

## **THE PORTRAIT OF THE ARTIST AS A ROBOT: A LITERARY LOOK AT E-POETRY**

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### **Abstract**

This study examines the validity of e-poetry as an acceptable literary genre. The thematic, stylistic and esthetic features of a selected number of e-poems produced by poetry generators are analyzed for this purpose. The e-poems are then compared with a number of works written by Dada poets in order to establish the literary merit of the former.

**The Portrait of the Artist as a Robot:  
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A Research Paper  
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**Audrey:** I do not know what 'poetical' is. Is it honest in deed and word? Is it a true thing?

**Touchstone:** No, truly; for the truest poetry is the most feigning, and lovers are given to poetry; and what they swear in poetry may be said as lovers they do feign.

William Shakespeare, *As You Like It* (III.iii, 13-17)

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Recent developments in digital technology and computer science have introduced a revolution in the way art is

produced and experienced.<sup>1</sup> Artists have often used computers as a medium to compose or publish their works. The

advantages that multimedia technology offers include the ability to render a work accessible to a global audience via the Internet and the facilities that computers offer in saving, displaying and, to a limited extent, assisting the artists in the process of producing their works.<sup>2</sup> British painter Harold Cohen (b.1928), for example, spent thirty years constructing a computer program that can simulate the cognitive processes underlying the human act of drawing. The result was Aaron, the first robot artist that “has by now been seen producing original ‘freehand’ drawings in museums and science centers in the US, Europe and Japan.”<sup>3</sup>

As far as literature is concerned, the effect of these developments in digital technology has revealed itself in

the emergence of e-literature, or electronic literature, a term used to refer to “texts that take advantage of the capabilities of computers, software, or network technologies.”<sup>4</sup> This impact of science on literature is expected in a world where “Computer technology ... is beginning to displace the printed book.”<sup>5</sup>

E-literary genres today include hypertext fiction (also known as interactive fiction), e-poetry and e-drama, which are based on the corresponding conventional literary genres of fiction, poetry and drama respectively.<sup>6</sup> The way literary texts are read has also been affected, as can be seen in the recent distinction made by critics between ergodic and nonergodic literature.<sup>7</sup>

The term “e-poetry” stands for “electronic poetry” and it is defined as

poetry generated electronically, including hypertext poetry, interactive poetry written in various computer languages such as BASIC and internet related languages ... and poetry that is partially or completely randomly generated by electronic (usually computer) means. Electronic poetry is a form of electronic literature and can also be a kind of ergodic literature.<sup>8</sup>

Prior to this generic expansion, the umbrella term “computer poetry” was generally used in the late eighties to refer to “a recently developed form of poetic composition in which data-processing machines are used to generate new sequences of words,” as Jack Myers

and Michael Simms defined the term in their 1989 edition of *The Longman Dictionary of Poetry*.<sup>9</sup> Myers and Simms further explained that computer poetry could be either formulary or derivative:

In formulary computer poetry, the programmer gives the computer a syntactical structure and a list of words to fill in the structure. In derivative computer poetry, the programmer gives the computer lines of existing poems and the computer alters them in a systematic way.<sup>10</sup>

Despite this variation in terminology and classification, the dialogue between technology and literature or poetry is beyond dispute. As James A. Inman observes in his book *Computers and Writing* (2004), “whatever term you use, there is now a new genre of writing that can be done only by using a computer.”<sup>11</sup>

E-poetry has for the last two decades been developed to such an extent that the explanation provided by Myers and Simms requires modification, since the element of originality has been incorporated into it. M. Vincent van Mechelen argues that “Original

computer poetry does neither imitate the structures of existing, non-computer-generated poems nor copy their lexical contents.”<sup>12</sup>

Compared with other types of natural language generation, the production of poetry involves an extensive use of figurative and highly connotative lexical items and expressions. Furthermore, poetry is characterized by its aesthetic value as well as the interaction among its semantic, syntactic, phonetic and even typographic components. These features, which distinguish poetry even from other literary genres, render the

process of its simulation and non-human generation quite sophisticated.

Attempts at e-poetry can be traced back to the middle of the twentieth century:

Computer poetry was made for the first time in 1959, when Theo Lutz in Germany and Brion Gysin in the U.S.A. let a computer produce the first computerized verses .... In the sixties in France, Alamo, a group of scientists and mathematicians ... began to think about the use of computers in literature. At that time, they could only produce printed texts.<sup>13</sup>

The main problem those days, states Friedrich W. Block, was “how the machine should be interpreted with regard to its esthetic function e.g. in relation to the creativity of the human author.”<sup>14</sup>

More advanced models were introduced in the 1970s such as the

poetry generators MUSESTORM and RETURNER. The latter was constructed by Professor Louis Milic at Columbia University. Below are the first two stanzas from a poem generated by RETURNER in 1971:

In the morning crowbars will be nearly round.  
Separate blankets never step again.  
Tomorrow I will ring him through the willows.

Do mice sometimes become like deer at home?  
Hemlocks hiss from salad to salad now  
But yesterday he often pawed all the apples at the milk pan.<sup>15</sup>

As van Mechelen explains,

At first sight this poetry looks quite original in its surrealism, and the reader may be not unwilling to see some more stanzas, although, perhaps, not all one hundred of them. But on closer examination the output turns out to be considerably less creative [than human-generated poetry].<sup>16</sup>

Although the concepts of round crowbars, stepping blankets and deer-like mice as mentioned in the poem above, might tease a reader's mind into imaginative interpretations, their frame of reference is not valid outside the realm of fancy.

She sometimes stops and she often hears it, because  
 She looks forward to it, with those nails  
 With those locks before her eyes  
 You think that she looks forward to it, but  
 I see that you believe that  
 She is afraid and perhaps she wants to swim.<sup>17</sup>

Unlike Milic, Krol managed to solve the semantic problem in computer-generated poetry. Instead of the incoherence of subject-matter in RETURNER's verses, APPI's poetry is comparatively more human-like and the lines revolve around one character. What further makes the latter poem more acceptable and human is the interplay of emotions delineated, especially the female's anticipation, hesitation and fear. This comparison between the poetry of APPI and that of RETURNER indicates a major evolution

You are smart enough to see that  
 The environment is the victim of its man!  
 Naturally, not supernaturally  
 The smart that do not smoke

In 1979, the poetry generator called APPI (Automatic Poetry by Pointed Information), invented by the novelist, poet and computer programmer Gerrit Krol (b.1934), produced the following verses:

in the making of e-poetry, especially in view of the fact that only eight years stand between the two poetry generators.

More advanced than RETURNER and APPI is a poetry generator constructed by van Mechelen himself in 1992, which he called "A Hand with Myriad Digits" and which authored a poem entitled "Five Fingers Grasping the Earth" about the natural environment. Here are fifteen lines from the poem:

May be barefoot and yet aware that  
 Fine furs do not make fine birds  
 The denizens of the deep  
 Walk well-nigh hand in hand with us  
 Bad things wax and wax and run to waste  
 A bird in the hand belongs in the bush  
 The dusk of greed's doom gathers over  
 The foul of body, of mind  
 Had you known this in advance ...  
 I am bright enough to notice that  
 Fine furs do not make fine birds.<sup>18</sup>

The esthetic problem seems to have been solved with the employment of such figures of speech like alliteration, as in "fine furs" and "denizens of the deep." There is also the use of effective lexical juxtaposition, as in "naturally" and "supernaturally." The use of contrast between the barefoot non-smokers and the foul-bodied, foul-minded polluters is also worth noting. The idea that the non-smokers are barefoot indicates that despite their primitiveness, they are not polluting the environment, unlike the civilized people who do not care about nature. Van Mechelen's generator effectively uses the image of footgear as a symbol of civilization. Such devices,

along with the notion that the environment is a victim of man, adds depth of meaning and invites serious interpretation. Similarly, the manipulation of proverbial expressions to reveal the contrast between the beauty of nature and the hazards of pollution enhances the thematic and the esthetic aspects of the poem.

Another advanced generator is ADAM, constructed in 2001 by Nandy Millan in collaboration with computer specialists at the University of Birmingham. In her published dissertation *Computer Generated Poetry and Visual Arts*, Millan introduces ADAM as

a computer program of our creation that generates lyrical poems in a random way. This program illustrates the use of the computer as an originator of art, since the only role of the human artist in this particular case is the one of writing the computer program.<sup>19</sup>

ADAM incorporates the sum of a relatively large corpus of human knowledge and experience in poetry and language. It is this sum, in fact, which distinguishes ADAM as a creative robot. An artistic robot should not engage in sheer acts of repeatability and geometricity, but must rather possess creative potentials that enable it to produce works of originality. From the functional point of view, advanced digital poets like ADAM are intended to be replicas of a human artist's brain with its unconscious and its ability to introduce novelties, to pass evaluation judgments, to recollect the past and ponder the future, to avoid clichés and nonsense, and to surprise its audience. This is achieved through the application of a computer system called KBS (Knowledge-Based Systems), which is a subfield of Artificial Intelligence. This

application is "a form of intellectual cloning."<sup>20</sup> KBS is often integrated with NLP (Natural Language Processing), which "involves the development and use of computational models to process language," in a way that makes the sophisticated product resemble the human mind.<sup>21</sup>

From the structural point of view, ADAM, like its contemporary digital poets, basically consists of four parts. Roughly speaking, the first part is a reservoir of lexical items. The second part contains the syntactic rules that govern the relations among these lexical items within a given generated piece of verse. The third part is the generator. The last part displays the generated poem into a legible verse form. Commenting on ADAM's poetic achievement, Millan observes that

**ADAM** is intended to be a computer poet with "a heart of its own." Therefore, every single time that you ask him to produce a new poem, he will try to delight you with an original piece of blank verse full of sensuality, lyricism and emotion.<sup>22</sup>

Expressions used to label the works of human poets such as “Keats’s sensuality,”<sup>23</sup> “Milton’s sublimity,”<sup>24</sup> and “Eliot’s intellectualism,”<sup>25</sup> might as well be used in reference to the work of these

generators. ADAM, for instance, tends to be very sensual for a “computer poet,” to use Millan’s words above, as one can clearly see in the following free-verse lyric of a semi-erotic nature it composed:

We fondled the fragile kiss  
 A mellow flower loved the deafening breeze  
 A rose whispered  
 The delicate flower kissed the spiritless fire  
 The warmth dreamt  
 She cried  
 The soft sun surrendered passionately  
 The warmth cried softly  
 I shouted  
 The happy kiss surrendered<sup>26</sup>

Though it does not prove viable when compared with many lyrics written by human poets, “We fondled the fragile kiss” would stand the chance of being considered a better poetic achievement

than at least many Dada and Cubist poems of the twentieth century, such as the following poem written by the German painter and poet Kurt Schwitters (1887-1948):

What a b what a b what a beauty  
 What a b what a b what a a  
 What a beauty beauty be  
 What a beauty beauty be  
 What a beauty beauty beauty be be be  
 What a be what a b what a beauty  
 What a b what a b what a a  
 What a be be be be be  
 What a be be be be be  
 What a be be be be be be a beauty be be be  
 What a beauty.<sup>27</sup>

ADAM’s poem stands a similar chance when judged against the next example

penned by the Surrealist poet André Breton (1896-1966):

From the crystal vase from Bohemia  
 From the crys  
 From the crys  
 From the  
 Crystal vase  
 From the crystal vase from Bohemia  
 Bohemia  
 Bohemia  
 Crystal vase from Bohemia  
 Bohemia  
 Bohemia  
 Bohemia  
 Hemia hernia yes Bohemia  
 From the crystal vase from Bo Bo  
 From the crystal vase from Bohemia  
 To the bubbles as a child that you blew  
 That you blew  
 That you blew  
 Blew  
 Blew  
 That you blew  
 As a child that you blew  
 From the crystal vase from Bohemia  
 To the bubbles as a child that you blew  
 That you blew  
 That you blew  
 Yes as a child that you blew  
 There you have there you have the whole poem  
 Ephemeral  
 Ephemeral  
 Ephemeral dawn of reflections  
 Ephemeral  
 Ephemeral  
 Ephemeral dawn of reflections<sup>28</sup>

The same verdict in favor of ADAM's poem might be passed when its literary value is compared with the following human poem cited in an anthology of Dada poetry:

4967018  
 5384321  
 6423095  
 1938776

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18713210

6000

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9210

0000

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9210<sup>29</sup>

Despite the fact that it is interpreted by at least some as “the sickest, most paralyzing and most destructive thing that has ever originated from the brain of

man,”<sup>30</sup> Dada art still has its magnetic appeal today, decades after its surge, for reasons perhaps peculiar to its admirers:

Several notable retrospectives have examined the influence of Dada upon art and society. In 1967, a large Dada retrospective was held in Paris, France. In 2006, the Museum of Modern Art in New York City held a Dada exhibition in collaboration with the National Gallery of Art in Washington D.C. and the Centre Pompidou in Paris.<sup>31</sup>

It is true, it might be stated as a counterargument, that the attempt at absurdity and nonsense in the Dada poems quoted above is deliberate and that the human artists who have produced such absurdity would have composed intelligible verse, had they chosen to. However, this argument does not undermine the literary value of e-poetry. Randomness is more a

characteristic of Dada poetry than e-poetry, if one recalls the method of poetic composition proposed by Tristan Tzara (1896-1963), the French essayist, poet and the founder of the Dada movement, who suggested scissoring words from a newspaper article and arranging the scraps randomly to make a poem.

To make a Dadaist poem take a newspaper. Take a pair of scissors. Choose an article as long as you are planning to make your poem. Cut out the article. Then cut out each of the words that make up this article and put them in a bag. Shake it gently. Then take out the scraps conscientiously. The poem will be like you. And here you are a writer, infinitely original and endowed

with a sensibility that is charming though beyond the understanding of the vulgar.<sup>32</sup>

In fact, much modern art in general is the product of a random combination of data, as William C. Seitz explains:

Like a beachcomber, a collector, or a scavenger wandering among ruins, the assembler discovers order as well as materials by accident. At the start at least, his is an atmosphere without conditions, an alternating current in which hierarchies of great and small, order and disorder, good and bad, beautiful and ugly, are reversible or nonexistent. Physically, his raw material is the random assemblage of the modern world in which nature and man are thrown together in an often tragic and ludicrous, but fertile and dynamic, disarray: the crowded city, the split-level suburb, the "moon shot," the picture magazine, the summit conference, the television western. Dada awakened senses and sensibilities to the immense multiple collision of values, forms, and effects among which we live, and to the dialectic of creation.<sup>33</sup>

Randomness is also the distinctive feature of what is known as chance poetry, which is defined by Myers and Simms as

Poetry that uses the element of chance as its organizing principle .... The method of chance poetry can range from the random selection of words to the placing of words in random order.<sup>34</sup>

Thus, by simply dismissing e-poetry as unpoetic and hence denying it a place within a genre that includes instances which violate the traditional characteristics of that genre, one would be committing the fallacy of *argumentum ad hominem*, or, more accurately *argumentum ad machina*. As van Mechelen contends, "computer-

generated poems deserve indeed to be taken seriously"<sup>35</sup> He also maintains that "To say that computer poetry is not literature is ... like saying that poetry of inferior quality is not literature, or no 'true' literature."<sup>36</sup> Even the most established bards of English poetry, such as Shakespeare, have composed inferior

verse and what is at times called “unpoetic poetry.”<sup>37</sup>

Furthermore, the combination of lexical items and images produced by poetry generators, as illustrated above, can at times produce unexpected effects that would invite multiple interpretations or inspire human poets to employ them as points of departure to compose their own works. Cases in point include the use of synesthesia in the phrase “soft sun” from the poem “We fondled the fragile kiss” quoted above, and the use of transferred epithet in “happy kiss” from the same poem.<sup>38</sup> In other words, “The computer will combine data or combinations of data they [the human poets] would not think of combining because the combination is too obvious or too far-fetched.”<sup>39</sup>

vowelitic harmonious structure transcends eural heights. His [Alfred’s] use of rhythmic beats alternating with synchronized punctuation holds place with the works of Harold [another poetry generator], whose epics are studied by all sincere students of symmetry in poetry.<sup>41</sup>

Thus, one can fairly conclude that the nature of e-poetry is not at all far from that of conventional poetry. The validity of e-poetry, as is the case with

The dispute over whether e-poetry should or should not be considered poetry can more easily be settled if one does not lose sight of the fact that it is not completely the output of the computer. When the computer becomes the artist, the role of the human artist shifts into that of a supervisor, or meta-artist, who, though apparently detached from the process of generation, is involved in it, since he/she determines and manipulates the generative rules that produce poetry. Meta-poetry differs from poetry proper in that the poet does not employ his or her poetic skill to compose poetry, but uses it to produce the rules that make poetic composition possible.<sup>40</sup> It has been said of the poetry of Alfred (the name of Dartmouth’s poetry generator), for example, that its

the validity of any art form, depends to a large extent on the degree of its contribution to the pleasure derived from experiencing it. Consequently, since e-

poetry does provide a considerable amount of pleasure through its use of figures of speech, its creativity, its sound effects and its element of surprise, as shown above, it can pass the test of

validity and can claim a status in literary studies.

When asked about the future of e-poetry, the poet and critic Loss Pequeño Glazier said,

I think that poets must think seriously about how they are engaging the medium and, rather than succumb to the hype about new media, explore material possibilities of expression inherent in the new medium. There are some recent extraordinary new possibilities for e-poetry: I believe we are on the threshold of a truly interesting decade.<sup>42</sup>

In his book *Digital Poetics: The Making of E-Poetries* (2001), Glazier draws a comparison between the development of poetry in the twentieth century and its development today, concluding that the

technological breakthroughs in the present century have met initial resistance on the part of conservatives. This resistance caused a temporary lag in the progress of poetry:

The same was true of poetry in the past century, when its means of production and distribution was a crucial consideration of writing. The rise of little magazines and the small press from hand presses of the fifties through the mimeo, Xerox, and offset production of the following decades demonstrated not only poetry's engagement with its mode of production but its dependence upon its means of dissemination. It is important to note that, in the twentieth century, such previous engagements involved "discarded" technologies. As such the production and consequent distribution of poetry texts lagged behind publishing and distribution channels more current with production technologies.<sup>43</sup>

Characteristic of this transitional phase, observes Glazier, is the dispute over the acceptability of the new modes of writing and reading. For some people,

the arrival of the Internet and the Web has created a "textual dystopia," whereas others "acknowledge that electronic writing has crossed the threshold into

our common conversation.”<sup>44</sup> He and a progressive outlook when dealing therefore recommends open-mindedness with the recent developments in poetry:

Indeed, the digital field is a real form of practice and immediately relevant to any informed sense of what we will call "poetry" in coming years. But one must learn to see through a new lens, one with expanded focal points. Trying to understand the digital work solely through codex practice is like trying to understand film, for the person that has never seen one, by looking at a still.<sup>45</sup>

As a way of promoting e-literature, the Electronic Literature Organization (ELO)<sup>46</sup> was established in 1999 and has been granting ten-thousand-dollar awards annually to winners of e-literature competitions. Scott Rettberg, Professor of New Media Studies at Richard Stockton College of New Jersey, is the founder of the organization. He says,

I look at all of these [electronic works] as clues to what will happen fifteen, twenty, thirty years down the road .... Right now we're in this early moment in electronic literary history when these strange, new ideas are getting yoked together. Fifty years from now, we'll have a better idea of what this moment means.<sup>47</sup>

Finally, the admission of e-poetry, together with the other e-literary genres, into the domain of literature requires new critical approaches provided by the new digital media. In his article “On the Techno-Aesthetics of Digital Literary Objects” (2002), Janez Strehovec contends that

Traditional devices of literary theory, poetics and literary criticism, partly developed through the works of the literary avant-garde and neo-avant-garde of the twentieth century, are often less successful in describing and explaining digital literature phenomena than theoretical devices of new media aesthetics. The application of structuralist and post-structuralist literary theory ... is also questionable in this field.<sup>48</sup>

A new kind of criticism, called “computer criticism,” has already been suggested.<sup>49</sup> The very fact that a new literary theory is being formulated to accommodate e-literature confirms that e-poetry has already been acknowledged in some literary circles as a subject worth studying.

### Notes

<sup>1</sup> See “Net Gains: A Discussion of Art and Digital Technologies” (URL:[http://www.findarticles.com/p/articles/mi\\_m0268/is\\_7\\_39/ai\\_75761315](http://www.findarticles.com/p/articles/mi_m0268/is_7_39/ai_75761315)), retrieved January 12, 2007. See also Hyangseon Lee, “When Art and Technology Meet” (URL:<http://www.zdnet.co.kr/etc/eyeon/digital/0,39036960,39149748,00.htm>), retrieved January 12, 2007, and “Art and Technology” (URL:<http://www.howarddavidjohnson.com/digital.htm>), retrieved March 3, 2007.

<sup>2</sup> David Bolter, *Writing Space: The Computer, Hypertext, and the History of Writing* (New Jersey: Lawrence Erlbaum Associates, 1991), p.2.

<sup>3</sup> “Aaron’s History,” Kurzweil CyberArt Technologies. (URL:[http://www.kurzweilcyberart.com/aaron/hi\\_cohenbio.html](http://www.kurzweilcyberart.com/aaron/hi_cohenbio.html)), retrieved November 24, 2006. For further details on Aaron, visit Harold Cohen’s web site at [http://www.usask.ca/art/digital\\_culture/wiebe](http://www.usask.ca/art/digital_culture/wiebe). For an analysis of Aaron’s drawings, see Margaret A. Boden, *The Creative Mind: Myths and Mechanisms*

(New York: Routledge, 2003), pp.152-167.

<sup>4</sup> “Electronic Literature,” *Wikipedia* (URL:[http://en.wikipedia.org/wiki/Electronic\\_literature](http://en.wikipedia.org/wiki/Electronic_literature)), retrieved December 17, 2006. See also Matthew G. Kirschenbaum, “What is Electronic Literature?” (URL:<http://www.otal.umd.edu/~mgk/blog/archives/000914.html>), retrieved January 12, 2007. For the influence of computers on writing in general, see James A. Inman, *Computers and Writing: The Cyborg Era* (New Jersey: Lawrence Erlbaum Associates, 2004).

<sup>5</sup> Bolter, p.2.

<sup>6</sup> Dean Taciuch, “Hypertext and Literary Form” (URL:[http://mason.gmu.edu/~dtaciuch/hypertext\\_lecture/index.html](http://mason.gmu.edu/~dtaciuch/hypertext_lecture/index.html)), retrieved November 3, 2006. See Howard S. Becker, “A New Art Form: Hypertext Fiction” (URL:<http://home.earthlink.net/~hsbecker/lisbon.html>), retrieved December 15, 2006. See also Stacy Behmer, “Digital Storytelling,” *Literature Review* (Spring 2005), pp.1-23, John Barnden, *et al*, “E-Drama” (URL:[www.paccit.gla.ac.uk/public/RoyalSociety/presentations/EDrama.ppt](http://www.paccit.gla.ac.uk/public/RoyalSociety/presentations/EDrama.ppt)), retrieved October 11, 2006, and “E-Poetry,” *Wikipedia* (URL:<http://en.wikipedia.org/wiki/E-poetry>), retrieved January 8, 2007. For further details on interactive fiction, see David Bolter, pp.121-146

<sup>7</sup> Espen J. Aarseth, “Cybertext: Perspectives on Ergodic Literature” (URL:<http://www.hf.uib.no/cybertext/Ergodic.html>), retrieved March 28, 2007.

While the reading process of nonergodic literature requires the simple physical effort of moving one's eyes along the lines of a text and turning the pages of that text, the reading of ergodic literature requires what Aarseth calls "extranoematic responsibilities" on the part of the reader, such as clicking one's way through the text and typing into text boxes to proceed reading. For another detailed study that examines the influence of computer science on the reading of literature, see Molly Abel Travis, "Cybernetic Esthetics, Hypertext and the Future of Literature," *Mosaic*, vol.29, issue 4 (1996), p.116-129.

<sup>8</sup> "E-Poetry," *Wikipedia*.

<sup>9</sup> Jack Myers and Michael Simms, *The Longman Dictionary of Poetic Terms* (New York: Longman, 1989), p.62.

<sup>10</sup> *Ibid.*

<sup>11</sup> Inman, p.139

<sup>12</sup> M. Vincent van Mechelen, "Computer Poetry" (URL:<http://www.trinp.org/Poet/ComP/ComPoe.HTM>), retrieved July 9, 2006.

<sup>13</sup> Patrick-Henry Burgaud, "E-Poetry: An Art Without Object" (URL:[http://transitoireobs.free.fr/to/article.php?id\\_article=64](http://transitoireobs.free.fr/to/article.php?id_article=64)), retrieved February 2, 2007.

<sup>14</sup> Friedrich W. Block, "On the Evolution of Experimental Media Poetry" (URL:<http://www.netzliteratur.net/block/p0et1cs.html>), retrieved December 5, 2006.

<sup>15</sup> van Mechelen.

<sup>16</sup> *Ibid.*

<sup>17</sup> *Ibid.*

<sup>18</sup> "Five Fingers Grasping the Earth" (URL:<http://www.trinp.org/Poet/ComP/2/Au/51325.HTM>), retrieved January 26, 2007.

<sup>19</sup> Nandy Millan, *Computer Generated Poetry and Visual Arts*, published dissertation, University of Birmingham (September 2001) (URL:<http://www.cs.bham.ac.uk/~nmx/mscPoetry/survey/CGPoetry.htm>), retrieved August 19, 2006. ADAM is used as an abbreviation of "Another Dimension of Artistic Manifestations."

<sup>20</sup> *Ibid.*

<sup>21</sup> *Ibid.*

<sup>22</sup> *Ibid.*

<sup>23</sup> John Keats, *Keats's Endymion: A Critical Edition*, ed. Stephen T. Steinhoff (New York: Whitston, 1987), p.4.

<sup>24</sup> Stephen Fix, "Johnson and the 'Duty' of Reading *Paradise Lost*" *ELH*, vol.52, no.3 (Autumn, 1985), p.649. See also Raymond Dexter Havens, *The Influence of Milton on English Poetry* (Cambridge: Harvard University Press, 1922), p.100.

<sup>25</sup> Hyatt Howe Waggoner, "T. S. Eliot and the Hollow Men," *American Literature*, vol.15, no.2 (May, 1943), p.101.

- <sup>26</sup> Millan.
- <sup>27</sup> “What a b what a b what a beauty”  
(URL:<http://www.peak.org/~dadaist/English/Graphics/whatab.html>), retrieved November 3, 2006.
- <sup>28</sup> Willard Bohn, trans., *The Dada Market: An Anthology of Poetry* (Carbondale: Southern Illinois University Press, 1993), p.41.
- <sup>29</sup> *Ibid.*, p.xx.
- <sup>30</sup> Ernest Brown, “A ‘Cross-Section’ of our Superfluous Imaginations”  
(URL:<http://abundance.org.uk/a-cross-section-of-our-superfluous-imaginations>), retrieved December 11, 2006. See also Beatriz Anta, “Dada: The Destruction of Art”  
(URL:<http://uk.portalmundos.com/mundoarte/history/dadaism.htm>), retrieved January 27, 2007.
- <sup>31</sup> “Dada,” *Wikipedia* (URL:<http://en.wikipedia.org/wiki/Dada>), retrieved November 2, 2006.
- <sup>32</sup> Cited in Richard Kostelanetz, ed. *Aesthetics Contemporary* (New York: Prometheus Books, 1989), p.106. See also Elizabeth Fisher, “Art About Nothing”  
(URL:<http://www.nationalreview.com/comment/fisher200603310826.asp>), retrieved January 20, 2007.
- <sup>33</sup> William C. Seitz, *The Art of Assemblage* (New York: Museum of Modern Art, 1961), p.38.
- <sup>34</sup> Myers and Simms, p.43.
- <sup>35</sup> van Mechelen.
- <sup>36</sup> *Ibid.*
- <sup>37</sup> Maurice Charney, “Shakespeare's Unpoetic Poetry,” *Studies in English Literature, 1500-1900*, vol.13, no.2 (Spring, 1973), pp.199-207.
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- <sup>45</sup> *Ibid.*

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<sup>7</sup> Espen J. Aarseth, "*Cybertext: Perspectives on Ergodic Literature*" (URL:<http://www.hf.uib.no/cybertext/Ergodic.html>), retrieved March 28, 2007. While the reading process of nonergodic literature requires the simple physical effort of moving one's eyes along the lines of a text and turning the pages of that text, the reading of ergodic literature requires what Aarseth calls "extranoematic responsibilities" on the part of the reader, such as clicking one's way through the text and typing into text boxes to proceed reading. For another detailed study that examines the influence of computer science on the reading of literature, see Molly Abel Travis, "Cybernetic Esthetics, Hypertext and the Future of Literature," *Mosaic*, vol.29, issue 4 (1996), p.116-129.

<sup>8</sup> "E-Poetry," *Wikipedia*.

<sup>9</sup> Jack Myers and Michael Simms, *The Longman Dictionary of Poetic Terms* (New York: Longman, 1989), p.62.

<sup>10</sup> *Ibid.*

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<sup>21</sup> *Ibid.*

<sup>22</sup> *Ibid.*

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<sup>25</sup> Hyatt Howe Waggoner, “T. S. Eliot and the Hollow Men,” *American Literature*, vol.15, no.2 (May, 1943), p.101.

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<sup>29</sup> *Ibid.*, p.xx.

<sup>30</sup> Ernest Brown, “A ‘Cross-Section’ of our Superfluous Imaginations”  
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