**The Digital Literature Crisis in the Arab World**

**Abstract**

The term ‘digital literature’ first appeared in the United States in the mid-1980s and was quickly taken up in Europe. Formal interest in digital literature in the Middle East began in the early 2000s after the first Arabic digital novel, *Ẓalāl Wāḥid* (Sole Shadow) by Jordanian author Muhammad Sanajla was released in 2001.

However, a close look at the state of this form of literature in the Arab world reveals a major divide between the Middle East and the West, both quantitatively and qualitatively and also in terms of academic output.

Therefore, this study will outline the major literary and non-literary factors that hinder the development of digital literature in the Arab world and the challenges it faces in order to provide an initial prognostication for its future.

Keywords: Digital literature, digital divide, digital literacy, digital rhetoric, digital criticism.

**Introduction**

We will begin this study by defining digital literature[[1]](#endnote-2) and reviewing how it differs from print literature in order to make the link between the specifics of this form and the reasons it has not developed and obtained acceptance in the Arab world.

As defined by the Electronic Literature Organization (ELO),[[2]](#endnote-3) digital literature is “work with an important literary aspect that takes advantage of the capabilities and contexts provided by the standalone or networked computer.”[[3]](#endnote-4)[[4]](#endnote-5) In other words, digital literature depends on technology in its production and reception and cannot be printed on paper without losing the technological aspects that make it unique, including drawings, photographs, videos, audio-visual material, hyperlinks, and more.

The utilization of these techniques in literature has led to the creation of new forms of literature with certain technological aspects on the one hand and literature aspects on the other. We now hear about ‘interactive fiction,’ ‘visual digital poetry,’ and ‘collaborative writing,’ among others. This innovation was first carried out in the West, where writers have competed to produce digital literary texts that were both intricate and thought provoking.

We therefore need to address the following questions: How have Arabic literature and Arab writers responded to these developments? Have they been able to set aside their old literary toolset and take on the tools of the digital era? To what degree have they been successful? What challenges have digital writers faced? Have Arab literary critics been able to keep abreast of these developments?

In order to answer these questions, first we must determine which model adopt in this study. Critics mainly use three models to study digital literature:

* Formal model: This model evaluates digital literature through the prism of digital literary generations. Adopted by the well-known digital literature critic Katherine Hayles, this model is concerned with literature that is native to the digital medium.
* Figure model: This model defines digital literature through its technological features. This is the model adopted by the ELO.
* Social model: This model examines digital literature as it is seen by a particular society. Every society interacts with and conceives of digital literature in a different manner depending on its culture and level of technological development, which affect how they react to it and the degree to which they are receptive to it. This model is adopted by ELMCIP,[[5]](#endnote-6) which focuses on digital literature in Europe only.

We will rely on the last of these models since we are interested in analyzing the digital literature crisis in Arab societies only and in the challenges this form of literature faces in Arab societies. The study will begin by taking a brief look at the evolution of Arab digital literature before turning to the challenges it faces.

**Brief historical review**

The first foray into digital literature in the Arab world was at the hands of Jordanian author Muhammad Sanajla, who has now published a total of four works of digital fiction: two novels, *Ẓalāl Wāḥid* (Sole Shadow) (2001)[[6]](#endnote-7) and *Chat* (2005) [[7]](#endnote-8); an interactive short story entitled *ṣaqīʿ* (Frost) (2007);[[8]](#endnote-9) and *Ẓalāl al-ʿ**āshiq* (Shadows of the Lover) (2016),[[9]](#endnote-10) published on a website built for the work.

Other Arab digital authors worth mentioning are Egyptian science fiction writer Ahmad Khalid Tawfiq, who published a story named *Qiṣṣat Rabʿ Mukhīfa* (Scary House Story) (2005);[[10]](#endnote-11) Muhammad Shuika, the Moroccan author of *Iḥtimālāt* (Possibilities) (2009);[[11]](#endnote-12) Moroccan Isma*ʿ*il al-Buyahyawi, author of *ḥafnāt Jamr* (Handfuls of Embers) (2015);[[12]](#endnote-13) Labiba Khammar, author of hyperlink story *Ghuraf wa-Marāya* (Rooms and Mirrors) (2017);[[13]](#endnote-14) and others.

In addition, a few Arabic collaborative novels written by several young authors have been published, such as *ʿAlā Qad Liḥāfak* (As Far as Your Blanket)[[14]](#endnote-15) and *al-Kanaba al-ḥamrāʾ* (The Red Sofa).[[15]](#endnote-16)

Arab authors have also made noteworthy contributions to the development of digital poetry, such as Moroccan author Mun*ʿ*im al-Azraq, who has released numerous visual digital poems such as *Sayīdat al-Māʾ* (The Water Woman), a*l-Dunū min al-ḥajar al-Dāʾirī* (The Advent of the Circular Stone), *Nabīdh al-Layl al-Abyaḍ* (The Wine of the White Night), and others, all of which were published in the forum of *al-Mirs**āʾ*.[[16]](#endnote-17) [[17]](#endnote-18) [[18]](#endnote-19) Interactive poetry has been the least successful form of digital literature, in that only three poems have been published. Iraqi poet Mushtaq *ʿ*Abbas Mi*ʿ*n is the leading Arab author of this form of Arab poetry, having released two poems entitled *Tabārīḥ Raqamiyya li-s**īra Baʿdha ʾAzraq* (Digital Agonies to Turn Some Blue) (2007) and *Lā Mutanāhiyyāt al-Jidār al-Nāri* (No Limits to the Firewall) (2017).[[19]](#endnote-20) [[20]](#endnote-21) Mun*ʿ*im al-Azraq released a single interactive poem entitled *Shajarat al-Būghāz* (The Harbor Tree) in 2014.[[21]](#endnote-22) These three poems represent the extent of Arabic attempts at interactive poetry.

Alongside that has emerged what has been called social media literature, something approaching a Facebook novel, such as *ʿal**ā Buʿd Mīl**īmītir* (A Millimeter Away) by Moroccan novelist Mohamed Stitou. There is also Twitter literature, known in English as ‘Twitter Bobs,’ and the most well-known in this sub-genre is the Saudi writer Muhammad Habibi. In the same context, there are also group novels, serial works devised by special author groups devoted to such production. They are usually published under pseudonyms and often in vernacular dialect. This type of novel has become a prominent form, particularly in the Gulf region.[[22]](#endnote-23) Examples, among many others, of this type are *Malāmih al-ḥuzn al-ʿAtīq* (Signs of Ancient Sorrow) and *Lil-‘Ay**ām Qarar Ākhir* (Another Decision for the Days) published by the ‘Alam al-Imārāt group. Short fiction pieces have also been produced for cellphone apps such as the What’sApp novel by Iranian writer Behrouz Boochani entitled *Lā Ṣadīq suwā al-Jibāl* (No Friend but the Mountains), produced in the form of text messages via the application sent to a friend from someone in a detention camp.

As regards Arabic literary criticism, numerous academic studies have been published examining the creation and development of Arabic digital literature through the lens of Western theories, and there have also been some attempts to present new perspectives. In addition, there have been proposals to digitize historical and classic texts, especially the Qur’an. Furthermore, there has been effort by some critics to translate various terms and expressions into existing literary forms.

Some of the more accomplished studies in the field include *Min al-Naṣṣ ʾilā al-Naṣṣ al-Mutarābiṭ* (From Text to Hypertext) (2005) by Saʿid Yaqtin; *Madkhal ʾilā al-ʾAdab al-Tafāʿulī* (Introduction to Interactive Literature) (2006) by Fatima al-Briki; *al-**ʾAdab al-Raqmi, ʾAsʾila Thaqāfiyya wa Taʿammullāt Mafāhīmiyya* (Digital Literature, Cultural Questions and Conceptual Speculation) (2009) by Zuhur Karam; *Taʾaththur al-Internet ʿAlā Ashk**āl al-ʾIbdāʿ wa al-Talaqqī* (The Impact of the Internet on Creativity and Reception) (2011) by Iman Yunis; *Khitāb al-Isimis al-ʾIbdā'ī* (Creative SMS Discourse) (2008) by Abd-al-Rahman al-Muhasni; and *al-Raqmiya wa-Taḥawwulāt al-Kitāba* (The Digital Era and the Transformation of Writing) (2015) by Ibrahim Milhim, among others. A number of articles have also been published on various websites by well-known critics in the Arab world, including by Muhammad Aslim, Muhammad al-Dahi, Labiba Khammar, al-Sayyid Najm, Ahmad Fadl Shablul, Sa*ʿ*id al-Wakil, *ʿ*Abir Salama, Samar al-Duyub, Muhammad Hindi, Maha Jarjur, and others.

Despite efforts by both Arab authors and critics, studies in this field point to a major gap between the West and the East, both in terms of the number of digital literary texts published and the volume of academic studies produced. Only a very small number of Arab authors have attempted to produce digital works so far and no more than thirty texts have been published to this date. In contrast, hundreds of texts have been published in the West. The same divide can be seen in the number of specialized websites and electronic magazines, as we will show later in this study.

The sad state of digital literature in the Arab world is caused by a number of factors, all of which fall under the umbrella term ‘digital divide,’[[23]](#endnote-24) referring to the gulf between the East and West in numerous fields.[[24]](#endnote-25) In our opinion, there are a number of factors that explain this divide. There are those related to the nature of digital literature itself. There are also non-literary factors, such as the sociocultural, the pedagogical, the economic, the technological, the political, and the academic. These factors are all firmly interlinked, one being an extension from another, as we will explain below.

**Literary factors: the nature of digital literature**

Digital literature’s essential difference from printed works represents a constraint on its acceptance and ability to reach a certain following from readers, critics, and publishers. The particularities and pioneering features of digital literature mark a new stage in literary history that will require quite some time to embed themselves in the Arab and even the Western consciousness.

Innovations in literature normally meet with a certain resistance from artists and critics until they establish themselves in the field. If we look back at the emergence of innovatory movements in literature, they have met with resistance and rejection initially, as did the incipient modernist poetry movement in the middle of the last century, for example. Nazik al-Mala’ika’s *Qadāyā al-Shaʿr al-ʿArab**ī al-Mu**ʿāsir* (Issues in Modern Arab Poetry) points to this issue as being key to the difficulty poets rebelling against classical forms and resisting formal strictures have encountered. They have eschewed established forms and fought against romanticism, seeking their individuality and independence. Artists like Badr Shakr al-Sayyab, Abd-al-Wahhab al-Bayati, and others have sought themselves out along new poetic lines and in topics that address social concerns. Yet this movement for innovation that they urged encountered many difficulties before it managed to impose itself with some force.[[25]](#endnote-26)

It is therefore not surprising that digital literature has encountered the same kind of challenge, rejection, even opprobrium. Some diehard adherents of the pen and paper have launched a veritable assault on digital literature, claiming that the word is the backbone of the literary text and that diversity of media leads to a decline in artistic merit and allure, undermining one of its most important bases for the fostering of the imagination.[[26]](#endnote-27)

If we take the visual digital poetry of the Moroccan, Mun’im al-Azraq, we find auditory and visual indicators as well as words. So, for example, in the poem “Saʿīdat al-Mā’” the poet uses the color blue in a consistent way to convey both vision and meaning, pointers for symbolic purpose, and makes the words move sometimes in circular formations, sometime wave-like patterns. He sometimes plays with font size, making words larger or smaller in order to convey the meaning he wants the reader to arrive at. All of these innovatory approaches are alien to the reader used to poetry based on language alone. Thus, in *Tabār**īḥ Raqamiyya li-sīra Baʿdha ʾAzraq* (Digital Agonies to Turn Some Blue) the poet derives some of the literary devices from other fields, such as images from Salvador Dalí’s piece “Time,” and relates them to central conceits in the poetry. Likewise, he uses sculpture, incorporating an image of the well-known Iraqi work “The Scream” and placing it opposite the poem with a highly redolent backgrounding of funeral music. This is hard for the traditional reader to understand if he or she does not have a grounding in the art form. The poet does not stop there, but furthermore introduces hypertext features that turn his work into a graphical configuration that interlinks objects and text. He integrates informational material with text of poetry in both verse and free form and incorporates further dimensions with both Eastern and Western music clips.

The use of such techniques in innovative forms of writing has led to many new terms and concepts deployed in modern theorizations and critical trends. A revised concept of rhetoric is one of them. Before the emergence of digital literature, the concept of rhetoric related to a measure of the author’s facility with expressive language charged with meaning, ideas, and imagery. Thus, it related to the beautification of expression through metaphor, simile, allusion, parallelism, and so forth, along with argumentative and narratalogical coherence and cohesion. Today, such criteria are no longer applied and other evaluative mechanisms are deployed, since the writer no longer produces just words. The writer now has other forms of expression available, using color as symbol, iconic symbols as meaningful in themselves, music as allusion, image as simile. Similarly, the writer can produce narrative through hyperlink, forming graphical works that interlink many textual elements. Such work has come to be known as hybrid text, multiple-genre creations. Some have gone further in describing them as ‘Archiart’ to refer to any hybrid form that incorporates a multiplicity of genre: music alongside cinematic features alongside drawing alongside theatre. This has led to a change in the conception of narrative such that we now hear the term ‘techno-narrative’ used.[[27]](#endnote-28)

Writing in this manner, as interactive literature critic Roberto Simanowski has shown, takes such work beyond literature as such into something broader, more inclusive, into art itself. Digital literature has become one of the branches of digital art, with works being produced not just for the reader, but the viewer, listener, observer also.[[28]](#endnote-29) It is this which explains why some critics are hesitant over how to categorize or otherwise deal with addressing such work. Is it art in general or literature?

In addition to this, hypertext protocol has radically transformed the role of the reader into one of constructive partner in the text. This technology means that reading is no longer linear, as it has been with printed work. Reading has rather become diffused and multilateral. Text structure has become reliant on reader choice of which links to follow. If we take *Qiṣṣat Rab‘ Mukhīfa* (Scary House Story) as an example, the author addresses the reader at the end of each page, asking him or her to choose the narrative course via hypertext options that produce different endings. Thus, the reader becomes a participant in the narrative structure, deciding the fate of characters. The same applies to the work *Chat*. The reader chooses options to open or to leave unclosed and unread.

To summarize, digital literature has changed the very concept of reading and the reader. The ‘reader’ does not just encounter words but images, colors and music too. The reader must discover meaning in the windows through which he or she enters and must understand both the linguistic and non-linguistic indicators. This vast transformation equally requires revision of many of the terms deployed by theorists of semiotic aesthetics like Roland Barthes, Wolfgang Iser, Umberto Eco, and others. This is a major challenge to reader and critic alike unfamiliar with these new forms.

These changes also do not just have a bearing on the reader, but the author also. The author is no longer the sole proprietor of the text in a way to which he or she might be accustomed. The author works alongside a collection of programmers, experts, even other artists. In the story *ṣaqīʿ* (Frost) for example, we find initial credit given to both author and producer. In the Facebook novel *ʿalā Buʿd Mīlīmītir* (A Millimeter Away), the reader plays a dual role of sometimes receiver and sometimes communicator. He or she may even play other roles if they suggest variant endings or different narrative turns, for example, after the author uploads a chapter or section. In other words, they participate in the novel writing process.

One of the most obvious questions with digital literature is that of authorship and related questions of intellectual property rights. The animation poem “Laʿib al-Nard” (The Backgammon Player) is a good example in this regard. It has its origins in the work of poet Mahmoud Darwish, with Egyptian animator and PR designer Nissmah Roshdy transforming it into animation poetry.[[29]](#endnote-30) Darwish’s original piece is lengthy and Roshdy translates, summarizes, and selects more powerful passages that lend themselves to visual depiction, omitting almost 38 entire sections. She attempts to present a new creative vision for the poetry. She uses an ancient papyrus screen background, oud music, and black-ink Arabic calligraphy. Critic Rayham Husni says that the poem in digital form incorporates pointers to the poem itself and to its comprehension, making it a separate work from the original.[[30]](#endnote-31)

There is no doubt that the issue of intellectual property rights needs addressing for such works, for who is the rightful owner of the text? Does anyone have the right to make such major changes to a work of literature to the extent that the originator loses intellectual property rights? Does the new text retain any link to the original author?

In the light of all of these points, we can certainly say that the acceptance of digital literature implies the breaking of many fixed literary rules relating to the very concept of what a text, a reader, and an author is. Doing so will be a lengthy process requiring intellectual, psychological, and cultural groundwork. It may mean the loss of creative Arab voices, particularly from past generations, the generations that have sought to preserve heritage, who cannot relinquish their pen and paper, who resist any such strange intrusion into their culture. We will examine this in the next section.

**Sociocultural factors**

Cultural and social factors constitute another obstacle to the development of digital literature in Arab societies. The culture of a society is the result of the accumulation of ideas, customs, convictions, and accomplishments over many years. This makes changing culture difficult and slow, especially if this change is imposed from the outside. To clarify this subject, we will briefly review Arab literary history in order to understand the Arab mindset and the degree to which it is open to change and innovation in different forms.

It is common in Western literary criticism to link digital literature to the artistic currents that have prevailed in Europe since the end of the 19th century and the beginning of the 20th century, chief among them Cubism, Futurism, and Dadaism.[[31]](#endnote-32) However, in reviewing the history of Arab literature, we find that the visual aspect of poetry, for example – from which visual digital poetry developed – was developed among Arabs well before it appeared in the West. Visual poetry arose in the Mamluk era, earning many different names at the time, including “poetry with plant designs,” “drawn poetry,” and “geometric poetry.” Arabic calligraphy, which flourished in the Abbasid era and influenced many Western artists, also indicates the importance placed by Arabs on the visual dimension and its impact on audience reception.[[32]](#endnote-33)

If anything, this suggests that Arabs went beyond simply writing a long time ago and were responsible for considerable innovation. This suggests that a willingness to embrace new means of expression has existed in the culture for a long time and is native to the culture. However, the culture of openness that was characteristic of Arabs in past ages did not last.

After the collapse of the Ottoman Empire, the religious and traditional cultures of Arab countries made them hesitant to embrace global culture and provoked a kind of hysterical reaction in some places. They fought against change in all forms and to preserve their fixed (enshrined) traditions. Violent voices were raised in favor of automatically preserving the culture as it existed at the time and fighting against all forms of modernity in favor of preserving historical culture.[[33]](#endnote-34)

Therefore, the reluctance of Arab writers and readers to accept digital literature can be understood as part of the desire to prevent modernization, since they see it as an outside threat to their literary heritage and tradition. At the same time, they are unable to comprehend and incorporate these changes. As we have shown in the previous section, the acceptance of digital literature requires radical sociocultural change. Change in the very culture requires new ways of thinking also. The question that must be posed here is: how can a change of thinking in general and a change in literary thinking in particular without a change in the traditional ways of writing themselves?

The renewal of writing and language requires a multiplicity of media as the precondition for any development in the present age. Such a process places the intellectual architecture and tools of any community before it for examination. It forces that community into an encounter with new ways of thinking that demonstrate that they are in fact not mere tools or means but ideological patterns and part of the forms of the culture form themselves.

Browsing the Arabic-language Internet reveals that, with regards to writing and reception, the Arab world has entered the digital era without setting aside the culture of the paper era. Most of what is published on the Internet in Arabic is no different to that which is published in physical newspapers, magazines, and books. This means that the technological investment required to change how writing is conducted – and, therefore, how people think and innovate – has not been made in Arab societies. Saʿid Yaqtin says:

It makes no sense for us to enter a new era with old ideas and an old language…our relationship with information technology began with the importation of technology, and we interact with it as it were simply a replacement part or tool we can swap for another. We have failed to integrate the essence of this new technology into our mindsets and our lives. We merely see it as a means to an end, and we fail to regard it in a way that would transform our teaching and learning, our cultural and artistic production, our literary and artistic criticism, and our culture and sciences. We have not attempted to entrench these technologies into our Arab education.[[34]](#endnote-35)

This quotation accords with the model of society outlined at the beginning of this study. It illustrates how the Arab digital literature crisis is connected to the culture of Arab society on many levels: the concepts of writing and innovation in the technological era; the perception of technology and the degree to which it is assimilated and accepted; and the ability to work with it. Given that digital literature requires development in all of these domains and a different technological culture, it will take a long time for it to develop in Arab society.

Technology is imported rather than indigenous to Arab societies and assimilating it is therefore a difficult and slow process because it requires the creation of a new mindset. After all, innovation comes from one’s innermost thoughts and feelings.

We can therefore say that digital literature is a form that is particular to the age of technology in the West as the result of its global successes. In the Arab world, on the other hand, it is merely an imported good that does not fit with a culture that is not fundamentally built upon technology. If you are not technologically advanced, it is hard to think in a technological manner. This remains the greatest challenge.

Therefore, while researchers eagerly await the rise of Arab digital literature, they must be aware that it is difficult for one culture to “wear another culture’s clothing” and even harder for it to be proud to do so. Therefore, the development of Arab digital literature will take a long time, since Arab societies need to develop the technological culture necessary to interact with and adapt to these changes in a natural instead of imitative or subordinate way.

**Pedagogical/economic factors**

Among the most important factors that prevent the development and solidification of digital literature in the Arab world is the lack of individuals and societies that have internalized and applied digital literacy skills in teaching and learning, skills that are the basis for innovation in the digital world in general.[[35]](#endnote-36) Studies point to a major discrepancy between countries in terms of the development of these skills in their citizens and organizations. An annual report published by the OECD stated that Arab countries are among the most backward in terms of their ability to provide their members with digital literacy skills.[[36]](#endnote-37)

The main reason for the failure to ensure digital literacy in the Arab world is the fact that many Arab schools and educational organizations are unprepared to transition to e-learning due to the considerable financial and technological resources required to build the necessary infrastructure, connect schools to private networks, provide smart boards in classrooms, replace paper textbooks with electronic ones, and teach new techniques to instructors.[[37]](#endnote-38) In contrast, European countries have been busily implementing these measures since the early 2000s. For example, the European Commission has maintained an initiative named “Designing Tomorrow’s Education” in European primary schools in the context of the European Executive Plan since 2001.[[38]](#endnote-39)

The economic factor plays a strong role in the inability of Arab countries to implement the educational changes necessary for the requirements of the current century. Despite the fact that some Arab countries, such as Morocco, Jordan, Lebanon, Algeria, and Tunisia, enjoy an average per capita income, they suffer from under-investment in infrastructure, including Internet and telecommunications.

As for countries with relatively strong economies, such as Saudi Arabia, Kuwait, Bahrain, and the United Arab Emirates, despite the fact that citizens can acquire the electronic devices they need, these countries suffer from an even bigger problem: illiteracy.[[39]](#endnote-40) Despite favorable statistics released by UNESCO in 2016, the illiteracy rate in the Arab world is at 20 percent,[[40]](#endnote-41) meaning that, while the Arab world is attempting to become a knowledge society, it remains hindered by millions of illiterate citizens, most of whom are women. I would add that digital literature has not appeared even in the more prosperous Arab societies, which suggests that this topic is low on the list of priorities of the ministries of education of these countries.

In other Arab countries, such as Somalia, Sudan, Yemen, and Mauritania, which suffer from poverty and worsening economic conditions, moving towards digitized education – not to mention teaching and learning digital literature – is a distant dream.

Furthermore, a glance at the school curricula used to teach Arabic literature in some Arab countries illustrates conclusively that these countries continue to teach literature in a traditional manner and ignore the changes imposed by technological developments due to the lack of the capabilities and resources required to do so.[[41]](#endnote-42) [[42]](#endnote-43) [[43]](#endnote-44)

The same problem is present even in universities in Arab countries, which to this day lack computers, Internet, and projectors in classrooms.[[44]](#endnote-45) Very few universities have introduced digital literature into their curricula. The first academic project in this field began at Mohammed V University in 2007, that is, twenty years after the first appearance of digital literature in Morocco.

The first challenge is to bring curricula and teaching methods up to the standards of the 21st century in schools, rather than universities. Arab countries will be unable to produce and develop indigenous digital Arabic literature without first producing a generation that is digitally aware, fluent, and proficient; that can navigate and immerse itself in the digital world; that turns to the digital world to learn; and, from there, begins to innovate. However, this requires enormous economic resources and Arab countries must consider carefully how to acquire these resources through strategic planning. They could form cooperative agreements with other countries to advance Arab teaching and learning. Economically powerful Arab countries could support poorer Arab countries in order to develop the necessary infrastructure and provide schools and universities with the technological resources they need, cooperating amongst themselves to implement alternative curricula in preparation for transiting towards digitized education in order to reduce the gap between them and the rest of the world.

**Technological factors**

If the new generation lacks the skills of digital literacy, the older generation of writers and literary figures suffers even more from what is known as ‘digital illiteracy,’ that is, the complete lack of the skills required to work with computers and computer software (known as ‘computer literacy’). Unfortunately, many Arab writers do not have even have basic computer skills, which accounts for much of the backwardness in the field of digital literature, a form of literature that requires skills beyond writing with pen and paper.

Moroccan literary critic Muhammad Aslim argues that the widespread existence of this form of illiteracy in the Arab world means that digital literature will remain a distant dream for the time being and that it will take a long time for Arab writers to reach the stage where they can think about setting aside paper literature and move towards digital literature instead.[[45]](#endnote-46)

Writing digital literature depends on extensive computer skills that most Arab writers lack, which has had an impact on the nature of the texts produced. Most of those who have attempted it used basic techniques such as hypertext, multimedia, and simple flash applications. In contrast, techniques used by Western authors are more complex and varied.

Katherine Hayles has written at length about the techniques used by Western writers in their digital literary work, which she has divided into two periods:

1. The classical period, which covers works that appeared in the 1980s and the early 1990s, using basic techniques such as sound, links, graphics, animation, colors, and Macintosh’s Hypercard. Examples include Michael Joyce’s “afternoon, a story” and other such works referred to collectively as ‘storyspace school.’

2. The contemporary or postmodern period, which includes works that appeared after 1995 and that employ complex techniques resulting from increasingly developed computer programs and the Internet.[[46]](#endnote-47)

The variety of techniques used in the West to produce numerous types of literature led to a variety of new forms of literary production, such as several types of hypertext fiction. Hayles states: “Hypertext fictions also mutated into a range of hybrid forms … David Ciccoricco introduces the useful term ‘network fiction,’ defining it as digital fiction that “makes use of hypertext technology in order to create emergent and re-combinatory narratives.”[[47]](#endnote-48)

Nick Montfort has pointed to a different form of digital fiction, ‘interactive fiction,’ in which elements of video games are used, requiring interaction on behalf of the reader, who has an impact on the work as they read it.[[48]](#endnote-49) He states that:

The next move is to go from imaging three dimensions interactively on the screen to immersion in actual three-dimensional spaces. As computers have moved out of the desktop and into the environment, other varieties of electronic literature have emerged. Whereas, in the 1990s, email novels were popular, the last decade has seen the rise of forms dependent on mobile technologies, from short fiction delivered serially over cell phones to location-specific narratives keyed to GPS technologies, often called ‘locative narratives.’

The complements to site-specific mobile works, which foreground the user’s ability to integrate real world locations with virtual narratives, are site-specific installations in which the locale is stationary, such as a CAVE virtual reality projection room or gallery site, which cost upward of a million dollars and depend on an array of powerful networked computers and other equipment.[[49]](#endnote-50)

In addition to hypertext fiction, network fiction, interactive fiction, and locative narratives, Hayles points to other forms of digital literature such as installation pieces, generative poems, and ‘codework.’ However, these have particular digital requirements, and, with the exception of the first, they are entirely absent from Arab literature.

Based on the above, we can say that Arab digital literature stopped at the classical period referred to by Hayles, not developing further compared to its Western counterpart, which has become very advanced. The reason for this is the lack of knowledge by Arab writers of these techniques and, fundamentally, their lack of exposure to them, in addition to the last important factor stated by Rayham Husni: the lack of cross-departmental cooperation, not least between the literature and computer science departments.[[50]](#endnote-51)

Arab writers’ lack of adequate exposure to the many techniques available and their uses has led to the organization of a workshop to demonstrate the techniques used in digital literature abroad, to be presented at a conference entitled “Arab Digital Literature: New Horizons and Global Visions,” held in February 2018. The conference is being organized by the Electronic Literature Organization, the Arab Electronic Literature Project, and the Rochester Institute for Technology in New York.

One could argue that some writers are skilled with computers, able to use the various computer programs required and aware of developments in the Western world in this regard. Nonetheless, the economic factor would still present a major obstacle given the financial and budgetary prerequisites of digital literature, which most Arab writers belonging to the working class could not afford.

**Political/national factors**

Politics play a major role in preventing the development of digital Arabic literature. The Arab world is today consumed by much bigger crises and problems than that of digital literature. The Arab peoples are struggling for liberation and to determine their futures. The current moment is one of life or death, so how could they think about creativity and innovation? The events in Syria, Egypt, Iraq, and Palestine, for example, illustrate how creative movements are unable to flourish. In these circumstances, it is almost impossible for digital literature to find the breathing space it needs to thrive! We will provide a brief example to illustrate this in more depth.

Many printed novels and collections of poetry were published describing the 25 January Revolution in Egypt in the months following its outbreak. Was it possible to publish digital literature immediately to describe the events of the revolution as the bloody events were unfolding? The answer is, of course, no.

This is not just because it requires financial means, the Internet, and technical abilities. Above all, it is because it requires spiritual and mental calmness and a lot of time. This means that printed literature is currently more appropriate and better meets the needs of Arab writers.

A reading of history shows us that economic prosperity and political stability can contribute to the flourishing of artistic and creative movements. This occurred during the Arab Golden Age, and it is happening today with European peoples, who are prosperous and safe.

Given that the Arab peoples today face major economic and political crises, all forms of creativity, including literature, are experiencing major crises.

Moreover, the national factor plays a role in the marginalization of digital literature, given that the latter is seen as connected to the American-led form of globalization that transforms people’s lives and seeks to minimize the role of nationalism.[[51]](#endnote-52)

The Internet is seen as a leading factor in the promulgation of globalization in many fields of activity, which comes at the expense of regional particularities, minimizing diversity in favor of homogeneity. This leads to the erasure of the cultures and identities that distinguish societies from one another and destroys the authenticity that is required for artistic production.[[52]](#endnote-53)

Moroccan critic Hilmi Sari has stated that the new culture being imposed around the world by globalization contradicts the normal understanding of culture, which is that culture is a collection of spiritual, physical, intellectual, and emotional characteristics that differentiate one society or social group from another. In contrast, globalization involves an accelerating mixing of cultures that is hard to keep track of and writers who want to participate in this culture have to attempt to follow and express this culture.[[53]](#endnote-54)

Some researchers argue that digital literature can be seen as the ideal form of the globalization of literature or can be described as the literature of the future that will unify all forms of literature, an open literature that is not limited by a parochial identity, that speaks to all cultures without discriminating. In 2016*, Hyperrhiz* magazine published an issue devoted to furthering this notion.[[54]](#endnote-55)

Approaching digital literature from this sensitive angle exposes it to considerable opposition in an Arab world that is opposed to globalization.

**Academic factors**

How does academic criticism interact with Arab digital literature and how much of an impact has it had? Despite the considerable Arab criticism that has been published on the topic of digital literature, many obstacles remain, due to the low output of Arab digital literature, reliance on Western criticism for theoretical frameworks, and a failure to understand the fundamentals and tools of this aspect of literary criticism.

It has previously been stated that Western output of digital literature far outstrips that of the Middle East in terms of variety, sophistication, and technical skills. For this reason, literary criticism of Western texts cases often cannot be reapplied to Arab digital literature. Many attempts to do so have been problematic, slapdash, and theoretically weak, given the examples and models used.

Furthermore, since criticism must follow creativity (and not the reverse), it is impossible to develop new literary theories so long as the number of texts available is so low. In order for a theory to rest on solid foundations, it needs to be based on a sufficient number of texts, which is not the case for the time being with regards to Arabic digital literature.

Some Arab researchers have realized how important comparative criticism is in this regard and have produced studies comparing Western and Arabic texts. Examples include Ibrahim Mulhim’s 2015 study entitled *al-Raqmiya wa-Taḥawwulāt al-Kitāba* (Digitization and Transformation in Literature) and Fatima al-Briki’s 2006 study, *Madkhal ʾilā al-ʾAdab al-Tafāʿuli* (Introduction to Interactive Literature), as well as various articles by Muhammad Aslim, and others. Nonetheless, these studies are few and far between. Moreover, most Arab literary criticism only examines Arabic digital literature, meaning that much of it merely rehashes what has previously been stated. The worst is that the number of critical studies is actually larger than the corpus of texts under study!

I would like to add that the Arab world, so far, does not have the framework required to develop and support this form of literature. The West has many websites and online magazines that specialize in publishing pieces of digital literature and critical studies, such as the Electronic Literature Organization, trAce, Word Circuits, Hermeneia, bleuOrange, RiLUnE, Dichtung Digital, and Beehive. In contrast, there is not a single Arabic website devoted to digital literature, with the exception of the Union of Arab Authors of the Internet. This is also true of Arabic magazines. There are a number of Arabic websites and magazines that include digital literature, but none of them specialize in it like the above-mentioned Western publications.

What makes the digital literature crisis even more acute is that this form of literature is still in its infancy in the West, despite the developments that have already occurred there. Edmund Kushu, a professor at the University of Paris and Head of the Art and Technology Unit, published an earnest call for the foundation of a literary theory to analyze digital creativity based on technical methods in order to found a sorely needed new form of literary criticism.[[55]](#endnote-56)

Though there have been many earnest literary studies in the West and in the Arab world, it cannot yet be said that digital criticism has established itself.

There is no doubt that, as texts change in form, critics will need to apply new standards to evaluate them. With printed texts, words were the sole medium of communication and their aesthetic value was gauged on the basis of their language, style, and the ability of the writer to use artistic expressions, allusions, metaphors, and other rhetorical tools. In narrative texts, the ability to express ideas and construct and unfold a plot were also essential. With poetry, critics also focus on language, style, structure, meter, models, music, rhyme, and more. However, digital literature has added new dimensions that critics need to take into consideration before passing judgment.

Therefore, Kushu states that, when artists use techniques that are more complicated and involved (as is the case in digital literature), critics and other experts must also understand the techniques and technological methods behind the works.[[56]](#endnote-57)

Egyptian author Muhammad Bastawis agrees with Kushu that critics need a solid grasp of the technical details, since modern technology has created new aesthetic values to which the classical schools of thought and theories do not apply. Bastawis added that “modern critics need to draw upon every available tool and field of knowledge in order to understand complex literary texts employing communication technology.”[[57]](#endnote-58)

Critic Amjad ʿAbdulla attempted to describe the intellectual and artistic principles on which cultural critics must evaluate interactive digital literature and understand its aesthetics and cultural and contextual references, by exploring the intellectual and cultural principles of criticism and, most importantly, the principle of modernity. Modernity is the awareness of the changes and innovations affecting our lives and civilization and the casting aside of the past in order to adopt new methods. Furthermore, according to ʿAbdulla, language has changed during the 20th century, but the current era is one of the hegemony of images and movement over culture and literature which allows for the incorporation of non-verbal forms of expression in literary discourse.[[58]](#endnote-59)

In *al-Tafaʿul al-Fannī al-Adabī fī-l-Shaʿr al-Raqamī* (Literary and Technical Interaction in Digital Poetry), my colleague, ʿAyida Nasralla and I proposed the term ‘hypercritics’: critics who must meet certain criteria in order to be able to evaluate digital literary work. In addition to the skills of critics of printed literature, they must also be knowledgeable in computer programs and programming languages, design and filmography, digital animation, and more, in addition to poetry and narrative prose, cinematography, how movie or theatre scenes are written, and the visual arts. In other words, they need a broad set of literary, critical, artistic, and technical skills.[[59]](#endnote-60)

Some criticize this approach by arguing that readers have the right to interpret literary works as they want based on their culture, leading to different interpretations by different readers. We agree with this argument insofar as it applies to regular readers; however, it does not apply to critics, who are expected to have more tools in their arsenal than others.

Memmot Talan argues that we are in desperate need of new schools of thought that address the particularities of digital literature because, though it is growing ever-quicker, we still do not have theories and schools of criticism that focus on it and its principles, concepts, and terminology. Talan adds that anyone who wants to examine this form of art needs to truly participate in digital culture, since anyone outside of the culture cannot critique it.[[60]](#endnote-61) This last statement accurately encapsulates the Arab digital literature crisis!

**Debate and recommendations**

We can conclude from the preceding that the sorry state of digital literature in the Arab world is caused by the large digital divide in comparison with the West. Numerous factors – literary, pedagogical, educational, sociocultural, political/national, and critical/academic – mean the Arab world has been left behind in terms of literary innovation. Digitization is different in the West than in the Arab world. In the West, it is the result of the development of society in various material and symbolic areas, the result of a search for more creativity, development, beauty, freedom, and enjoyment. In the Arab world, in contrast, digitization is an exercise in pure imitation and subordination. The Arab world is still a consumer rather than producer and remains far from being able to compete with the West in terms of digital literature. It should also be stated that there is a danger that this will have a negative impact on the Arab culture of the future and the future of Arab individuals who live in a continuously changing world. New terms are coined every day to describe this age, the people who live in it, and the massive changes underway in many spheres of society in the rest of the world, such as ‘the post-human age,’ ‘the age of the digital revolution,’ ‘the information age,’ ‘digital humans,’ ‘post-humanity,’ ‘cyborgs,’ ‘the knowledge society,’ and ‘information society,’ not to mention terms that warn of the end of previous paradigms such as “the end of the paper era,” “the end of the era of the printed word,” “the end of intellectuals,” and many others. In the midst of this cacophony of terms reflecting large changes, it is essential to think about the future of Arabs and Arab society and how to accommodate these transformations in a natural and gradual manner. This requires a broad and in-depth study that goes beyond just the literary aspect.

As for the future of Arab digital literature, we believe that Arab societies will get there sooner or later and that they will use the tools of this technological and digital era to write about the people who inhabit it. However, for this to happen certain challenges need to be met, and progress is required on several fronts in order to achieve it:

* Students of all ages must be provided with the skills of the digital era. These must be integrated into the curriculum and be made mandatory, while ensuring that schools have all the tools and infrastructure they need to teach them and that teachers are trained to be able to teach these skills.
* Digital literature and its creation and interpretation must be taught at schools and universities, since research into this topic will ensure that it is understood as a new and legitimate phenomenon and form of expression, protecting it from extremists and those who oppose it on irrational grounds.
* Academic and non-academic physical and digital workshops should be held to eradicate computer illiteracy and teach people how to create digital literature, as is done in certain Western countries.
* Academic websites and journals should be created to publish studies, articles, and creative writing in the field of digital literature in order to raise awareness.
* Clear definitions should be established for digital literature and its different types, the terms being used to describe it, the techniques used to create it in order to clarify some of the notions surrounding it.
* Comparative literary studies should be carried out to ensure that developments in digital literature in the West are followed.

1. . Other terms are used to refer to this form of literature, including ‘electronic literature,’ sometimes shortened to ‘e-lit.’ The terms ‘digital literature’ and ‘electronic literature’ are generally used interchangeably. We have chosen to use the term ‘digital literature’ in this article in order to maintain consistency with other terms used in the article such as ‘digital divide’ and ‘digital eloquence’ and because its use is more widespread in digital literature criticism. [↑](#endnote-ref-2)
2. . “Electronic Literature Organization – To facilitate and promote the writing, publishing, and reading of literature in electronic media,” Electronic Literature Organization, accessed 10 April 2018, <https://eliterature.org/>. [↑](#endnote-ref-3)
3. . Amanda Starling Gould, “A Bibliographic Overview of Electronic Literature,” Electronic Literature Organization, accessed 10 April 2018, <http://directory.eliterature.org/article/4573>. [↑](#endnote-ref-4)
4. 4. N. Katherine Hayles, “Electronic Literature: What is it?,” Electronic Literature Organization, last modified 2 January 2007, <https://eliterature.org/pad/elp.html>. [↑](#endnote-ref-5)
5. . “ELMCIP: Electronic Literature as a Model of Creativity and Innovation in Practice,” Elmcip.net, accessed 10 April 2018, <https://elmcip.net/>. [↑](#endnote-ref-6)
6. . Muhammad Sanajla, *Ẓalāl Wāḥid* (Sole Shadow), Arab Union for Internet Writers, accessed 10 April 2018, [http://www.arab-ewriters.com/diglit.php#lit1/](http://dubai.sanajleh-shades.com/روايات-وقصص-أخرى-للمؤلّف/). [↑](#endnote-ref-7)
7. . Muhammad Sanajla, *Shāt* (Chat), Arab Union for Internet Writers, accessed 10 April 2018, <http://www.arab-ewriters.com/diglit.php#lit1>. [↑](#endnote-ref-8)
8. . Muhammad Sanajla, *ṣaqīʿ* (Frost), Arab Union for Internet Writers, accessed 10 April 2018, <http://www.arab-ewriters.com/diglit.php#lit1>. [↑](#endnote-ref-9)
9. . Muhammad Sanajla, *Ẓalāl al-ʿāshiq* (Shadows of the Lover), Sanajleh-shades.com, accessed 10 April 2018, <http://sanajleh-shades.com/mohammad-sanagleh-winning-bet>. [↑](#endnote-ref-10)
10. . Ahmad Khalid Tawfiq, *Qiṣṣat Rabʿ Mukhīfa* (Scary House Story), accessed 10 April 2018, <http://www.angelfire.com/sk3/mystory/>. [↑](#endnote-ref-11)
11. . Muhammad Shuika, *Iḥtimālāt* (Possibilities), Chouika.com, accessed 10 April 2018, https://www.chouika.com/Page1.htm. [↑](#endnote-ref-12)
12. . Isma*ʿ*il al-Buyahyawi, *ḥafnāt Jamr* (Handfuls of Embers), Zanoubya.blogspot.co.il, accessed 10 April 2018, <http://narration-zanoubya.blogspot.co.il/2014/07/blog-post_6682.html>. [↑](#endnote-ref-13)
13. . Labiba Khammar, *Ghuraf wa-Marāyā* (Rooms and Mirrors), Labiba-meroires.blogspot.co.il, accessed 10 April 2018, <https://labiba-meroires.blogspot.co.il/?m=0>. [↑](#endnote-ref-14)
14. . Anon., *ʿAlā Qad Liḥāfik* (As Far as Your Blanket), Le7afak.blogspot.com, accessed 10 April 2018, <http://le7afak.blogspot.com/2006/03/blog-post.html>. [↑](#endnote-ref-15)
15. . Bilal Husni, *al-Kanaba al-ḥamrāʾ* (The Red Sofa), Knbahmra.blogspot.com, accessed 10 April 2018, <http://knbahmra.blogspot.com>. [↑](#endnote-ref-16)
16. . Mun*ʿ*im al-Azraq, *Sayyidat al-Māʾ* (The Water Woman), Imzran.org, accessed 10 April 2018, <http://imzran.org/mountada/>. [↑](#endnote-ref-17)
17. . Mun*ʿ*im al-Azraq, *al-Dunū min al-ḥajar al-Dāʾirī* (The Advent of the Circular Stone), Imzran.org, accessed 10 April 2018, <http://imzran.org/mountada/>. [↑](#endnote-ref-18)
18. . Mun*ʿ*im al-Azraq, *Nabīdh al-Layl al-Abyaḍ* (The Wine of the White Night), Imzran.org, accessed 10 April 2018, <http://imzran.org/mountada/>. [↑](#endnote-ref-19)
19. . Mushtaq *ʿ*Abbas Mi*ʿ*n, *Tabārīḥ Raqamiya Li-sīra Baʿdha Azraq* (Digital Agonies to Turn Some Blue), Dr-mushtaq.iq, accessed 10 April 2018, <http://dr-mushtaq.iq/My-poetry-works/Interactive-digital/>. [↑](#endnote-ref-20)
20. . Mushtaq *ʿ*Abbas Mi*ʿ*n, *Lā Mutanāhiyyāt al-Jidār al-Nāri* (No Limits to the Firewall), Dr-mushtaq.iq, accessed 10 April, <http://dr-mushtaq.iq/My-poetry-works/Interactive-digital/>. [↑](#endnote-ref-21)
21. . Mun*ʿ*im al-Azraq, *Shajarat al-Būghāz* (The Harbor Tree), Imzran.org, accessed 10 April 2018, <http://imzran.org/digital/cajar/01.html>. [↑](#endnote-ref-22)
22. . Samir 2009, 159 [↑](#endnote-ref-23)
23. . Nabil ʿAli and Nadia Hijazi, *The Digital Divide* (2005), 26. The term ‘digital divide,’ initially used in a local context, first appeared in the United States in 1995 in a well-known report published by the US Department of Commerce entitled *Falling Through the Net*. The report drew attention to the large difference between various segments of American society in terms of the use of information and communication technologies and especially the Internet. This was particularly true of blacks and immigrants from Mexico, Asia, and Latin America. The term quickly spread beyond its original use to designate local disparities and is now used internationally to refer to a collection of differences with regards to IT between the developed world and the developing world and between different regions in the world. [↑](#endnote-ref-24)
24. . Ibid., 32. [↑](#endnote-ref-25)
25. . Nazik al-Mala'ika, *Qadāyā al-Shaʿr al-ʿArabī al-Muʿāsir* (Issues in Modern Arab Poetry) (1976): 38. [↑](#endnote-ref-26)
26. . Iman Yunis, *Taʾaththur al-Intirnit ʿAlā Ashk**āl al-ʾIbdāʿ wa al-Talaqqī* (The Impact of the Internet on Creativity and Reception) (2011): 2013 [↑](#endnote-ref-27)
27. . Ibrahim Mulhim, al*-‘Adab al-Taqnīya: Madkhal ‘ilā al-‘Adab al-Tafā’ulī* (Technoliterature: an Introduction to Interactive Literature) (2013): 26,63. [↑](#endnote-ref-28)
28. . Roberto Simanowski, *Electronic Poetry: Understanding Poetry in the Digital Environment* (2011) Jyvaskyla University Press, 17 [↑](#endnote-ref-29)
29. . Nissmah Roshdy, “Laʿib al-Nard” (The Backgammon Player), <http://www.youtube.com/watch?v=aehlMo644ZU&t=102s>, accessed 1 April 2019. [↑](#endnote-ref-30)
30. . Rayham Husni, “E-Lit in Arabic Universities: Status Quo and Challenges,” Hyperrhiz, <http://doi.org/10.20415/hyp/016.e06>, accessed 1 April 2019. [↑](#endnote-ref-31)
31. . ʿAyida Nasralla and Iman Yunis, *al-Tafaʿul al-Fannī al-ʾAdabī fī-l-Shaʿr al-Raqamī* (Literary and Technical Interaction in Digital Poetry), (Beit Berl: Center for Arab Literary and Social Studies, Arab Academic Educational Institute, 2015). [↑](#endnote-ref-32)
32. . Jamil al-Talawi, *al-Qasīda al-Tashkiliya fī-l-Sha’r al-‘Arabīy* (Visual Poems in Arab Poetry),(Cairo: The Egyptian General Committee for Writers, 1998), 14-28. [↑](#endnote-ref-33)
33. . Asʿad al-Khaffaji, “al-Thawābit w-l-Mutaghayyirāt fī-l-Thaqāfa al-‘Arabiyya (Continuities and Changes in Arab Culture),” Elaph, last modified 10 March 2004, <http://elaph.com/ElaphWeb/Archive/1078935492630032100.htm>. [↑](#endnote-ref-34)
34. . Yaqtin, 2008, 96-97. [↑](#endnote-ref-35)
35. . Yoram Eshet-Alkakai, “Digital Literacy: A Conceptual Framework for Survival Skills in the Digital Era,” *Journal of Educational Multimedia and Hypermedia* 13, no. 1 (2004): 93-106. [↑](#endnote-ref-36)
36. . Michal Margalit, Ynet.co.il, last modified 28 June 2016, <http://www.ynet.co.il/articles/0,7340,L-4821091,00.html>. [↑](#endnote-ref-37)
37. . Ibrahim Mulhim, *al-Raqmiya wa-Taḥawwulāt al-Kitāba: al-Nadhariyah wa-l-Taṭbīq* (Digitalization and Changes in Writing: Theory and Practice) (2015), 41. [↑](#endnote-ref-38)
38. . European Union, “eLearning - Designing tomorrow's education,” EUR-Lex, Eur-lex.europa.eu, accessed 10 April 2018, <http://eur-lex.europa.eu/legal-content/BG/ALL/?uri=URISERV:c11046>. [↑](#endnote-ref-39)
39. . Rayham Husni, “E-Lit in Arabic Universities: Status Quo and Challenges,” Hyperrhiz 16 (2017), <http://hyperrhiz.io/hyperrhiz16/essays/6-hosny-elit-arabic-universities.html>. [↑](#endnote-ref-40)
40. . UNESCO Institute for Statistics, Uis.unesco.org, accessed 10 April 2018, <http://www.uis.unesco.org/literacy/Pages/literacy-day-2015.aspx>. [↑](#endnote-ref-41)
41. . Shobiddak.com, accessed 10 April 2018, <https://shobiddak.com/courses/135>,. [↑](#endnote-ref-42)
42. . Aafwag.alafdal.net, accessed 10 April 2018, <http://aafwag.alafdal.net/>. [↑](#endnote-ref-43)
43. . Nccd.gov.sy, accessed 10 April 2018, <http://www.nccd.gov.sy/contents/Curricula/Secondary%20education/G12/Arabic-Bac-scientific.pdf>. [↑](#endnote-ref-44)
44. . Husni, “E-Lit in Arabic Universities.” [↑](#endnote-ref-45)
45. . Muhammad Aslim, “Mafhūm al-Kātib al-Raqami” (The Concept of the Digital Writer), Moroccan Ministry of Culture website, accessed 10 August 2016, <http://www.minculture.gov.ma/index.php/2010-01-11-01-40-04/etudes-essaie/512-mohamed-aslim-ecrivain-numerique-essai>. [↑](#endnote-ref-46)
46. . Hayles,THOR? n for Internet Writers. Pory.in the mment. will ahve n the bibliogrpahy;,THOR? n for Internet Writers. Pory.in the mment. will ahve n the bibliogrpahy;, 2007. [↑](#endnote-ref-47)
47. . Ibid. [↑](#endnote-ref-48)
48. . Nick Montfort, *Twisty Little Passages: an Approach to Interactive Fiction*, (Cambridge, MA: MIT Press, 2003), 7-11. [↑](#endnote-ref-49)
49. . Hayles, 2007. [↑](#endnote-ref-50)
50. . Husni, “E-Lit in Arabic Universities.” [↑](#endnote-ref-51)
51. .ʿIzza al-Sayyid Ahmad, *Inhiyār Mazāʿim al-ʿAwlama* (Collapse of the Claims of Globalization), (Damascus: Arab Writers’ Union, 2000), 67. [↑](#endnote-ref-52)
52. . Joost Smiers, *al-Funūn wa-l-Adab Taḥt ḍaght al-ʿAwlama* (Arts Under Pressure: Protecting Cultural Diversity in the Age of Globalization), trans. Talaʿt al-Shāyib (Cairo: The Supreme Council of Culture, 2005), 212-214. [↑](#endnote-ref-53)
53. . Hilmi Khidr Sari, *Thaqāfat al-Intirnit* (The Culture of the Internet) (Amman: Majdalawi Publishing, 2005), 207. [↑](#endnote-ref-54)
54. . Sandy Baldwin, Rayham Husni, and Kwabna Opoku-Agyemang, “Globalizing Electronic Literature,” *Hyperrhiz* 16 (2017), <http://hyperrhiz.io/hyperrhiz16/introduction/1-introduction.html>. [↑](#endnote-ref-55)
55. . Edmund Kushu, ʾ*Asʾilat al-Naqd fī-l-Ibdāʿ al-Raqamī* (The Questions of Criticism in Digital Creativity), trans. Abdu Haqqi, accessed 25 January 2018, <http://www.arabworldbooks.com/ArabicLiterature/criticism.htm>. [↑](#endnote-ref-56)
56. . Ibid. [↑](#endnote-ref-57)
57. . Muhammad Bastawis, *al-Naṣṣ al-Adabī bayn al-Maʿlūmātiyya wa-l-Tawẓīf: ʾAfāq al-ʾIbdāʿ wa Marjaʿiyyat-hu fī ʿAsr al-ʿAwlama* (Literary Texts and the Usage of Information Technology: the Extent and Credibility of Creativity in the Age of Globalization), (Damascus: Dar al-Fikr, 2001), 157-158. [↑](#endnote-ref-58)
58. . ʿAbdalla Hamid Amjad, *Muqaddima fī-l-Naqd al-Thaqāfī al-Tafā’ulī* (Introduction to the Criticism of Interactive Culture) (2009), 21-26. [↑](#endnote-ref-59)
59. . Nasralla and Yunis, *al-Tafaʿul al-Fannī*. [↑](#endnote-ref-60)
60. . Memmott Talan, “Beyond Taxonomy: Digital Poetics and the Problem of Reading,” in *New Media Poetics, Contexts, Technotexts, and Theories* (London: MIT Press, 2006), 305. [↑](#endnote-ref-61)