

## Hank, Mary and Dick: A Consideration of Computers as an Exemplativist Art Practice in the Work of Dick Higgins.

By Owen F. Smith

In his 1967 essay “Structural Researches” the artist, writer, philosopher, and publisher Dick Higgins wrote the following:

To finish the point, there is perhaps a common ground, in set theory, a set theory for the arts, implied by that of, for example, Fortran IV computer programming, where we say:  $A = A + 1$ . In algebraic logic, this is unthinkable, an obvious example of argument from shifting grounds. In computer work it means, “what was A is now to be increased by one.” It indicates a mathematical usage, to the point of convention, of what I described at the very beginning as the general sense of flux, of things changing their real essence according to their usages. But in the program, each time the A is increased . . . it changes. This allows for all kinds of juxtapositions and interchanges of elements of any repeatable modulus in an argument – or in a poem.<sup>1</sup>

This conceptually rich statement provides us with a glimpse not only into the unique way in which Higgins envisioned the function of computers in the arts, but reflects the diversity of his background and ideas. Richard Carter Higgins (1938-1998) had studied literature at Yale and Columbia and was a student of John Cage at the New School for Social Research in New York. Drawing from these and other experiences, he was an early practitioner of Happenings in the late 1950s and was one of the central founding members of the Fluxus group in the early 1960s. In the Mid 1960s he founded Something Else Press (SEP), one of the leading avant-garde presses in the 1960s, and was one of the leading forces for experimental arts in the United States. Throughout the 1960s Higgins simultaneously pursued his varied interests in literature, art and music from both a creative and a critical standpoint. As a partial result of his

wide-ranging interests Higgins, in an attempt to describe the emerging interdisciplinary forms in art, coined the term “Intermedia” in 1965.<sup>2</sup> Although intermedia, as a simple description of work that falls between traditional categories or types of media, could exist in innumerable forms, the intermedial core for Higgins’ own work is that of text and textuality, and particularly the poetic. In the same year as Higgins wrote the essay “Structural Researches” quoted above, he also produced one of the first conceptually expressive, computationally generated poems. Titled “hank and mary, a love story, a chorale for diter rot” (hereafter referred to as “hank and mary”) this poem is both conceptually and physically expressive of the ideas about the possibilities for computers and artistic praxis.

Working in collaboration with the musician and programmer James Tenney, Higgins produced the modular poem “hank and mary.” This poem was in part a product of a series of workshops about computers and programming that Tenney had informally led at the home of Higgins and Alison Knowles. Working with the programming language Fortran IV Higgins and Tenney realized a poem that is a four-column permutation of the four words “hank,” “shot,” “mary,” and “dead.” Run on 3/10/1967 the computer took 1.64 minutes to generate 625 combinations of the four words in a four-column layout. To suggest the nature and function of the permutations, lines 271-285 read:

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271. shot      dead
      shot      dead hank
      shot      dead shot
      shot      dead mary
      shot      dead dead
      shot hank
      shot hank      hank
      shot hank      shot
      shot hank      mary
      shot hank      dead
281. shot hank hank
      shot hank hank hank
      shot hank hank shot
      shot hank hank mary
      shot hank hank dead
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The performance of the poem makes clear its intermedial aspects. In a reading of the poem its visual/graphic nature becomes heightened as an indication of the work's meter -- a kind of 4/4 time, in which the empty column creates a syncopation that establishes an awareness of both repetition and change. "Hank and mary" is simultaneously expressive of three intertwined aspects of Higgins' interests: the musical, as both rhythm and sound; the literary, in its poetic and textual elements; and the performative, with its auditory and real-time challenges.

This poem can be seen as an entry into many aspects of Higgins' larger than life personality and work. "Hank and mary" partakes of a tradition of pattern or visual poetry that Higgins had both studied as a scholar, producing *Pattern Poetry* a book that is still considered one of the major histories of this subject, and had explored numerous times as a poet himself.<sup>3</sup> This poem exemplifies a major form of his own work that engaged in exploring the visual nature of text from visual and concrete poetry, book printing and publishing, to graphic and visual art.

The violence expressed in the work seems at odds to both the mechanical nature of the poem's creation and the formalness of its presentation. This aspect of the work, its implicit and explicit violence, however, should be seen as an expression of Higgins' own life and concerns: the social and political situation in the US and the world, the challenges of life and personal relationships, and the changing public nature of sexuality in the age of sexual liberation.

Most of Higgins' work in the 1960s is concerned with either social or political matters. The inclusion of guns and shooting in the poem should be seen as a marker of his reaction to both the political and social tensions of the era of Vietnam. Higgins felt it was the social problems that characterized this age that gave rise to intermedial, non-compartmentalized approaches to creativity. This expression was also repeated a year later in the creation of his *The Thousand Symphonies*, a work that was produced by machine-gunning sheets of music paper from which musical scores were derived.<sup>4</sup> In fact he wrote that part of the aim of this piece was to set the police in the United States to work creating symphonies, rather than persecuting the youth for drug use.<sup>5</sup>

The poem "hank and mary" might additionally be seen as an even more personal expression of Higgins' own life and attitudes about

relationships. Although there is no factual link to the title of the poem it is interesting to note that Higgins' stepmother was named Mary. She was a survivor of the concentration camps at Auschwitz and Dachau and Higgins vividly remembers the stories she told of these experiences, which he described as both "terrible and strangely beautiful."<sup>6</sup> Additionally, Mary was to commit suicide just two years prior to Higgins' creation of "hank and mary."

The poem plays out the titled heterosexual love story, but it is one that is not "normal," for it involves murder. Given this aspect of the poem it is possible to see the work as somehow expressive of Higgins own struggle with identity and sexuality. As a child he had been diagnosed, and treated for "sexual identification" problems.<sup>7</sup> At the time of the poems production, he was married to Alison Knowles and they had two small daughters, Hannah and Jessie. Yet, Higgins described himself, since the time of their initial meeting, as being gay.<sup>8</sup> Although it is clear from Higgins own writings that he felt deeply for Alison the sexual tensions in their relationship would lead to their divorce in 1970 (but remarried in 1984).

All of the above aspects of "hank and mary" as they relate to Higgins' life and personal motivations offers fruitful grounds for consideration and should be undertaken in the scope of a larger study of his life and work. This essay will, however, primarily focus on another aspect of this work. It is impossible to ascertain with any certainty how, or why, Higgins came to the subject matter instantiated by the poem. However, it can be said that its cool form, the empty space on the page produced by the processes of its making, and the visualization of a mathematical process that the work embodies, simultaneously sublimate, bracket, suppress and objectify the violent interpersonal subject matter of the poem. What follows in this essay is concerned specifically with how this work manifests Higgins' attitude about art making. More specifically, an aspect of art-making that recontextualizes creativity as a non-essentialist mode of pattern generation. Additionally, this work and the ideas it manifests can, and should, be seen as an important precursor to current discussions concerning the nature of creativity in a digital world.

The significance of this poem is more than just a historical footnote as an early exploration into the use of computers in the arts. Instead, the

use of the computer for this work marks a significant departure from the more typical understanding of computers and art in the mid and late 1960s. In many cases the importance of the work was anchored in the “computer-as-hardware” and/or as a manifestation of the most current modernist technological innovations. Instead of emphasizing this Higgins recognized and made use of the computer as a means for processing and manipulating information and most importantly as part of a system for interrogating the nature and function of paradigms. Such an interrogative process can be seen in two divergent aspects of Higgins’ work: art as investigation and art as creation. Throughout Higgins’ numerous writings he repeatedly posits a role for art based in an investigation of types, categories and mechanisms of meaning.<sup>9</sup> For Higgins the practice of art should be a way of engaging in the world. Artworks help in the “. . . transformation of a meaningless act into an interesting one . . .” and should be seen as a kind of game that is “. . . played for the joy that is involved in them, or for the catharsis.”<sup>10</sup> This type of work is based in an investigation of the moment. For Higgins it is freed for a continued re-interrogation rather than existing as a fixity of a particular time because the “. . . entire material of the piece can be worked completely in terms of local problems of the moment.”<sup>11</sup>

The second approach, art as creation, engages with artistic production as a means of manifesting the artist’s envisioning of new paradigms. The attraction to computers was for Higgins similar to that of film: a means and/or mechanism for the creation of something envisioned, but unavailable through other means. In discussing his interest in film making Higgins stated that he was attracted to film given the limitations of live performance:

. . . the electronic composers were able to make a definitive sample of how a piece could be . . . . And this was not an option which was open to people who were doing performance pieces, because there everything would depend on the performers who were available. There would be no paradigms that could be created and that one could share. The closest one could come was to make a film. I was not so much interested in making movies as in making paradigms of what I wanted to see.<sup>12</sup>

The film paradigm can be extended into Higgins’ interest in computers. What Higgins sought in “hank and mary” was not the technology of the

computer per se, but what programming afforded him -- a means to "make paradigms of what I wanted to see."<sup>13</sup> For Higgins the work was an exploration into the possibilities of new forms of creativity. The poem should be seen as a kind of index between a dialectic of form and concept, artist and audience, art and technology and other such traditional differentiations. The work offered Higgins a model for creative engagement that contained simultaneous opportunities to learn and to teach, two elements that were increasingly important to Higgins view of art-making. This work is of significance on three levels: first, it is an important early expression of the connections between conceptual art and technology; second, it manifests a growing general interest by many artists in the systems through which cultural expressions are related, rather than just the products of those systems; and third, melding the technology of computation with his own concern for systems, process and chance, Higgins sought to "exemplify" the potentiality of art, facilitated by computers, in the realm of poetic expression.

Before delving more deeply into the poem "hank and mary" it is necessary to explain Higgins' concept of exemplativism, a key concept in his creative engagements and a central concept for understanding his explorations with computers. Exemplativist work was simply a work in which the form epitomizes at least a part of what it describes – take for example the repetition of the shots along the left margin of the poem and the repetition of the shots in the shooting death of hank or mary. Additionally the aim of exemplativist art was, for Higgins, to indicate possibilities without being overly proscriptive or evaluative. The form of presentation and the specifics used by the artist are functional rather than demonstrable. The nature of exemplativist work is to neither defend nor describe in detail but to suggest and infer. In the violence described in the poem, one imagines the characters repeatedly coming back to life and dying in a cycle of creation and destruction as they enact the scene over and over again in the service of the poetic form.

As Higgins describes the work and processes of exemplativist art:

[the] focus is the process of transferring his model to the reader or spectator. The detail is the example, not the defense of it. If the work is an essay, the process of the transfer is what is given. . . . An exemplative work is merely one which gets its crucial aesthetic impact from its transference of a model from the artist's mind to

the spectator's. 14

Exemplativism, in other words, is based on a simple recognition of art as potentiality, rather than as a fixed point in culture. Higgins again:

So many of the artists became unhappy about this eternal, unyielding quality in their art, that they began to wish their work were more like shoes, more temporary, more human, more able to admit of the possibility of change. The fixed-finished work began to be supplemented by the idea of a work as process, constantly becoming something else, tentative, allowing more than one interpretation.<sup>15</sup>

Given all these concerns it is easily understandable why the systematic mutability of computational processes was intriguing –the fundamental aspects of process and multiplicity were ideally suited for exemplativist works.

In his book *Computers for the Arts* (1970) Dick Higgins starts his discussion with the following paragraph:

Computers are like most tools – deaf, blind and incredibly stupid. So stupid, in fact, that they cannot imagine how to make a mistake once they are programmed to do what is expected of them. This makes them different from other tools. Imagine a hammer which, once programmed to build a table, could do so on its own, without the possibility of damaging or splitting the wood. It could leave the carpenter free to concentrate on the design of his table with no worry about the difficulties of execution. The role which computers can play is analogous to this.<sup>16</sup>

What Higgins was envisioning was the computer as a tool for production, a labor saving device, and most importantly a means to shift our creative concentration from production to conceptualization. It is interesting to note that he starts by describing computers as lacking in their means of sensory input (blind and deaf) and lacking in intelligence (so stupid). These demarcations, however, should not be seen as labeling the computer as a failure, or as being insufficient to a general task, but rather something else much more interesting. What Higgins is indicating here is that they are not, nor will they ever be in this guise, the all-powerful brain

imagined by some. This is not to say that Higgins did not envision the possibility of an artificial intelligence. Rather, given the nature and functionality of computers in 1970, he saw both their limitations (blind, deaf and stupid) as well as their strengths as specific to their power as a tool for the execution of instructions – as demonstrated clearly in his use of Fortran to execute the poem “hank and mary.” Higgins accepted the computer as a distinct kind of technology which, when employed in the appropriate manner, would create a means to enable artists to focus on systems, ideas and their analysis. This acceptance, although seemingly simple, is an important moment as it bridges the often-perceived gap between art-and-technology and conceptual art in the 1960s and 1970s.

By the late 1960s, explorations in art-and-technology had begun to seem to lack viability for further artistic development for artists concerned with meaning, construction and semiotic functions. What had appeared vital in the 50s and early 60s had come instead, to be looked at with suspicion by some as part of the military-industrial complex implicated in the Vietnam War. Explorations such as those undertaken under the rubric E.A.T. (Experiments in Art and Technology) were often driven to spectacle, but limited by both an over-reliance on the lure of technology or newness itself, as well as often plagued by technological shortcomings.<sup>17</sup> Such a concern about the shortcomings of art-and-technology is at least in part what Sol Lewitt was referring to in his essay “Paragraphs on Conceptual Art” (1967) when he wrote “. . .new materials are one of the great afflictions of contemporary art. . . . The danger is, I think, in making the physicality of the materials so important that it becomes the idea of the work (another kind of expressionism).<sup>18</sup> What Lewitt is drawing our attention to is that, neither the technology itself, nor its newness, are sufficient in themselves for establishing value in art. To mistake physicality for conceptual significance is, for Lewitt, a shortcoming of contemporary art such as much of the work grouped under the art-in-technology banner. Many artists were drawn away from the hardware dominated, and seemingly intellectually vacuous, aspects of art-and-technology. In particular the sound and light shows often seemed more like commercial entertainment than art, especially when compared to the concerns of conceptual art with its investigation of systems of signification, processes of meaning construction, and explorations in meta-critical art processes.

This separation between art-and-technology and conceptual art was



even further reinforced by the perception that art-and-technology was increasingly out of step with the necessities of the times. This perception was largely because the very same technology that was purported to offer significant aesthetic potentials was either flawed or limited at best and unable to be used as a mode of critical investigation. As an example of such criticisms Charles Harrison, a founding member of Art & Language wrote “ . . . art-and-technology . . . tended to suffer from a trivial equation of ‘modernity’ with scientific and mechanical development. It tended also to be co-opted by the very representational technologies it set out to exploit.”<sup>19</sup> More directly put technology was for Harrison, as well as many other conceptual based artists, insufficient for the process of critical engagement that was, for them, so central to aesthetic and artistic praxis.

What these and similar criticisms miss, however, and what Higgins understood is that the computer as a tool, and a conceptual frame, should not be categorically excluded from conceptual investigations, even given its affiliations with the shortcomings of art-and-technology. As a tool the computer was not simply a means to control, mechanize or rationalize production, but instead was seen by Higgins as a process generator that because of its “blindness” could be used to interrogate language structures and functions in ways humans would never imagine. As a conceptual frame the nature of computation, which emphasized variability, flow and the field over static entities was a new way to see the possibilities of the poem. The changing actions in “hank and mary” created by the intersection of limited terms with 625 permutations foreground the reader/listener’s sense of the potentiality of textual relations. Thus, although “hank and mary” may have some visual similarities with earlier forms of Concrete poetry it is not as a modernist work (object), but rather a textual experience of a field of shifting relations, as well as a suggestion of the potential of such associations.

As “hank and mary” demonstrates, computers were neither imaginative entities (sensing beings), nor mechanical wonders for Higgins, but systems, instructions, and/or structures. He saw the computer not so much as a creative panacea or some utopian leap forward, but rather as a tool. As he wrote in *Computers for the Arts*: “When the artist is able to eliminate his irrational attitudes (if any) about the computer . . . then he will be in a position to use the speed and accuracy of computers.”<sup>20</sup> He did not articulate the use of computers as an end in themselves, or for

their bells-and-whistles, but rather as a mechanism for the manipulation of ideas and/or material. This use/frame can be coupled with Higgins' own broader ideas about art and creativity. The result of this coupling is that the computer can be, and in fact was for Higgins, conceived of as part of a critical exploration of the processes of signification. He believed that if used properly computers would not only allow creative individuals to get to the good work that artists could and should make, but also establish a significant new means for a better aesthetic application of computational mechanisms such as randomization and systems or batch processing. Further, he envisioned computers as part of a larger cognitive/ideational transformation from the machine age of industrial society to an information age of post-industrial society and part of what he called in his essay "Intermedia"(1965) ". . . the present era of automation, which constitutes in fact a third industrial revolution."<sup>21</sup>

Computers, if recognized as tools, can enable artists to retain a conceptual focus in their work and simultaneously accept the assistance of new methods and processes drawn from science and technology. The nature of computers was important for Higgins as it facilitated the development and implementation of ". . . a number of special techniques for the solution of creative problems"<sup>22</sup> To fully understand the thinking behind this stance one needs to be aware of Higgins' interest in structures and process as central in what he conceived of as the new artistic and creative mentality that he himself had been working in and thinking about for almost a decade.

It is useful here to stress an important notion in Dick Higgins' life and work, that is, textuality. By textuality I mean to imply both of its forms: writing as an instrument that conveys the spoken word and writing as a primary process that is an activity of differentiation that inaugurates language, bestows consciousness and institutes being. At a basic level all of his works are primarily concerned with, and constituted through, the structure of the text, the nature of reading and the function of communication. Although Higgins has actualized his ideas through a wide variety of media, including music, theater, poetry, visual art, graphics, publishing, and historical and critical writings what they all share is an intellectual and disciplined engagement in the printed word and its constitutive elements. The printed word was for him a central element, his primary medium, through which he has laid the foundation for an engagement in art and ideas that was meant to challenge, enliven and

invigorate the (word and) world of creativity in a way that had never quite been done before. Part of his concern and interest in the printed word was manifested in his founding of Something Else Press that he directed until the early 1970s. Something Else Press was for Higgins both a means for distributing the significant work being done and a process for exploring the world of ideas and art in print. With the ambitions of the SEP he gave tangible form to his motivations for education and communication. Additionally, his book printing and typesetting were his crafts that emerged as a means of production as well as a way of life, or rather an extension of his life into the lives of others.

In the years from 1965 through 1968 Dick Higgins worked out a set of interconnected ideas in essays such as “Games of Art” (1966), “Intending” (1966), “Boredom and Danger” (1966), “Structural Researches” (1967) that he would later draw together in his 1976 essay “Exemplative Works of Art.” Key in all these considerations is a shift from author to process and from a fixed product to a situational manifestation. Part of such a re-conceptualization of artistic praxis was accepting certain risks, allowing for the determining or even, as Higgins put it, ‘fascistic control of the author’ to slip away and be replaced by systems that set possibilities then allow a shifting set of relationships to determine the details of the materials and/or the particulars of the work.

Although one might connect Higgins’ formation of the role of the artist to the Postmodernist death of the author, this is only partially correct. What Higgins envisions is not the death but a shift in the author’s role, or a de-centering from the traditional core authorial position. For in Higgins’ view the author must relinquish some control, particularly over the specifics of a work, while retaining a direct and specific place for their intentions.

This brings us to the point of this kind of emphasis on the artist’s intention: he is no longer completely ruled by the specifics of his particular corner of history. . . . 23

The specificity of the artist’s intentions has to be passed along if the work is to suggest anything to think about, which is a normal requisite for comprehensibility and impact . . . .24

Thus the author does not vanish, but takes up residence in the intentions

as manifested in the broad outlines of the piece and particularly in the procedures and processes of the work, while allowing the piece to remain open to shifting realizations. As Higgins himself writes about his work “. . . my poems tend to be exemplative – you could make a substitution of each and every word or image, but the poem *qua* poem is a poem of ideas . . . and it would remain the same as long as the relationship among its components was not interfered with.” 25

For Higgins, I would argue, the intention of the work “hank and mary” was not meant to be reducible to, or understood as, text on a page (poetry), but existed as an extension of the interpenetrating flow of the cognitive frames of the artist (human authorial choice/intention) and the physical manipulation of the materials at hand (the words) by the application of a system of instructional processes (the computation of the computer). Such a reconceptualization of the nature and process of art was, for Higgins, part of a new mentality that he came to later label postcognativism. This was also a change very much in line with a rejection of the Modernist definition of art on materialist grounds and instead sought a direct concern for systems, language, process and interpretation. The work becomes an expression of variable media, retaining structures and the artist’s intention while it also leaves the material of the work to be worked and reworked “in terms of local problems of the moment.”26

For many contemporary artists the varieties of structures in a work are actuated by chance processes in the act of composition, or by forging the details of the work. Such an approach emphasizes the systems by which meaning is constructed, rather than the particulars of a story, material or sound. This kind of an approach is one that Higgins came to call “blank structures” or “blank forms.” The most direct benefit of this approach for Higgins was that the mutability of the work’s particulars allows the work to retain a maximum relevancy to the time of presentation rather than the time of creation. Higgins writes that “. . . by giving blank forms, the most relevant materials for a given time and mentality can be filled in, thus avoiding the appalling irrelevance of perishable materials that are no longer current.” 27

In his new conceptualization of a postcognitive mentality Higgins felt that the aim of the work was to indicate possibilities without being overly proscriptive or evaluative. In the essay “Boredom and Danger”

Higgins argues that through the utilization of “blank structures” the traditional separations between artist/audience, active/passive, form/content and process/object are at a minimum brought into question and more often than not broken or invalidated. Such a new mentality was for Higgins implicit in our time.<sup>28</sup> Post-Cognativism did not simply replace an old set of theories with a new one, but more significantly brought the whole creative and evaluative superstructure into question by interrogating core assumptions rather than peripheral manifestations.

This new mentality is one in which total success is impossible, total victory inconceivable and relativism axiomatic. Ours is a mass society, and, while we do attempt to do what we do with maximum quality, quality has for us become one among other indications of integrity. Today we do not equate quality alone with the value of a work. <sup>29</sup>

What is at the new core is a concern for enriching the experiential world of the spectator by “. . . enlarging the repertoire of their over-all experience.”<sup>30</sup> To do so requires not only a new mentality, but a new means of making art -- art which presents a view, but intentionally remains open for the spectator or viewer to extend the process as a means of creating the greatest range of usefulness. The forms of presentation of a work and its particular details or materials are thus functional rather than demonstrable. In such works the aim is to create a dialectic between structure and meaning and establish a logic in which the form and rhetoric of the work answer to the necessity of the subject.<sup>31</sup> Part of the significance of this was the establishment of new mechanisms in art that were participatory, open-ended and educational. This is a shift from more traditional conceptualizations of art as a statement-making process in which the artist by force of will or act of genius creates a singular, static object, to an art seen as a shifting statement of possibilities, or even simply as a question, one that offers a sampling of possible realizations which the viewer is invited to complete. With regards to such processes Higgins adds:

Nor need such work necessarily be only of the cooler, relatively cerebral kind, there can also be what I have called as “allusive referential” at work, a displacement between what one expects to see and what one does, in fact, see (or hear, or read). This displacement factor can generate the entire emotional panoply of

which art is capable without any particular reference to the artist's or viewer's personal expression. We expect to see or hear A, instead of which we see or hear B, and this points us towards a new entity C.<sup>32</sup>

Part of such a process leads to a potential fusion of the artist's and the viewer's horizons, thereby creating, Higgins argues, the greatest potential for a kind of meditative work that are “. . . liberated processes of thought and feeling, as opposed to directed ones.”<sup>33</sup>

A primary element of what Higgins is exploring in his conceptualization of art and artistic processes is that experience holds the key, and this is of course nothing new. The conceptualization of art as part of, or connected to, perceptual experience is an established aesthetic, but what is different is the way that he places this notion in a broader participatory frame. Higgins writes: “Our work is always at the center of an emanation of experience . . . we offer implicativeness [sic] as a goal – the work has not only its own integrity but suggests a whole vast range of further possibilities.”<sup>34</sup> Art should not be seen as some abstraction distanced from life, nor a foil for personal exploration seeking to elucidate the place of the “I” in the world, rather art existed for Higgins in the realm of phenomena and through the mechanisms of human communication. What Higgins was working towards in his art works, writings and other activities was an approach that is philosophical as well as applicable; a means and mechanism for producing art that speaks of and manifests a genuine engagement in the world as it is experienced. Such an engagement in art is at the core of his term “post-cognitive.” He calls upon us as participant observers (in this case as either “artists” or “viewers”) to consider how we create and/or relate to art as well as what comprises our expectations of it.

With the above set of ideas as a basis for consideration, if we return to “hank and mary,” what we should come to understand is that this work is not intended to be seen or read as singular or unique. Nor is it even a work in the modernist sense, but a text that is intended to function as dialectic between traditionally bifurcated opposites such as form and meaning, process and product, and art and technology. This work is quite simply what Higgins has labeled as an exemplativist work. Thus the work stands as a marker not so much for its historical or material specificity, but as a suggestion of things to come in an expansive

reconsideration of art and creativity. Like Higgins' concept of intermedia, exemplativism is both a rejection of avant-gardist nihilism and a recognition of the fundamental formative significance for the space between concepts, categories and things. Whereas intermedia signals the potentiality of thinking and acting in the spaces between traditional media, exemplativism stresses the space of exchange – the intermedium between the artist and the viewer or the juncture point labeled by Duchamp as the space of the *art coefficient*. Higgins states about the shift from traditional work to a new form that the “. . . fixed-finished work began to be supplemented by the idea of a work as a process, constantly becoming something else, tentative, allowing more than one interpretation.”<sup>35</sup>

In “hank and mary” the computer text is concrete, both in a physical and literary sense, and the work emphasizes its own physical presence.<sup>36</sup> The words that constitute the poem are the material of the work, its baseline physicality. The particulars of this materiality, however, are not generated through an *a priori* composition, but come into existence as the result of applying what Higgins, in another context, has termed a “rule matrix” to a set of variables. <sup>37</sup> What he is exploring in “hank and mary” is this very same process shifted from the earlier context of his happenings and other performance work to the performative run time of the computer program. The textual variations of the repeated words offers a range of possibilities, expressing mutability and structure. This textual play, although interesting as an expression of difference, is most significant as a concretization of the actions of the computer and the code/instructions that it followed. The work is simultaneously product and process, artwork and document, physical (ink on paper) and immaterial (electrons, code, language) – making a continuity between the cognitive and the physical world. The artistic substance of the work is constituted neither exclusively in the resulting material work (the poem) nor the process of production (the code), but in the dialectical relationship between them. The work functions as a shift from form to language and back again, not as a minimalist or conceptualist dematerialization, but as a manifestation of Higgins' interest in immediacy, experience, and the intermedium between art and philosophy.

It can be argued that Higgins' thinking, when he moved into the use of computer assisted production, was a reconfiguration of what had been

previously imagined for the computer. His seemingly simple text permutation is on the surface much like those that many of his colleagues, such as Emmett Williams, Jackson Mac Low and others. Even Higgins himself had been exploring similar forms for years under the banner of concrete, modular and/or aleatoric poetry, but it is much more than just applying a new means of generating a similar end. The use of the computer for the construction of “hank and mary” was not just a means to an end, but exemplifies an important shift in both a conceptual approach to creation and the role of mechanical systems in the act production. It demonstrates a new way of imagining the role of the computer in the arts: from the predominant role of the computer based in rationalized structures and computational processes applied to a rigid and systematic control of information, to something quite other. For Higgins the computer was interesting as a generator of the unknown, part of a process-centered exploration, and ultimately as a means of creating uncontrollable results. In *Computers in the Arts* Higgins states:

Computers when used for the arts are doing what they are not normally designed to do. Their main use is economic – in science and business. However, their uses are sufficiently versatile to justify looking into a number of the special techniques for the solution of creative problems.<sup>38</sup>

In a parallel manner to seriality in minimalism the modular forms exploited by Higgins in this poem are an explicit expression of the shift of compositional authority from the individual (artist) to a predetermined system (the programming language of the computer). From the viewpoint of the computer programmer of today, the use of Fortran by Higgins and Tenney as a text generator to create the permutations for “hank and mary” may seem to be a bit primitive, but they are none-the-less significant as an expression of possibilities. The significance of this particular feature should not be underestimated, for the work is not meant to be of value given its technical virtuosity, or its uniqueness, but as a model for future engagements and as a way of thinking about the potentials for art in the postcognitive computer age. The *art* becomes neither technical aspects nor specific realization but “. . . rather, an example – one possibility, or a sampling of possible realizations.”<sup>39</sup>

Higgins spent more than three quarters of the book *Computers in*



*the Arts* discussing the actual programming through which the poem was generated. For some time this seemed to be an extension of Higgins' interest in educating people about programming as well as sharing his knowledge concerning computers as a part of his exemplativist agenda, but there is something much more interesting at play here. This transparency of process, the way he rationally dissects the process of writing the code for the program, is intentionally framed to draw the reader's attention to the digital nature of the text. The poem itself is almost used in the text as a footnote to the code and the explanation of the computational processes. The aim here, it seems, is to make explicit the digital nature of the poetry, a poetry that was and is machine generated. Higgins explicitly stated that it took the computer 1.64 minutes to generate all 625 combinations. Why is this a concern for Higgins? It is a means of reinforcing the non-human machine generative processes that not only arranged the sequence of signifiers, but also actually created them in a way that is not humanly possible. Such an emphasis in Higgins' text can be seen as an intentional means to deflect attention away from the author but also to remind us of the value of the computer to generate randomization within the structure of the work. The computer has the ability to randomize, or at least simulate a chance or random selection of data, as well as generate unbiased combinations of this data that are not humanly possible.

This poem, and its description in *Computers for the Arts*, clearly evidences a shift from the emphasis of art-and-technology on technological materiality and presence to an emphasis on linguistic structure as found in Conceptual art of the later 1960s. The lengthy descriptions of the coding process are a discussion of the language and particularly the "grammar" of the code. Higgins is emphasizing not just the means by which the poem was generated but by placing the weight of consideration directly on the structure and mechanics of signification as bound up in the code itself, he is positing the code as at least one of the sites of artistic practice. Or more simply put, the code is at least partially the art itself. The potential of the computer is thus more than as a means of processing or transmission, instead, the code is rightfully seen as a system of signification, a medium of and for art, and even a *lingua franca* worthy of its own artistic forms and engagements.

Reading a work such as "hank and mary" no longer requires subservience to a linear or narrative structure, instead it expresses both a

totality and a sense of variability through accumulation. There are no highs or lows in the text; rather it is a distributed model for a kind of networked experience. Through the varied mantra-like repetitions of the words “hank,” “shot,” “mary,” “dead” Higgins places the text at the forefront of our focus. The rhythmic nature of the repeated words give rise to a language of meter – an expression of sound structured through time associations rather than language exclusively as a linguistic sign system. The standard transparency and opacity of the text and its related play between the sign and the signifier give way to an immediacy of sound as a physical extension of repetition. We are presented with text about personal existence and interaction that is simultaneously precise and dissipated. The text presents a point of view, a feeling about reality, but not as the extension of an authorial voice, rather as a dematerialized, non-subjective statement that assumes neither authorial identity nor an indeterminate set of references. The text acts as a material presence, giving a potential set of associations and thus inferring both meaning and identity. Yet, nowhere does the traditional subject of art, the artist herself or himself, impose himself on us. The authorial presence has instead, dissipated into the play of the machine. The computer acts not to extend the presence of the author, or to act in his stead as some kind of avatar, but to enact the artist’s intentions. The computer carries out the specific procedures and processes written in the code thereby allowing the author/artist to act more freely, concentrate on realizing their intentions and focus on the creation of an integrated whole.

Frequently a composition will make perfect good sense in its details, but the whole won’t have any clarity or sense whatever. By specifying clearly the procedures which have sense imbedded into them, this problem can be avoided. By this, of course, I do not mean simply to say, “Be sensible,” since that does not really mean anything specific. I mean that the . . . [artist] merely says, specifically, what he has in mind, not in its material, but in the basis for the material. 40

In her essay on Dick Higgins the art historian Ina Bloom observed that this kind of thinking in Higgins’ works is part of a larger post-Cagean trajectory centered on silence and repetition: “each element (sound) becomes a singular force a unique event that is part of a random sequence and not an integral structure. Repetition (from minimalism to deconstruction) is the force that puts difference into play – as the

original gesture is lost in a field of copies, each repetition announces its difference from the preceding moment.”<sup>41</sup> Expanding on this we can see the permutations of the four words “hank,” “shot,” “mary,” and “dead” as such a field of copies, but what should be added is that this repetition or modularity places a new emphasis, not on the author and the text, but on the program and the operation of the computer. Programmed to create a set of variations on a theme the code of Fortran programming becomes active as an a-author, or in a way a creator without intent.

The structure of the code and the computer’s calculated permutations give rise to a language freed from authorial conceit. Writing becomes, as Foucault states, no longer concerned with “the exalted emotions related to the act of composition or the insertion of a subject into language. Rather, it is primarily concerned with an opening where the writing subject endlessly disappears.”<sup>42</sup> It becomes for Higgins a matrix for suggestions and potentialities for thinking, perceiving and acting:

By understanding what “cognitive” implies . . . we can see at least one aspect of what our own time, since 1958, is by what it is not. If it is “post-cognitive” then it is “non-cognitive” or even “anti-cognitive” in some cases. What does this mean? It means that the focus has come off of the individual and his identity . . . off of the new means of perception. It came to be instead on the object *qua* object, the poem within the poem the word within the word – the process as process, accepting reality as a found object, enfolding it by the edges, so to speak without trying to distort it. . . . The work becomes a matrix- any kind of matrix will do for the particular needs of the particular work. The artist gives you the structure; you may fill it in yourself.<sup>43</sup>

In his own early explorations of the use of computers Higgins understood a crucial point about their potential – they were not the ultimate expression of centralized control, but they offered just the opposite, the greatest possibility for freedom for creativity through decentralization. He made use of a tool that had become paramount for many as the manifestation of the dehumanization and mechanization of modern life - the computer as tool of and for Big Brother (the 1970s IBM model of centralized control, a compilation of information for purposes of

strategic command and control, and the subsequent control of all related aspects of life), but he did not accept this role for computers in the arts. Rather than accept the Orwellian vision of centralized computer control Higgins, it can be argued, envisioned another use -- a use in which the mechanisms of computation were put to work to de-center control through the creation of non-hierarchical compositional formulas or codes. The resulting work of computationally generated randomization is no longer a coherent text in the modernist sense. These modular expressions of text become, as it does in "hank and mary," a network of distributed permutations in which no one version or aspect is more or less important than the rest. As Higgins himself describes it: ". . . a matrix is given and comprises the work, and what fills it in is possibly arbitrary or chance determined from materials at hand."<sup>44</sup> So, what we are to take from the reading experience is not just the specifics, the text as a poem or work, but the approach and the framework or matrix of the work. The work is a total of means and end, it is, as some programmers have described more recent code based art, partly an end, partly an instrument.

The text in "hank and mary" takes on the role of a network, or it at least comes to mirror what should be thought of as a distributed set of interconnections and duplications. The hierarchical and centralized role of the author as well as the work is challenged. This shift should be seen as a manifestation of Higgins' adoption of a Barthian model of textuality as well as an expression of a shift from a control model (analog - author) to a distributed model (digital - code). The modular poem in Higgins' work, and in others, is marked by a sense of combinatory processes, but it is also a manifestation of a set of instructional codes that generates a profusion of text. The work in consideration in this essay is, as with much subsequent computer generated modular poetry, a generative mirroring of language that transforms text from a readymade system of signs to an emanation of experience and a dialectic between any singular realization and its alternatives.<sup>45</sup> The ultimate lesson of and for *Computers for the Arts* is one of change and openness to such changes; a realization that computer based art is, at its best, an exemplarist expression of a whole range of possibilities. The lesson for today in Higgins' work and ideas is that all work is, at best, an idea developed through its embodiment in the materials chosen by the artist, be it paint, poetry, or code. However none of this has independence from the process or the audience. Art thus comes alive in the space in between all of these elements or aspects,

what we now call the space of the network, and what Higgins more globally described as the space “between:”

In exemplative art, the action is always between: it cannot take place at any one pole without the conception of another. It is therefore

between the heart and the mind,  
between the personal and the objective,  
between the unitary and the general,  
between the warm and the cold,  
(as af Klintberg put it) between the water and the stone.<sup>46</sup>

## Notes

1. Dick Higgins, “Structural Researches,” *foew&ombwhnw*, New York: Something Else Press, 1969, p.157.
2. Dick Higgins “Intermedia” (1965), Reproduced in *A Dialectic of Centuries: Notes towards a Theory of the New Arts*. New York: Printed Editions, 1978.
3. For more information see: Dick Higgins, *Pattern Poetry: Guide to an Unknown Literature*, Albany, NY: State University of New York Press, 1987.
4. Dick Higgins, “The Thousand Symphonies” and “The Thousand Symphonies: Their Story,” reproduced in Geoffrey Hendricks, ed., *Critical Mass: Happenings, Fluxus, Performance, Intermedia and Rutgers University*

1958-1972, New Brunswick, NJ: Rutgers University Press, 2003, pp. 99-105.

5. D. Higgins, "The Thousand Symphonies: Their Story," *Critical Mass*, p. 102

6. Hannah Higgins, "Eleven Snapshots of Dick Higgins," *Intermedia: The Dick Higgins Collection at UMBC*, Baltimore, MD: Albin O. Kuhn Library and Gallery, University of Maryland, Baltimore County, pp. 23-24.

7. H. Higgins, "Eleven Snapshots of Dick Higgins," p. 25.

8. H. Higgins, "Eleven Snapshots of Dick Higgins," p. 27.

9. In essays such as "Games of Art," "Intending," and "Structural Researches" he clearly lays out the nature of developing art practices that he sees as a way of engaging in the world. All of these essays are reproduced in *A Dialectic of Centuries: Notes towards a Theory of the New Arts*. New York: Printed Editions, 1978.

10. Dick Higgins, "Games of Art," *foew&ombwhnw*, pp. 37-39.

11. Dick Higgins, "Intending," *foew&ombwhnw*, p. 61.

12. Dick Higgins, "Styles in Cognitivism," *A Dialectic of Centuries*, p.101.

13. Contrary to my statement it might seem that Higgins never fully adopted this as a central aspect of his art making. How else is one to interpret the fact that he did not follow this early work with other such computationally generated works? Although throughout his career Higgins made use of non-machine based computation processes, such as print series 7.7.73 in which a throw of the dice determined placement and color of subject areas for the prints, he did not make further use of computer aided arrangements or variations. In fact he did not come back to "hank and mary" until 1970 when he wrote a small book titled *Computers for the Arts* in which he presented this work and the means by which it was produced.

14. Dick Higgins, "Exemplative Works of Art," *A Dialectic of Centuries*, 1978, p. 24.

15. D. Higgins, "Intending," *foew&ombwhnw*, p. 47, p. 49.
16. Dick Higgins, *Computers for the Arts*, Somerville, MA: Abyss Editions, 1970, p. 1.
17. For more information on the some of the works from this period associated with E.A.T. see, Experiments in Art and Technology, *Pavilion*, New York: E. P. Dutton, 1972 and Randall Packer, "The Pepsi Pavilion: Laboratory for Social Experimentation," Jeffrey Shaw/Peter Weibel (eds), *Future Cinema*, Cambridge (Mass.): The MIT Press, 2003, p. 145.
18. Sol Lewitt, "Paragraphs on Conceptual Art," reproduced in *Concept Art*, p. 15.
19. Charles Harrison, *Essays on Art & Language*, Cambridge, Mass: MIT Press, 2001. p. 17.
20. D. Higgins, *Computers for the Arts*, p.17.
21. D. Higgins "Intermedia," Reproduced in *A Dialectic of Centuries*, p. 18.
22. D. Higgins, *Computers for the Arts*, p. 1.
23. D. Higgins, "Intending," p. 61.
24. D. Higgins, "Intending," p. 65.
25. D. Higgins, "Exemplative Works of Art," p. 26.
26. D. Higgins, "Intending," p. 61.
27. D. Higgins, "Intending," p. 59.
28. Dick Higgins, "Danger and Boredom," *foew&ombwhnw*, p. 123.
29. D. Higgins, "Danger and Boredom," p. 123.
30. D. Higgins, "Danger and Boredom," p. 123.

31. Dick Higgins, "Structural Researches," p. 149.
32. Dick Higgins, "Horizons," *Horizons: The Poetics and Theory of the Intermedia*. Carbondale: Southern Illinois University Press, p. 4.
33. Dick Higgins, "An Exemplativist Manifesto," *A Dialectic of Centuries*, p. 162.
34. D. Higgins, "An Exemplativist Manifesto," p. 159.
35. D. Higgins, "Intending," p. 49.
36. This same kind of physicality in the work, which stresses a primary of the materials, is evident in much of Higgins' work in technological based art, particularly his earlier electronic and tape music pieces.
37. D. Higgins, "Boredom and Danger," p. 45.
38. D. Higgins, *Computers for the Arts*, p.1.
39. D. Higgins, "Horizons," p. 4.
40. D. Higgins, "Intending," p. 63.
41. Ina Blom, "Immediately [Dick Higgins Towards Intermedia]," ed. Ina Blom, *Dick Higgins*, Denmark: Henie Onstad Art Center, 1995, p. 11.
42. Michel Foucault, "What is an Author?" in *Language, Counter-Memory, Practice*, ed. Donald F. Bouchard (Ithaca: Cornell University Press, 1977), p. 116.
43. Dick Higgins, "The Post-Cognitive Era: Looking for the Sense in ti All," *A Dialectic of Centuries*, p. 8.
44. D. Higgins, "Exemplative Works of Art," p.26
45. D. Higgins, "An Exemplativist Manifesto," p. 159.
46. D. Higgins, "An Exemplativist Manifesto," p.157.