City of God, first published in 426. There Augustine conceives of "a closed canon based on a restricted number of uniquely privileged texts," which form "the only intermittently comprehensible source of a divine plan" (ibid.: 34). Although Augustine's position is diametrically opposed to Aristotle's, "future generations of sacred and secular critics will often seek to combine elements of both positions," despite the contradictions in which this involves them. They "want their canonical authors to appear mysterious and endlessly fascinating but also to serve as the source, as scripture was for Augustine, of the binding traditions that regulate a community" (ibid.: 34).

The idea of a canon of literary texts arose, as already mentioned, from neoclassicist sentiments. In 1754 Johann Joachim Winckelmann claimed that only original, inventive artists were worthy of historical recognition and imitation. "It would seem difficult to provide a more absolute statement of the virtues of a restricted canon, bound by time and place but everlastingly important" (ibid.: 53). In 1768 another German, the classical scholar David Ruhnken, applied the term canon to the results of editorial and pedagogical efforts of a school of Alexandrian teachers who selected ten exemplary orators from the abundance of possible choices (ibid.: 51). Winckelmann's and Ruhnken's texts exerted great influence on the following generations of German scholars and artists. Romantic poets realized that a syllabus of exemplary writings not only establishes a role model and standard of quality for artists but has the power to create a common cultural identity (Engel 2007: 28-29). Therefore, what led German romantics to propose a specifically German canon of classical and modern writers was not only the rejection of the classicist adulation of antiquity but also the wish for a cultural basis upon which to build a nation-state out of the many German-speaking regions. In 1797 Novalis proclaimed Shakespeare's canonical status, and later the same year Schiller added Goethe's name to the canon (Gorak 1991: 54). The first list of authors of national importance identified as "canon" thus preceded the nation-state involved, was not restricted to authors from that nation or language, and was constantly modified to include contemporary authors. In other words, the modern literary canon was originally far from the nationalist, conservative, static force that the Anglophone canon debate rebelled against in the 1970s.

Nonetheless, canon was quickly identified as a potential political tool by more radically nationalist powers. In 1808 the Bavarian minister of education Friedrich Immanuel Niethammer envisioned a "national book" of exemplary literary texts for the aesthetic education of the general public. He asked Goethe to oversee the project, but the latter vehemently opposed Niethammer's plan to include in this reader only German literature and, by refusing his endorsement, prevented the book's publication (Eibl 1998: 66–

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68; van Melton 2001: 117-18). Still, canon became more strongly tied to the official language of a nation in following decades. Between 1812 and 1833 the fairy tales collected by the Brothers Grimm, along with August Wilhelm Schlegel and Ludwig Tieck's rather free translation of Shakespeare's plays, entered the canon, adding to it "national" folklore and "Germanized" foreign texts. However, the German canon remains to this day multilingual (Engel 2007: 30) and was chosen as a role model by intellectuals from other cultures, because it provided "an alternative center of power, spiritual and ethical rather than political" (Sammons 2001: 118).

# 4. Canon Debate(s)

In a way, the canon debate is as old as the canon or even precedes it, because, as we have seen, the first explicit modern canon was not merely proclaimed by some authority but was shaped through a sustained interaction among numerous poets and scholars. Yet the twentieth-century debate on canon is very different from the initial discussions of the concept. The canon envisioned by German romantics like Novalis, Schiller, and especially Goethe was a dynamic construct that combined classics with recent and even contemporary texts. Goethe in his old age described this simultaneity of permanence and change in a conversation with his assistant Johann P. Eckermann (1836: 325). Gorak (1991: 55) paraphrases it as a two-tier model of canon: "The first tier will include the provisional, historical canons that furnish examples of specific artistic possibilities. The second 'supercanon' will store the permanent and universal records of artistic achievement."

Goethe's model and the romantic approach to canon were displaced in the nineteenth and early twentieth centuries by the idea of canon as a singular, homogeneous, and static institution (ibid.: 6, 51; Guillory 1993)—a shift from the Aristotelian to the Augustinian point of view, so to speak. In this period the idea of multiple canons was perceived as a *contradictio in adjecto*, comparable to the notion of multiple popes or emperors (Eibl 1998: 61). It was not until after World War II that René Wellek and Austin Warren (1949: 258) identified adherence to the canon's "authoritarianism" as an outdated model of literary scholarship, and only with the advent of post-structuralist and feminist criticism twenty years later did this criticism become widespread.

Summarizing the canon debate of the 1970s and 1980s, Gorak (1991: 1-2) states that the canon critique conducted "by some of the most authoritative voices in contemporary criticism"—he names Lillian Robinson (1989) and Jonathan Culler (1988)—described the canon as "an instrument of principled, systematic exclusion" which "reinforces ethnic and sexual assumptions" and serves "the mechanisms which keep cultural power in the hands of a

conservative minority." This debate was a central element in what James D. Hunter (1992: xii) has called the "culture wars"—a term deriving from the German Kulturkampf and originally denoting the reaction to Otto von Bismarck's enforced secularization of Germany in the 1870s. In its new context, it means a forceful resistance against what was perceived as the Ronald Reagan administration's politics of social inequality.<sup>3</sup>

As mentioned in section 1 above, this highly politicized view of canon has been dominant in the English-speaking world. There are exceptions, especially Gorak's (1991) and Guillory's (1993) foundational books or Carey Kaplan and Ellen C. Rose's (1990) understanding of canon formation as an effect of well-publicized personal taste. The greater part of the Anglophone canon debate has remained focused on the politics of canon composition or on related issues, such as the establishment of minority canons (Gates 1993: 17–35) or the applicability of philosophical concepts (e.g., those of the Frankfurt School) to questions of canon (Kolbas 2001). Within this Anglophone debate, there has only been a shift toward analyses of the ways the assumed (yet elusive) authority of the canon manifests itself. The role of anthologies has been especially analyzed in depth and with regard to various countries (Benedict 1996; Csicsila 2004; Lecker 2013).

Until the 1990s the European canon debate moved along similar lines, focusing on the (un)equal representation of all social groups, genders, and ethnicities (Schmidt 2007: 11-13). Yet since the 1990s there has been an increasing number of explicit critiques of the Anglophone approach by European scholars (Assmann 1998: 48-49; d'Haen 2011: 30; Herrmann 2012: 59; Schmidt 2007: 11). In Germany this shift in the debate can be traced to the collection of essays Kanon—Macht—Kultur (1998) edited by Renate von Heydebrand. The volume contains twenty-nine essays, all papers presented at the 1996 symposium of the German Research Council (Deutsche Forschungsgemeinschaft, DFG), arguably the most prestigious Germanist conference series (Herrmann 2012: 60). Only six of the contributions treat canon in the dominant Anglophone mode, that is, by discussing it in terms of race, class, and gender. Only a few of the other contributions completely disregard the Anglophone cultural studies perspective; most of them try to reconcile it with aesthetic questions (Assmann 1998; Eibl 1998; Winko 1998). The consensus among the contributors seems to be that, as the title of the volume implies, canon is a more complex phenomenon than previously acknowledged. The juxtaposition of three key terms—canon, power, and culture—creates a word-

<sup>3.</sup> Hunter's (1992: 34-37) usage of the phrase "culture wars" is both historically and conceptually diverse: he traces it back to the anti-Catholic sentiment prevalent among the predominantly Protestant American settlers and applies it to the differences in how urban Jews and rural Christians, for example, define their communities.

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play in German that suggests that canon creates culture, is a force within culture, and serves as an instrument of cultural power all at once. The title thus expresses an understanding of canon as an intrinsic element within the complex, interdependent system of the production, distribution, reception, and evaluation of literary texts.

The three currently dominant lines of inquiry in German canon research have originated from this idea. The first of these lines tries to describe the system of literature as a whole by reference to Niklas Luhmann's (1987) general theory of social systems (Systemtheorie; see Herrmann 2012) or to Siegfried J. Schmidt's (1987, 2000) special theory of media and social systems (Hartling 2005). The second line aims at identifying essential categories of canonization, usually deriving them from Immanuel Kant's notion of the aesthetic autonomy of art in Kritik der Urteilskraft (Critique of Judgment) (1968 [1790]). Manfred Engel (2007: 31) thus identifies in canonization the aspects of formal quality, coherence, complexity, and semantic polyvalence, a list sometimes reduced to a single factor (complexity in Eibl 1998: 69 or polyvalence in Specht 2012). But this article will focus on the third, pragmatist line of inquiry.

# 5. The Pragmatist Approach to Canon

Negotiating between the two other lines, the pragmatist approach analyzes recent and current canonization practices. Like the Anglophone approach, it acknowledges the political dimension of canon yet with a slant more descriptive than prescriptive: instead of analyzing the composition of a local canon and suggesting changes to be implemented, the German pragmatist approach focuses on understanding general mechanisms of canon formation as a prerequisite for making changes in its composition.

The sometimes subtle differences between the two approaches can be made tangible by a short comparison of an American and a German canon typology. Damrosch (2006: 45) has argued that the old, established canon has not vanished but been replaced by three distinct phenomena: the *hypercanon*, comprising the major authors who "have held their own or even gained ground over the past twenty years"; the *countercanon*, "composed of the subaltern and 'contestatory' voices" within the culture; and the *shadow canon* of "old 'minor' authors who fade increasingly into the background." Simone Winko (1998) has formulated a similar model of three canons. She distinguishes the *established* (or *material*) *canon*; the *countercanon* (*Gegenkanon*), based upon dissenting value judgments; and the *negative canon* (*Negativkanon*), which supplements the established canon by listing texts and authors considered too flawed for canonization. In a later model Winko (2008) adds the *interpretive* 

canon (Deutungskanon), a corpus of interpretations that aims to affirm the canon by highlighting the significance and values of canonized texts. The addition of the fourth category highlights the slightly more general and systemic nature of Winko's approach. While Damrosch attempts to show how the inclusion of new authors into the canon highlights the value-laden difference between the "major" and "minor" authors, Winko identifies more abstract forces in the canon and thus creates a more universal model.

Winko has been one of the key figures in the German approach to canon that I think is best described as pragmatist. Her explanation for the existence of canons is that, faced with the impossibility of reading all literary texts, human beings feel better when they can rationalize their choices and thus long for guidelines (Winko 2002: 12). Alluding to the wordplay of von Heydebrand's Kanon-Macht-Kultur, she stresses that the power (Macht) of canon results from the fact that it has been made (gemacht; ibid.: 9). This position is diametrically opposed to the idea that canonized texts have an intrinsic value. Pointing to the etymological origin of canon as rule or scale, Winko reminds us that value judgments (Wertungen) do not operate on an absolute basis but in relation to a point of reference and a comparison. Canon is therefore, she argues, not a prescribed list of (nonexistent) intrinsically valuable objects but a model for selecting reference points and making informed value judgments. Historically, not only have individual texts been taken as such points of reference but also the oeuvre of an author, a genre, a level of speech, or even nonliterary, social factors (Winko 2002: 13-14).

Canon is thus formed by ongoing complex processes, which Winko (2002) has modeled by resorting to the "invisible hand" concept, originally introduced by Adam Smith in *The Theory of Moral Sentiments* (1976 [1759]) to describe the cumulative effect of countless uncoordinated actions within an economy. In application to the canon, this means that "nobody has constructed it purposefully in this very way, yet many have 'intentionally' collaborated in its construction" (Winko 2002: 11). In other words, Winko describes a process in which countless individual (micro-level) actions—which may have altogether different goals—will result, in conjunction, in the (macro-level) phenomenon of canon formation. This micro level comprises a great diversity of actions: an author's choice of literary allusions, a reader's choice of one novel over another, an anthologist's inclusion or exclusion of an author, a critic's comparison of several contemporary books, a professor's selection of works for a course syllabus, a student's selection of courses, a journalist's

<sup>4.</sup> My translation. Original: "Niemand hat ihn absichtlich so und nicht anders zusammengesetzt, dennoch haben viele 'intentional' an ihm mitgewirkt."

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commemorative survey of an author. They all involve value judgments of literary texts, albeit made by individuals in a variety of roles and groups within the "system of literature" (*Literatur system*; ibid.: 13).

"[The invisible hand concept] is not contradicted by the fact that there are institutions which are 'caretakers' of canons. Canons are not created solely from contingent actions, but are fostered and maintained through calculated measures" (ibid.: 11).5 By "institutions" Winko means publishing houses, universities, and journalistic media, which she conceives of as groups of agents in the "system of literature." Because these groups are more visible and exclusive than the large yet undefined group of individual readers, a scholar or critic can exert more influence on the canon than nonmembers of these institutions (ibid.: 15-18). Still, a single author, scholar, or critic will not be able to change the canon directly. Only when the choice of a text as someone's point of reference in some specific context gains recognition by a group does the text assume value in itself as a masterpiece in some respect. Thus it becomes a point of reference within the group as a whole and affects the future value judgments of other group members. Only by affecting a change in the position of a group of experts can an individual influence the ongoing negotiation of the canon between all groups within the "system of literature" (ibid.: 19). Accordingly, the notion of groups within the system of literature also explains why multiple canons exist at the same time on both a national and an international level. Yet as a canon always reflects the choices made by its group and so reinforces the group identity, each group tries to establish its canon as a normative, singular canon for the whole system to assert its own role in the system (ibid.: 20).

The connection between canonization and group identity is the main reason established literary scholars and critics tend to be conservative about changes to the canon, as these might weaken their positions within their groups. After teaching for several years in Britain, the German literary scholar Astrid Ensslin (2007: 3) remarked that British universities adhered to "a general literary conservativism, which is grounded in a pervasive belief in prescriptive canonicity as exemplified by Harold Bloom's *The Western Canon* [1994] and that manifests itself in the National Curriculum, which . . . largely fails to encompass creative New Media phenomena such as literary hypertext as a nexus of written narrative and hypermedia aesthetics." Ensslin's disappointment with British conservativism can largely be attributed to a more

<sup>5.</sup> My translation. Original: "Dem widerspricht nicht, dass es auch Instanzen gibt, die der 'Pflege' von Kanones dienen, dass also Kanones nicht allein aus kontingenten Handlungen entstanden sind, sondern auch mit gezielten Maßnahmen gestärkt und gefördert werden."

progressive stance in Germany. In a very influential redefinition of concepts, Werner Wolf (1999: 35–36) in *The Musicalization of Fiction* argues that literature is a distinct "medium of expression": "medium" could be defined in a "moderately broad sense as a conventionally distinct means of communication, specified not only by particular channels (or one channel) of communication but also by the use of one or more semiotic systems serving for the transmission of cultural 'message.' This definition encompasses the traditional arts but also new forms of communication that have not or not yet advanced to the status of an 'art' such as computerized 'hypertexts' and 'virtual realities.'"

Wolf's admittedly rather broad concept of literature as a medium was immediately embraced by many of his peers. As early as 2002 Stefan Neuhaus observed that, while some German scholars pretended that literature was still the dominant medium it had been in the nineteenth century and others had turned away from aesthetic analyses of literary texts toward a largely undefined field of cultural studies, a reconsideration of literature as a medium with close ties to other media was taking place in German literature departments. Radicalizing earlier positions on the role of literature among other media (Jäger and Switalla 1994) by building on theories of intermediality (Müller 1996), Neuhaus proposes an expansion of the subject matter of literary studies ("Erweiterung des Literaturbegriffs") to include other media. He argues that if Kunstlieder (songs created by setting romantic poems to classical music) or theatrical performances are considered literature, then pop songs and music videos should be as well (Neuhaus 2002: 118-21). This argument is largely convincing—all the media mentioned contain a linguistic component that can be fruitfully analyzed with literary critical tools and gains—but Neuhaus (ibid.: 131) radicalizes his point much further: "The definition of literature as texts existing in the fixity of written language is obsolete. As soon as meaningful signs of any kind are combined, this forms a text that is literary in the widest sense and its quality has to be evaluated" (my translation). Only by claiming such a semiotically diverse field of study, Neuhaus argues, will literary studies maintain their social relevance.<sup>6</sup>

Neuhaus's all-encompassing redefinition of literature is certainly exaggerated for polemical reasons: a concept so wide and indiscriminate has little heuristic value. Still, this redefinition expresses a deep-seated discomfort with established concepts of the literary, one that, as the next section will demonstrate, is shared by other scholars, especially those studying new media. By

<sup>6.</sup> Neuhaus (ibid.: 127) admits that he is unable to analyze the music of pop songs yet justifies analyzing the lyrics alone by drawing a comparison with analyzing a dramatic text instead of a staged play.

calling into question definitions of literature, Neuhaus hopes to arrive at media-independent criteria for canonization. Elaborating on von Heydebrand and Winko, he looks for four qualities in texts to determine their possible canonization. (1) Polyvalence and openness (Polyvalenz und Offenheit): a canonical text can be interpreted in many, often contradictory ways and in different contexts. (2) Coherence (Stimmigkeit): it must be possible to infer a principle of coherent construction from a canonical text's form and content. (3) Originality (Originalität): a canonical text reacts to its predecessors and contemporaries by deviating from established norms. (4) Self-referentiality (Selbstreferenz): form or content highlight the composition or reception of the canonical text (ibid.: 17-18). These criteria, Neuhaus claims, equally apply to all readers and all texts, as they describe qualities that intensify the reader's pleasure. He shows that by applying his four criteria to music videos, their value and quality can be discussed with considerable precision, and he suggests that some examples of them are worthy of canonization (ibid.: 149). He concludes by advocating work on the canon that observes its ever-shifting aesthetic principles by looking beyond the borders of literary language and by recognizing the necessarily tentative and temporary nature of all canons (ibid.: 153).7

It should be mentioned that Neuhaus advocates this wide understanding of literature partly for the benefit of literature in the traditional, narrow sense. One of the most important groups of contemporary German writers—led by Christian Kracht, Rainald Goetz, and Benjamin von Stuckrad-Barre—identifies its work as *Popliteratur* (Bassler 2005). Like the proponents of the now-classic Pop Art of the 1960s, chiefly Andy Warhol, the Popliteratur writers collaborate with other artists to challenge or blur genre conventions, authorship concepts, and media borders through installations, performance pieces, or mixed-media art (ibid.: 125). Neuhaus's plea for including forms of popular culture in the literary canon is thus at least partly aimed at providing a framework for the current avant-garde writers, whose work, even if they mainly produce traditional narratives, poems, or dramas, is influenced by and performed in conjunction with other, often popular media.

7. Hans Dieter Erlinger (2002: 297) explicitly calls for an inclusion of nonliterary texts in the syllabus (and thus the canon) taught at schools. His argument is that when students engage with art and fiction, it is not knowledge about what they signify that matters but learning to process the products of another person's imagination. It is this exercise, not the accumulation of canonical knowledge, that empowers students aesthetically and morally.

# 6. Digital Media and Concepts of Literature

While Neuhaus presents a convincing argument for a wider definition of literature, he discusses digital media only in passing. A number of German publications have identified digital media as an ideal research object for canon studies. This is because observing "the 'nursery' of this young artistic phenomenon" (Hartling 2005: 8) allows them to study processes of canon formation from their very beginnings and so to develop a more systemic understanding of them (Ensslin 2007: 3; Gendolla 2002: 96).

Among digital media, literary scholars have focused most attention on "the literary hypertext, as it may be considered the digital poetic form most akin to the book" (Ensslin 2007: 3), yet other forms, like computer games (Mactavish 2013), have been studied as well. Besides their ability to include elements from other media — which will be addressed shortly — the most radical difference between traditional literature and all these forms is that the latter are "born-digital," a term that refers to "digital materials which are not intended to have an analogue equivalent, either as the originating source or as a result of conversion to analogue form" (Beagrie and Jones 2008: 24). Take a digitized copy of an analogue original (an oil painting, a printed page, an orchestra performance) or a digital document explicitly created for ultimate publication in an analogue medium (e.g., the electronic version of this article). Such texts benefit from the advantages of digital storage and distribution, yet they remain both "traditional in form and content" and intended "for traditional publication in books and magazines" (Hartling 2005: 3). An actual, "born-digital" hypertext "is by definition unprintable, for such an act of material linearization would disrupt its characteristic [nonlinear] underlying macrostructure" (Ensslin 2007: 5).

Because of the nonlinear structure of these texts, "it is possible to explore, get lost, and discover secret paths" in them, "not metaphorically, but through the topological structures of the textual machinery" (Aarseth 1997: 4). The potential for nonlinearity adds a whole range of expressive capabilities to born-digital texts, which extends the strictly literary model. Digital texts "produce verbal structures, for aesthetic effect. This makes them similar to literary phenomena. But they are also something more, and it is this added paraverbal dimension that is so hard to see" (ibid.: 3). Given the challenges posed by nonlinear texts, Neuhaus's call for the inclusion of pop songs in the literary canon seems less outrageous than when considered in isolation: in both cases, we have to ask the question of whether a verbal component that

<sup>8.</sup> This comes as a surprise, as many other publications, both in English (Aarseth 1997; Manovich 2000a; Ryan 2004) and in German (Simanowski 2001; Thomsen and Gendolla 1994), consider digital media to have great influence on the current development of literature.

lends itself to analysis as literature makes an artifact, genre, or medium "literary."

Writing on hypertexts has therefore often stressed their ambiguous status. They exhibit "a mixture of multimodal . . . and transgeneric elements, such as an intertextual array of (written) text types (expository, documentary, narrative, lyrical, dramatic)" that "tend towards hybrid forms compounding written text with other media texts": still and moving image, for example, or a treasure hunt (Ensslin 2007: 7). Although strongly and visibly influenced by literary traditions, such texts usually include other sign systems than language and are therefore sometimes referred to as "(literary) hypermedia": "a certain type of hypertext, which integrates and semantically interrelates other semiotic systems like image, sound, and film with script, without, however, depriving the work of its textual, in the sense of graphemic, basis" (ibid.: 5).9

Hypertexts and hypermedia thus present definitional challenges to scholars, who must resolve them before the question of the canonization of such new works can be properly addressed: "The interaction between arts and electronic media currently changes the possibilities of constitution, transference, and recording of cultural knowledge, modes of perception, and aesthetic forms." "Infinitely expanded," the possibilities "become interchangeable and recombinable," so that they may seem "at first glance to be represented in almost arbitrary transformations or, even worse, only be present in fleeting performances" (Gendolla 2002: 91; my translation). In other words, hypermedia differ markedly from traditional forms of literature in their methods of presentation and distribution, in their textuality, and in their authorship. They are distributed on digital storage devices or networks, mostly on the Internet, and are perceived on screens; they are not texts in the sense of a coherent whole of significants (of usually one type, e.g., written words) but connect "text and multimedia fragments, technological elements, protocols, and plug-ins" (Hartling 2005: 3).10 Their authors thus need con-

<sup>9.</sup> Examples for hypermedia are regularly showcased by the Electronic Literature Organization on its website and include such works as Stuart Moulthrop's *Radio Salience* (2007) and Stephanie Strickland and Cynthia Lawson Jaramillo's *slippingglimpse* (2007).

<sup>10.</sup> Florian Hartling's argument proves his point, maybe unknowingly, as its terminology may need some explication to scholars without prior experience with digital media. By "technological elements" Hartling refers to the methods of encoding data in digital media, the simplest of which are "mark-up languages," such as HTML, commonly used for the creation of websites. "Protocols" refers to standardized means of data transmission over the Internet: the most common of them is the hypertext transfer protocol, which is manifest in every Internet address starting with "http." "Plug-ins" are software enhancements to existing, usually widespread computer technologies, such as Internet browsers. Their purpose is to enable input or output methods that go beyond basic functionality, such as animation of geometric objects, audio, or video playback.

siderable expertise with both hardware and software, often work in collectives rather than as individual artists, and often invite readers to contribute to their works, blurring the distinction between reader and writer. Most traditional criteria for canonization discussed in the previous sections of this article—especially the author—thus do not translate well to hypermedia, and additional criteria may be necessary.

The ways in which all born-digital texts problematize core categories of canonization are best demonstrated through a paradigmatic example. J. Nicholas Geist's "Review: Infinity Blade" (2011) seems at first glance to be a review of a computer game in an online magazine. Yet instead of adhering to the basic conventions of review writing—offering a comparison with similar publications to help readers decide whether they should buy a game (Jannidis 2012: 326)—Geist creates a piece of creative nonfiction. This genre is defined by its most vocal proponent, Lee Gutkind (2012: 6), as making "nonfiction stories read like fiction so that your readers are as enthralled by fact as they are by fantasy." Geist applies this programmatic notion in his "review" not only by describing Infinity Blade's unique combination of repetition and innovation but also by having his text mirror both the features of the game and the impression they left on him while he played it.

Obviously, this kind of contemporary text is hardly a candidate for the nineteenth-century and early twentieth-century traditions of canonization. One can attribute neither to the author nor to the text or its subject matter what was deemed canonical in the Augustinian tradition as outlined by Gorak (1991: 34), namely, the status of a community's mysterious, aweinspiring foundational text. When considering canon from the perspective of German pragmatism, however, that is, as an invisible hand phenomenon (Winko 2002: 11), we can ascertain that the text has received much attention and high praise from agents in the system of literature or at least its subsystem of electronic literature. Game critics on the Internet have identified Geist's review as a "groundbreaking" (Hamilton 2011) and "exceptional example of what you can do with a text on the internet" (Haven 2014). The fashion in which it "deploy[s] both text and code" (Abraham 2014) has led to unqualified praise as the "greatest game review ever" (Vilhauer 2011) or even a "contender for the greatest review of all time" (Swain 2012) and more nuanced descriptions as the "touchstone for my technotextual explorations in that I keep coming back to it as an exemplar of the formor rather for the way form and function(ality) can be inextricably entwined" (Chong 2013). There are obviously "institutional" (to use Winko's term) reasons for considering the review for canonization. The qualities attributed to the text by Geist's peers are, however, mostly of the genre- and mediabending type described in Neuhaus's controversial delimitation of the

domain of literature. It is therefore necessary to give a detailed analysis of Geist's review and its aesthetic properties.

Infinity Blade is a game in which two swordsmen fight each other. One character is controlled by the player, the other by the computer. The player can dodge, block, or parry attacks and counterattack in various ways. The game contextualizes these fights in a simple narrative: the player-controlled swordsman seeks to liberate the country from its oppressive ruler, an immortal god-king, and has to overcome the royal guards before facing the king himself. The king is a formidable foe, and when the player's avatar (his or her swordsman) is inevitably killed, a text indicates that twenty years have passed and the son of the original player character now appears in front of the king's castle, swearing revenge. The player is then given the chance to "begin a new bloodline," which means reiterating the same sequence of fights at a slightly higher difficulty level yet with incrementally better weapons and armor (as well as an increased familiarity with the game). Not only is this general structure almost defiantly repetitive, so are the fights as well. The player's avatar has to dodge three or four blows before getting an opportunity to counterattack, after which the opponent strikes again, and so on. The game's repetitiveness is taken to such extremes that it does not have an ending either as a narrative or in terms of play. If the player ever manages to vanquish the king, the avatar becomes successor to the throne, and twenty years later a new warrior sets out to end the new king's reign. The player can either quit the game or continue the perpetual fight against a series of oppressors, but there is no winning scenario in Infinity Blade. Such repetitive structures have been a convention of computer games since their commercial beginnings as coinoperated machines in the 1970s. As such, the majority of initial reviews of Infinity Blade (e.g., Goldstein 2010) did not comment as much on the game's repetitiveness as on its visual presentation and ease of control.

Like the game, Geist's review appears at first superficial and very short. Running to only 195 words, it seems to be a prose piece evocative of the game's topic and tone. Beneath the final line, though, there is a button with the inscription "Begin Bloodline 2." Clicking this button causes the text to undergo a metamorphosis. Words, clauses, and even paragraphs are deleted, added, and reordered before the reader's eyes to form a substantially revised version of the review, and the button beneath the final paragraph changes to "Begin Bloodline 3." Clicking it repeats the process, and after five "bloodlines" the text of the review completely dissolves.

The five "bloodlines" or versions of Geist's review mirror how his growing familiarity with the game changed his perception as well as his interpretation of its repetitive structure. The first version of the review reads like a short, superficial description based on a player's first impression, dismissing the

game as beautifully designed yet devoid of meaning and largely uninteresting: "Infinity Blade may be a commentary on the grind of gaming" (Geist 2011: Bloodline 1). The second version of the review is considerably longer and mirrors the reviewer's growing appreciation of the game's artful use of repetition. In the third version he presents an interpretation of the game's repetitiveness as a metaphor for the tedious routine of everyday life. Infinity Blade, Geist argues, takes the repetitive patterns typical of games to an extreme to make a statement about humanity's evolutionary progress toward a better life: "Infinity Blade may be a commentary on the small progress of evolution" (ibid.: Bloodline 3). The fourth version of the review is much shorter than the third. It concretizes many similes to metaphors and arrives at a unified interpretation of the game as "a statement of faith in inheritance: the most fundamental human hope, that our children will live better lives than we did" (ibid.: Bloodline 4). In the fifth and last version the review reduces its interpretation to one potent idea: the game is about faith in our doing the same things over and over again, only better.

This description of Geist's review shows that it meets the general criteria for canonization outlined by Neuhaus (2002: 17–18): it is polyvalent, coherent, original, and self-referential. Much of the review's aesthetic effect and interpretive power is found in its strictly linguistic component, and a print version of the text that reproduced the "bloodlines" as sections or stanzas would still convey its poetics of iteration and change. Yet the review employs a number of aesthetic strategies unique to born-digital texts, hence untranslatable in a print version, and it is only through these strategies that the text achieves its full polyvalence and originality.

The most viable of these strategies is the use of dynamic possibilities of hypertext. When the reader clicks the "Bloodline" button, one version of the review is not simply replaced by its successor instantly and as a whole. Instead, words and sentences fade out consecutively. When parts of the text are deleted, the text rearranges to close the gaps. When a word or sentence is replaced by another, the text fades in from red to black. In some instances, this dynamic replacement of text elements is further complicated. In "Bloodline 2" the formulation "each repetition begins" is replaced with "each repetition ends" not once but several times in a row. Just like the structure of the review in its entirety—with its move from a first impression to a detailed description and a finalizing interpretation—this back-and-forth can be taken as a nonverbal simile of the writing process as a series of revisions. At the same time, the repeated rephrasing points to the underlying philosophical observation that there are no beginnings and endings in a series of endlessly repeated actions. On a third level, the changes the review undergoes before the reader's eyes stress the (otherwise easily overlooked) fact that what we read as a hypertext

is the product of a computational process. It draws attention to the coexistence of a hidden yet static source code that generates a visible yet dynamic surface text based on user input (Lauer 2003). Thereby the review highlights the productive semiotic instability of digital media, the basis for what Ian Bogost (2007: 3) has termed "procedural rhetoric"—"a technique for making arguments with computational systems."

This description of Geist's review can convey only an imperfect impression of the way the text "acts," but it should have become clear that it makes artistic use of the dynamic potential inherent in born-digital texts. This renders Geist's text noteworthy—it is, after all, what the positive criticism we mentioned has focused on—but it also means that the review can only be archived, reproduced, and anthologized in digital form. The challenges this creates for canonization and the strategies proposed to meet these challenges will be unpacked in the next section.

# 7. The Literary Canon of New Media

The extended discussion of Geist's text exemplifies the three key aspects in which electronic media challenge canonization (Gendolla 2002). First, dynamic, networked texts can produce countless paratexts and text versions, which makes it difficult to select a single, authoritative instance of a text for canonization. Second, digital art is, to an even greater degree than twentieth-century mass media, open to the influence of and reconfiguration of recipients. Third, many digital artifacts have to be completed through interaction, not unlike—yet usually more complex than—the clicking required by Geist's review (ibid.: 92).

Instead of trying to resolve these challenges in theoretical terms, German canon scholars tend to focus on identifying actions within the system of literature that are conducive to the canonization of new media. As Peter Gendolla (ibid.: 94–96) has pointed out, there is a surprisingly great number of literary awards for German electronic literature, the first of which was established in 1997. He considers the awards the most obvious yet the least successful attempt at establishing by force a canon of digital literature. Not only do their sponsors overestimate the reach and importance of the awards, Gendolla argues, but their criteria are also badly chosen and do not reflect the quality of entries. He singles out the criteria for the major award Literatur digital founded by Deutscher Taschenbuch Verlag and Deutsche Telekom, namely, innovation, interactivity, screen aesthetics, multimediality, and the quality of the text itself. Gendolla (ibid.: 96) criticizes these criteria as vague and even nonsensical; interactivity, especially, should be a prerequisite for admission into a contest of digital literature, not a criterion of quality.

True to Winko's (2002: 11) concept of the "invisible hand," such attempts at unilaterally canonizing texts have proven fruitless. At the same time, some works—Gendolla mentions Michael Joyce's afternoon, a story (2001 [1990])— have achieved canonical status, because they became prevalent among readers and critics and were frequently cited in discussions of digital literature (Gendolla 2002: 94). It thus seems as if the "invisible hand" model of canon formation applies to digital texts as well.

In a similar study Fotis Jannidis (2012) examines the evaluation and canonization of computer games. He observes that sales statistics do not give a sufficient and reliable indication of the canonical status of games; nor do critical reviews, which tend toward ahistorical perspectives and take into account only the most recent publications (ibid.: 326). Jannidis equally discounts references to individual computer games in textbooks for game designers, because they mostly discuss specific technical aspects or outstanding features of craftsmanship instead of overall artistic value. Provisional and admittedly subjective canons are constructed by both journalists and players based on their preferences in the extremely heterogeneous field of computer games. Even more serious discussions of a canon of computer games—Jannidis (ibid.: 341-42) mentions a proposal for canonization criteria in the British magazine *Gamepro*—lack specificity, in his opinion.

At the same time, as with literary hypertexts, some games have come to be considered canonical through complex and ongoing "invisible hand" processes: "There is after all, one might say, a canon, but almost nobody has even read most of it. In communicating about computer games, one needs to be aware of many of those games in order to be taken seriously, but the technical segmentation of the field has—at least to this day—given rise to a correspondingly fragmented canon" (ibid.: 344; my translation).

The "technical segmentation" Jannidis mentions is a complex phenomenon that affects all digital media and is directly connected to the issue of canonization. All digital data depend to some degree on specific hardware and software: "For electronic literature to be readable, its mechanisms must continue to operate or must be replaced, since changes in the context of computing will complicate access to important works of literature on the computer. The context of computing includes operating systems, applications, the network environment, and interface hardware—and this context is constantly evolving" (Montfort and Wardrip-Fruin 2004). Access to a digital text, be it a hypertext or a computer game, is thus always contingent on the availability of a compatible computer platform. Digital texts need more elaborate preservation strategies than printed matter, which can be archived and made accessible with little effort, especially if those digital texts are not exclusively graphemic, as "every type of multimedia publications poses a

considerably greater challenge than digital objects that contain only writing, images, or a sound recording" (Feeney 1999: 42). In the case of Geist's review, the text has been written with longevity in mind by adhering strictly to standardized code and widespread technologies; the game that serves as its topic, however, has been developed and published exclusively for one particular technological environment (the Apple i devices and their operating system iOS) and cannot be run on any other computer.

The question of preservation is especially relevant considering Guillory's assessment that the literary canon has always operated in conjunction with the archive of literary history, which "contains an indefinite number of works of manifest cultural interest and accomplishment." The rationale behind maintaining an ideally complete archive of literary history is that "noncanonical status is not necessarily equivalent in anyone's judgment to a zero-degree of interest or value" (Guillory 1993: 30). There can be various reasons for such interest in or value of noncanonical texts vis-à-vis the canon. On the one hand, it has even been argued that only through the analysis of texts from noncanonical, popular genres (e.g., serial novel, erotic fiction, detective story) can canonicity and literature be properly understood (Ríos-Font 2004: 30). On the other hand, literary texts can be "forgotten" if they are materially lost: interest in a genre or an epoch may decrease, and an author is liable to suffer marginalization because of a change in social or aesthetic values (Assmann 2004: 16). Only if such texts have been archived is there a possibility to rediscover them at a later time. Yet the likelihood of a text being archived directly correlates with its commercial success, the number of copies printed, and some critical or scholarly recognition of it. In the absence of these favorable correlates, even a printed text may become inaccessible (ibid.: 10-11).

In stark contrast, hypertext literature on the Internet can become inaccessible in a matter of months. In 2003 the average life span of a website was estimated by the Internet Archive to be one hundred days, and studies of academic publications on the Internet showed that four years after publication 50 percent of sources had become inaccessible (Weiss 2003). In 2011 a study of the Georgetown University Law Library indicated that these numbers have improved slightly, with only 30.4 percent of websites inaccessible after four years (Rhodes 2011).<sup>11</sup> Yet inaccessibility of data is not the only

11. Information on the Internet is not ephemeral as such, it is rather unstable. In many cases, the data are still available, yet the web address (or, more technically, the uniform resource locator or URL) has changed. The latter may even happen regularly: 25 percent of British government websites change their URLs every year because of frequent and unsystematic changes in public information technology (IT) infrastructures (Weiss 2003). Finding information that has been moved or archived can be so difficult as to make it effectively irretrievable, and even data in the Internet Archive may be made unavailable on the copyright holder's request (Taylor 2011).

problem. A website's address and title may stay the same, while the actual content is silently modified by the original authors, by editors, or even by a third party—in the worst case, by hackers (Taylor 2011). To address both issues, the digital object identification (DOI) system was introduced in 2000 and is comparable to (and, in fact, formally compatible with) the International Standard Book Number (ISBN) system of referencing book publications (International DOI Foundation 2012). The DOI has therefore come to be widely used for reference to static objects, especially to academic papers in portable document format (PDF) (in conference proceedings or electronic versions of journals) to ensure that these documents remain accessible (even if they are moved to a different server) and unchanged (except where revisions are explicitly indicated).

Preservation of digital texts is both a prerequisite of their canonization and an integral part of this process. They can be kept accessible through various means. One is technology preservation, which keeps and maintains the original software and hardware. Another is emulation, the process of having contemporary computer systems create detailed simulations of obsolete computers on which old software can be processed. A third is digital migration, which reencodes digital information to make it accessible to new computers (Feeney 1999: 35). Each of these three options is costly and difficult, requires institutionalized efforts and funding, and will therefore be implemented only if strong interest in a work already exists. And if these strategies are not applied or fail, a digital text would have to be re-created from descriptions and documentation (Montfort and Wardrip-Fruin 2004). The discussion of Geist's review of Infinity Blade should have illustrated how inadequate this option would be and inevitably so, because a verbal description cannot capture the procedural aspect of such texts.

This section has tried to show that digital texts are even more strongly affected than printed matter by the interrelation between archive and canonization. Because of the technical difficulties involved in preservation efforts and the limited success of the canonization of digital texts so far, more research and promotion in this area appears to be needed. This research has already sharpened our understanding of canonization processes and will unquestionably continue to do so in the future. It seems that digital media need the canon, and the canon needs the digital media.

## 8. Closing Remarks: Literature in the Time of the E-book

The future of the book in the digital age has been discussed since the mid-1990s, when the Internet became widespread (Cope and Phillips 2006; Nunberg 1996), but a consensus has yet to form. There are, however,

clear indications that printed matter is no longer a dominant medium of recording, communication, and archiving: "According to a University of California, Berkeley, report, humanity produces about 250 megabytes of data (roughly the text in 250 books) each year for every person on the planet. Only 0.003 percent of this annual output is in printed form; most is in the form of images, sound and numeric data, with more than 90 percent stored digitally" (National Science Foundation 2002). There can be little doubt that digital texts will become even more widespread in the future and that consequently the aesthetics of digital literature will gain in importance regarding literature as a whole. This means that the additional intricacies of canonizing digital texts—which the previous section outlined using rather extreme examples—will affect all of literature as it is increasingly distributed and read in digital instead of printed form.

The transition from printed to digital literature as the dominant paradigm has already started. This is evidenced by the overwhelming commercial success of both digitized literature, usually referred to as e-books, and the so-called e-book readers, small and light electronic devices designed specifically to display e-books.<sup>12</sup> The majority of e-books are digitized versions of traditional literary texts, versions that rarely use hypertextual features except for linking the table of contents to the individual chapters. E-book reader devices, however, tend to have much greater capabilities and are essentially tablet computers; light, portable, controlled by means of a high-resolution, color touch screen; equipped to access the Internet and display elaborate literary hypertexts. Such tablet computers make it possible to read hypertexts like books, in the comfort of a reading chair, on trains or airplanes.

The speed at which these new technologies have started to replace books suggests that they may well do so completely, maybe even in the near future—a development that would, as the previous sections have argued, result in major consequences for the canon and canonization. Tablet computers and e-books have developed from novelties to widespread media in less than a decade. In 2004, shortly after their introduction, e-books contributed a mere 0.1 percent to the 2.3 billion books sold in the United States (Vandendorpe 2013: 213). After a slow initial growth, the market expanded rapidly as publishers offered a greater portion of their programs in e-book form and the selection of e-book reader devices became more diverse and affordable. In 2012 e-books made up no less than 20 percent of the trade market (Association of American Publishers 2013). During that year the sales of e-books by the major booksellers in Britain (Jones 2013) and the United

<sup>12.</sup> These readers are developed and sold by electronics companies, such as Sony, or online bookstores, such as Amazon.

States (Maryles 2013) amounted, on average, to a quarter and a third, respectively, of the overall sales. These sales figures are congruent with an independent study indicating that, in 2012, 29 percent of American adults owned at least one specialized device for e-book reading and that 21 percent had read at least one e-book in the last twelve months (Rainie et al. 2012). Even if the market share of e-books does not grow further—which, given its recent development, seems unlikely—they already have necessitated the incorporation of digital literature and its intricacies into the canon debate.

Should the shift from books to e-book reading devices continue, it will change literary aesthetics even more profoundly and thus affect canonization in the long run. Studies have shown that computer literacy—the functional knowledge and skill needed for using computers (Robinson 2009: 2)—like knowledge and skills in general, is most easily and naturally acquired by children (ibid.: 6-25). They have also shown that "the effects of technology in educational settings on the development of young children have been . . . strongly positive" (Couse and Chen 2010: 76). Given these facts, replacing books with tablet computers in early education—which are, as mentioned, also used as e-book reading devices—is believed to have the favorable side effect of increasing computer literacy. Recent research by experts in education has suggested that "the tablet computer appears to be a viable tool for use with preschool children" (ibid.: 95), and there are even tablet computers "designed, tested and FDA-approved for children 18 months and older" (VINCI 2013). Regardless of whether or not the envisioned pedagogical effect will be realized, such a change in reading practices at an early age would significantly incline future generations of readers toward digital media and thus radically change literary aesthetics, and with it canonization processes, in the long run.

I have presented here the divergent paths that the canon debate has taken in Anglophone and Germanophone research and have argued that the Anglophone focus on the politics of canon composition has neglected the actual processes of canonization. In contrast, the Germanophone canon debate has emphasized aesthetic and pragmatic questions over political ones. So I have subsumed theories of canonization developed by a number of German scholars—Winko, Ensslin, Neuhaus, and Gendolla, among others—under the label "German pragmatist approach" to differentiate them from the more ideologically minded Anglophone perspective. The pragmatist approach considers canon to be a function within the system of literature, a constantly shifting hierarchy of texts that results from the appreciation expressed by the various actors in the system of literature: readers, critics, and publishers, for example. Instead of identifying political inequalities in the current canon and accordingly calling for changes in

it—as is typical of the Anglophone approach—the pragmatists try to understand the processes that have given rise to such problematic canons and thus arrive at a clearer conception of how to implement lasting, systemic changes. This interest in canon as a process has led Germanophone researchers to study in great detail current and prospective developments in the system of literature, especially the role played by new media in the literary canon. As I have argued in the final sections, the ubiquity of digital technology, the intermedia aesthetics of hypertext literature, and the overwhelming success of e-books show that considering new media as a part of the literary canon is an immediate necessity. While the German pragmatist approach is neither fully developed nor entirely coherent, I hope to have shown that it offers valuable perspectives to scholars of canon elsewhere.

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