

In-formation: Weaving as Code in Beryl Korot's *Text and Commentary* (1976-77)

Text and textile

In the 1959 publication *Pictorial Weaving*, Anni Albers set out the foundational imperative to “let threads be articulate”.ⁱ Invoking an etymological relationship between text and textile, at its core is the idea that textiles can speak: that pattern can make meaning. This is evident in *Ancient Writing* (1936), an important early work by Albers made in cotton and rayon, which sets forth the textile as a form of non-verbal communication [figure 1]. Made in the year after Albers’s first trip to Mexico, *Ancient Writing* referred to coded or ciphered character languages: for Albers, textiles, along with cave paintings, were a form of ancient communication that existed long before the written word.ⁱⁱ There was weaving before there was writing. As the curator Maria Müller-Schareck notes in a catalogue essay to accompany the major 2018 survey at Tate Modern in London, which brought Albers’s work to a new generation of artists and scholars, this connection between weaving and writing is made even more explicit in later works such as *Code* from 1962, where you can “read” the lines from top to bottom [figure 2].ⁱⁱⁱ As a form of communication, the way that the woven textile makes meaning is not just on account of *what* is depicted but, crucially, *how*. It is through the specific organization of the threads into a system, ordered into pattern, that the textile becomes legible: it becomes what we might call the “in-formation image.”^{iv} And here pattern does

not merely suggest a mode of viewing aligned with a flat, detached opticality but is informed by the sense of touch. Indeed, this can be seen vividly in *Ancient Writing* in its use of brocading, a technique in which embossed forms sit on top of the surface of the textile. Such techniques emphasize the inherent “tactile sensibility” of textile, to use Albers’s term: it is an experiment in “tactile-textile illusion.”^v

This essay develops this aspect of thinking about weaving as a kind of communications technology, premised upon the commensurability of pattern and code and grounded in the body, in order to argue that textiles can enable us to imagine an altogether different relationship to information technology. To do so, it focuses on the work of Beryl Korot, an American artist who, both chronologically and conceptually, sits between Albers’s modernist experiments in the first half of the twentieth century and a more recent generation of artists whose work is informed by a rigorous and critical questioning of the ways in which networked technologies have transformed everyday life. In a career spanning several decades, Korot has worked extensively with weaving, print, and video technologies in order to interrogate text and the politics of information. Driving much of this work has been Albers’s pairing of text and textile, which Korot has been familiar with since the 1970s.^{vi} As the artist has noted in an interview with the curator Harry Philbrick, “Text (textus) and weave (texo) share the same Latin root. Text is a tissue or fabric woven of many threads. It is a web, texture, structure, a thought, something that can be built, raveled, unraveled.”^{vii}

Korot, who studied literature at the University of Wisconsin before moving to New York in the late 1960s to take a job on the *New York Review of Books*, is well-known for her work as editor and co-founder with Phyllis Segura (then Gershuny) of *Radical Software*, which ran for 11 issues from June 1970 until the summer of 1974. A core agenda of this publication was to challenge and resist, in both theory and practice, the increasing dominance of proprietary technologies, such as network television, by enabling its readers to seize hold of the then-emergent medium of video in order to reconfigure relations of power and control. In the opening address to readers in the inaugural issue of *Radical Software*, Korot and Gershuny wrote: “power is no longer measured by land, labor or capital, but by access to information and the means to disseminate it... Videotape can be to television what writing is to language.”^{viii} Underpinning this analysis of power throughout the issues of *Radical Software* was an engagement with the concept of “media ecology”. Based in part on the reception of Gregory Bateson’s thought and contributions to cybernetics and systems theory of the post-war period, this concept foregrounded the technological and social context in which communications took place and, for Bateson, led to an inseparability between self and world.^{ix}

Of interest to Korot was therefore not just the production of information but, crucially, its dissemination and the means of access. Such ideas can perhaps be seen in *Lost Lascaux Bull*, an early video by Korot from 1973 that centers around the image of a painting of a bull in the caves at Lascaux in France – and here we might be reminded of Albers’s interest in both cave paintings and textiles as two of the earliest forms of communication [figure 3]. In this work,

Korot filmed an image of the painting in a book and then, using the live capabilities of video to simultaneously watch and record, the artist layered this image with another, creating a *mise en abyme* that recalls other well-known video works made the same year such as Lynda Benglis's *Now*. As the image gradually breaks down into static interference and vertical roll, there is the suggestion of information not simply mediated, but lost, through technology and time.

A key realization for Korot in terms of the production and dissemination of information was the way in which both print and video worked by encoding and decoding information in lines: written language runs across a grid, whether from top to bottom and left to right or right to left, while video works by an electron gun inside a cathode ray tube building up a picture in lines. As seen in Albers's writing about textile, this is true also for weaving, and Korot, who was interested in Albers's work, noted in 1974 that in all three communications media (print, video, and weaving) the image is encoded in lines, and the material substrate is organized such that it creates legible pattern.^x Korot states: "[W]hat really fascinated me is that the information in all 3 of these media is encrypted in lines... In video the electronic camera reads an image at 30 frames a second, line by line; we read printed material line by line... pattern on the loom is laid down line by line, or thread by thread."^{xi} The significance of this is that, for Korot, weaving was to be understood as a kind of technology capable of producing meaning through its very structure. Like Albers, Korot therefore foregrounded the way in which textiles served as an ancient prototype for subsequent communications technologies: "The visual

structure of woven cloth, based on the buildup of lines,” writes Korot, “precedes human writing by thousands of years and holds a key to the organization of visual and textual information.”^{xii}

This interest in line as the underlying structure of weaving, print, and video is at the heart of Korot’s major installation *Text and Commentary* (1976-77): a work which forms the focus of analysis here. First exhibited in 1977 at the Leo Castelli Gallery, and subsequently acquired by MoMA in 2016, *Text and Commentary* has been described by Korot as “a handmade work created for the camera” [figures 4 & 5].^{xiii} It comprises a five-channel video installation of 33 minutes in duration, shown alongside five weavings in linen and wool, five weaver’s notations in graphite and colored pencil on paper, and six pictographic video score notations on Photostat paper [figures 6 & 7].

On the video screens, we see images of Korot weaving – a technique she learnt from Claire Freeman at the YMCA on Lexington Avenue after becoming friends with the weaver Marilyns Downey.^{xiv} These images were made by hanging a camera from the ceiling at varying distances so that while some of the screens show images of Korot at work others show a close up of the textile itself. At the very end of the video, each finished woven textile faces itself on the monitor placed opposite. The installation is organized such that the viewer sits on a bench between video screen and textile in order that they become incorporated into the system and cannot remain outside of it – a motif reminiscent of Ira Schneider’s and Frank Gillette’s key 1969 work *Wipe Cycle*, which was of great significance to Korot.^{xv} While the accompanying drawings

show the numerical basis for the pattern on the textile, the pictographic notations illustrate the time structure for video. As such, each of the elements within the installation presents a different perspective on the same information.^{xvi}

At the heart of *Text and Commentary* is an interest in the visual organization of information through line: how pattern, or what I am calling the in-formation image, might come to express meaning. As the pattern of the textile emerges through the gradual buildup of the thread, line by line, there is a visual echo of the way in which a picture is also built up inside the video monitor [figure 8]. In exploring line in this way, Korot is interested in, she says, “how information is stored in us... it is a way of transmitting stories” that extends across weaving, video, and print.^{xvii} There is a politics in this rhetorical move from “information” to “stories,” which gets to the heart of the idea put forward in *Radical Software* that power is measured in access to information. In this rhetorical move, we find an analogue of sorts in the title of the work, *Text and Commentary*. It is a move towards the subject and the subjective, towards the realm of language and meaning. This is significant in terms of thinking about power in two key respects: firstly, it centers the role of the spectator in the wider project of decentering the production and dissemination of information; and secondly, it offers a way of understanding how acts of interpretation are always already encoded into information, in this case through line.

In relation to the first point, it is the way in which line – whether a line of thread or a line of code – operates as a multiple that helps to further center the

spectator within the work beyond their physical placement between the video screen and the textile. Indeed, for Korot the use of the multichannel installation format in *Text and Commentary* is intended to be suggestive of an underlying structural connection between video and weaving in so far as the loom is an important precedent for the idea of the multiple, based on the multiple threads of ancient loom patterning as well as the reproducibility of the textile itself through pattern.^{xviii} As the artist has stated, “I was drawn to the handloom after being involved in print and video because I was fascinated by the multiple channel genre in video and the loom offered clues about programming multiple channels.”^{xix} This interest in the video multiple is evident also in another of Korot’s major works, *Dachau 1974*, which utilized a weaving structure in the editing and presentation of video footage made during a visit to the concentration camp that year [figure 9]. By means of an arrangement of four monitors placed on a single horizontal row, Korot created alternate pairs of images that appeared to weave over and under one another. According to Mark Godfrey, the effect of this was to produce an abstract, but not random, structure that could simultaneously both reinforce and deflect the impact of the images as well as render the incomprehensibility of the subject. No other mode of presentation would be appropriate.^{xx} At stake in the use of the multichannel installation in both *Dachau 1974* and *Text and Commentary* was the perceived capacity to challenge dominant or singular narratives by emphasizing subjective experience. Although used in significantly differing contexts, this was clearly part of a wider project that also sought to challenge the authority of television by refusing a single-channel linear narrative. Echoing the ideas elaborated in the pages of *Radical Software*, Korot has

stated that the video multiple could refuse the model of the spectator of electronic broadcast media as a passive recipient of information and give rise to a new mode of viewing that would get people out of the living room by putting the image into public space. While such ideas were a significant feature of the discourses of video in the 1960s and 1970s more generally, Korot's installations point specifically to an important distinction between the political capacity of *line* as a formal element and the concept of *linearity* as associated with the passive reception of a singular viewpoint.^{xxi}

In relation to the second point above, each of the different elements of *Text and Commentary* – whether the videos, the weavings, or the notations for them – essentially contains the same information, all underpinned by line as a mutually structuring principle. In articulating this formal relationship between weaving and video, Korot opens up a new pairing: a commonality of the ancient and the modern, the old and the new. This presents a crucial idea in thinking about the category of technology that can helpfully destabilize assumptions about progress or radical breaks and ruptures. As others have noted, by drawing parallels between weaving and video, works such as *Text and Commentary* mount a powerful challenge to the perceived newness and subsequent fetishization of video technology at the time.^{xxii} Yet what is perhaps even more striking is the attention to difference that such similarity implicitly mobilizes. In foregrounding line in such a way as to bring together the ancient and the modern, Korot is not suggesting that all forms of communication are inherently the same. Indeed, the very title refers to the woven text and the video commentary about it: "it's a conversation in a room

of different ways,” says Korot, “to express the same information but within the limitations that every medium naturally has.”^{xxiii} Elsewhere Korot has stated, “Different materials could try and describe the same thing but could never say the same thing.”^{xxiv} As a mechanism, the use of line in *Text and Commentary* emphasizes the inseparability of form and content. As every artist knows, it is precisely the difference between media – not just the difference between *what* is represented but *how* – that makes meaning.

Weaving as women’s work

In recent years, Korot’s work has been revisited through a series of major exhibitions centering on the histories of art and information technology, as in MoMA’s *Thinking Machines: Art and Design in the Computer Age, 1959–1989* (2017-2018) or LACMA’s *Coded: Art Enters the Computer Age, 1952–1982* (2023), as well as on the histories of textile or fiber art, as in *Textiles: Open Letter* at Museum Abteiberg, Mönchengladbach (2013).^{xxv} Given the materials and processes that Korot employed in *Text and Commentary*, it is perhaps surprising that gender has not provided a significant critical context for thinking about this work, which explicitly crisscrosses a number of different art historical conversations on the matter. One such conversation would be the importance of video for both women artists and feminist artists at the time of its emergence into the consumer market in the late 1960s and into the 1970s. As Christine Tamblin has eloquently written, “Video seems ideally suited to serve as a vehicle for the heterogeneous discursive practices of contemporary

women artists. Its capacity for accommodating hybrid expressive modes facilitates the feminist project of constructing alternatives to the dominant dichotomous patriarchal world-view.”^{xxvi} The significance of video for feminism was due to a number of reasons: as a new medium, it was seen to be unburdened with a critical history and pre-defined discourse, setting it in marked contrast to painting or sculpture; it was portable, affordable, and easy to use; and, because of its close relationship to television and home movies, artists were able to draw on the resonances of a technology centered around the private sphere of the home.^{xxvii} Specifically, for Tamblyn, this latter aspect took the form of a hybrid of the genres of social documentary and portraiture.^{xxviii} Certainly, the wider relationship between women artists and video is something that Korot has commented upon previously. In an interview in 2010, she stated: “In the early days of video, there were so many women working with the medium. And I remember we were aware of that...somehow the newness of video made the whole entry into the field so much easier. Everyone was exploring together.”^{xxix}

Another art historical conversation that might be considered as a key context for thinking about *Text and Commentary* is that of the notion of women’s work. The gendered dimensions of textiles are well-known and have been elaborated by scholars such as Rozsika Parker, Lucy Lippard, Julia Bryan-Wilson, and T’ai Smith in relation to the intersecting axes of class and manual labor, categories of high and low, fine art and amateur, and constructions of modernism.^{xxx} This, of course, is not a flat discourse into which *Text and Commentary* can simply be inserted, but rather a set of debates or problems

for it. After all, although the gendering of textile is well known, it is far from straightforward, since although the meshing of women's work and artwork could affirm the cultural contribution of women – and importantly here we must consider that contribution through the intersecting lenses of class and race – it was also seen by some to reaffirm a difficult, essentializing connection between women and craft. This was not only on account of the medium but also the decorative nature of the finished product.^{xxxix} Such questions were brought into focus by *Pattern & Decoration*, another conversation that *Text and Commentary* existed in parallel to but was not acknowledged as a part of. In a 1978 article published in *Heresies*, entitled “Art Hysterical Notions of Progress and Culture,” the artists Valerie Jaudon and Joyce Kozloff argued against the idea of pattern as women's work, seeking to unpick an essentialist framework for craft, decoration, and ornament: by looking outside of Western histories, they challenged not just the gendering but also the ethnocentrism that had informed a historical denigration of craft. And significantly this text focused on how language had been used to communicate the supposed moral superiority of the art of “Western civilization.”^{xxxix}

Embedded within the work, then, are art histories concerning the way in which women artists and feminist artists have turned to techniques outside of traditional art media, specifically techniques of weaving and video. But although these conversations might provide a rich historical framework for thinking about *Text & Commentary*, they have not been central to the way in which the work has been contextualized either in its various institutional

settings or indeed by the artist.^{xxxiii} Instead, taking a lead from Korot's own approaches to framing the work, what is most often foregrounded in discussions of *Text and Commentary* is the centrality of pattern as information. But even in this, there is still an important discussion to be had about gender. Although the discourses on the relationships between craft and gender or video and feminism seem ripe for the picking in this context, and are certainly present in the work, albeit implicitly, it is not these that will be focused on. Instead, the argument is that, in thinking about pattern as information, we can still weave gender in to an analysis of the work and, crucially, do so in a way that does not simply reproduce familiar discourses about the binaries that structure ways of thinking about craft and gender, both separately and together (art/craft, high/low, amateur/professional), but actually helps us to think beyond them altogether.

Text and Commentary is one of the earliest works of art to make the connection between the histories of weaving and the histories of computing. "The thing that attracted me to the loom was its sophistication as a programming tool," said Korot in a 1977 *New York Times* article. "It programs patterns through the placement of threads, in a numerical order that determines pattern possibilities. It's like the first computer on earth."^{xxxiv} What Korot is gesturing towards here is the fact that weaving (whether manual, mechanical, electronic, or digital) operates according to an algorithm that determines the pattern. As discussed earlier in relation to thinking specifically about line, this in part gives rise to the idea of the multiple, since an algorithm enables a pattern to be reproduced. When *Text and Commentary* was first

exhibited at the Leo Castelli Gallery, what was emphasized was the connection between the loom as a kind of programming tool and the programming of multiple video screens, as we saw in relation to *Dachau 1974* for example.^{xxxv} But, in a much more fundamental way, the loom is also very much like “the first computer on earth” since, as is well known, it was the Jacquard machine – a control mechanism developed in the early 1800s that could be fitted to a loom in order to automate the patterning of textile – that provided a model for what is often described as the very first computer: the Analytical Engine [figures 10, 11 & 12]. Like the Jacquard machine, the operations of the Analytical Engine were controlled by a system of punch cards that remained in use in mainstream computing until well into the 1970s. These punch cards carried the information needed to produce the highly complex patterns of textiles such as damask or brocade on an industrial scale and were, in many respects, a protobinary system since the hole/not hole sequencing of the cards functions in the same way as the on/off, yes/no protocol of binary.

Through the application of a craft that is traditionally associated with women and the domestic sphere of the home, the history of computing therefore necessarily becomes a history of women’s work. But it is also a history of one woman’s work, since the Analytical Engine was developed in the 1840s by Ada Lovelace, whose own conceptualization of the device was always coded in the gendered language of the decorative. “We may say most aptly,” said Lovelace in a now heavily quoted phrase, “that the Analytical Engine weaves Algebraical patterns, just as the Jacquard loom weaves flowers and

leaves.^{xxxvi} Thanks to the work of feminist scholars such as Sadie Plant, as well as others, Lovelace's role in furthering the development of Charles Babbage's Difference Engine into the Analytical Engine, essentially transforming it from a calculator to a computer, has been well established and has informed the work of generations of women artists including Faith Wilding, VNS Matrix, Nell Tenhaaf, Rachel Adams, and Jennifer Chan, to name just a few.^{xxxvii} This history therefore need not be recounted here, but its importance indicated, and here the development of computing as both a singular and collective endeavor, that is to say both by women and by a woman, is key.

In feminist analyses, such as in the work of Plant, this relationship between women, weaving, and computing is at the center of entangled intellectual and social histories. For example, weaving metaphors have held a privileged place in the psychoanalytic literature, which has emphasized that Sigmund Freud, in *The Interpretation of Dreams*, describes how dreams are composed of multiple strands knotted together and which, when unraveled, lead to different associations.^{xxxviii} Yet despite this privileged place, weaving is the only invention that Freud was willing to attribute to women in the history of inventions, and even then merely as a simulation of a natural process rather than something original or creative.^{xxxix} This attitude, which denigrates and downplays the contributions of women to the histories of science and technology, finds echoes in the alignment of women with instrumental models of technology in industry at large: on the whole, women are the operators but not the programmers of technology, they use it but do not create it. This structural exclusion has been addressed at length over many decades.

Wendy Hui Kyong Chun, for example, has charted how the development of operating systems in modern computing (which no longer required variables to be set by hand) generated a shift through which programmers came to displace operators along a gendered axis.^{xl} And, as early as 1985, Evelyn Fox Keller asked the deceptively simple question: how much of the nature of science is bound up with the idea of masculinity, and what would it mean for science if it were otherwise?^{xli} While there have been attempts to integrate women into the histories of technology by looking to telephonists, typists, and secretaries, figures such as Sherry Turkle, Rosi Braidotti, and Faith Wilding have long argued that it is simply not enough that women have had a history of using technology but that those histories might well be a reflection or repetition of forms of exclusion that need to be unpicked and understood, very much in the vein of problematizing the dichotomy of art and craft in the context of thinking about weaving as women's work, premised as they both are upon a division of manual versus mental labour.^{xlii} Against this backdrop, then, we can think about Lovelace's contribution as one which, to use Plant's phrase, "short-circuits [women's] prescribed relation and persists regardless of what man effects and defines as the history of technology."^{xliii}

With this in mind, one important observation to make about *Text and Commentary* is not only that it draws together weaving, print, and video as three technologies that are all structurally connected by encoding information in line but that, by making explicit the shared histories of weaving and computing, describing the loom as being "like the first computer on earth," Korot makes a powerful argument in this work about women's contributions to

the histories of science and technology, to which we must also add the contributions of communities from outside the global North, given the rich textile traditions of the Americas, for example, or of East and South East Asia.

Textile as technology

Koroť's *Text and Commentary* sits at the center of a constellation of histories and lines of thought: the idea of textile as a form of communications technology; the political capacity of line; the gendering of weaving, video, and computing. But what is striking is the way in which *Text and Commentary* acts as a provocation to think not just about textile as information, but also about information as textile. What then would it mean to think about computing through weaving; what might weaving tell us about information technology?

First, we would have to come back to the idea of women's work. As Sadie Plant and Wendy Chun have shown, it is because of weaving that a feminist politics can be folded back into the history of computing. Chun writes, "According to Sadie Plant, programming is essentially feminine—not simply because women, from Ada Lovelace to [Grace Murray] Hopper, were the first programmers, but because of the historical and theoretical ties between programming and what Freud called the quintessentially feminine invention of weaving."^{xliv} As has been argued, it is significant that such women are the developers and programmers of technology and not simply its operators, employed to perform repetitive, piecemeal tasks as telephonists and typists or

as textile laborers and circuit board makers in factories, roles that are not only gendered but classed and racialized also.^{xlv} Previously, it was suggested that by folding a discussion of gender into an analysis of *Text and Commentary* we can perhaps start to think beyond the binaries that structure ways of thinking about both craft and gender, and here the shift from women as the operators or users of technology to women as the programmers or inventors of it is key. But, by treating information as being more like textile, we might also add to this some work on challenging the very binaries that structure ways of thinking about computing.

There is a sense in which the binary operations of digital technology – the binary digit (bit) values /1/ and /0/ – can be imagined through the lens of the binary operations of Western epistemology, in which the yes/no logic of Boolean algebra is akin to the structure of Cartesian dualism.^{xlvi} Plant, for example, has made this explicit in relation to sexual difference. Drawing on Luce Irigaray's critique of Freud and Lacan's theorization of woman as lack in *This Sex Which Is Not One*, Plant writes "They [1 and 0] made a lovely couple when it came to sex. Man and woman: one and zero looked just right, made for each other: 1, the definite, upright line; and 0, the diagram of nothing at all."^{xlvii} Plant's claim in this passage is not only that sexual difference is analogous to the bit values /1/ and /0/ but also that these bit values mobilize an iconicity that is structured through the phallus/lack model of Freudian castration anxiety. What this means is that if /0/ is "woman" then by extension she becomes analogous to the indefinable black box of computing. The value of Plant's analysis here is that it enables us to identify some of the

underpinning conceptual mechanisms that have driven theorizations of both women and computing as merely instrumental. Yet the iconic mapping of the bit values /1/ and /0/ onto the categories male and female, on and off, something and nothing, does not hold entirely true. While others have critiqued Plant's work in terms of its utopian and essentializing modes, what I want to focus on instead is the fact that the bit values /1/ and /0/ do not correspond quite so readily to the binary protocols on/off, something/nothing, and it is the histories of weaving that make this manifest.^{xlviii}

The bit value /0/ is, of course, formally similar to the hole of the punch card in the Jacquard loom system. Yet the punch locations are in fact a binary /1/ or "yes" whereas the rest of the card is a binary /0/ or "no signal." On the Jacquard loom, the punched hole enables a needle to lift the warp thread. Where there is no hole, the needle is blocked. As such, what /0/ designates is not the irrationality of the number zero as a non-value, as lack and therefore as woman, but rather the "yes," the "on," the "something." Clearly, a reversal has taken place in the move from punch cards to pulses or packets of electrical information. This reversal can be understood through the difference between zero as a numerical value (nothing) and its primary mathematical function as a way of separating digits in positional systems by moving them into different decimal columns (1, 100, 1000, etc.); a difference that hinges on the development of mathematical systems across different parts of the world from ancient Babylonia to Greece to India.^{xlix} It is possible that /0/ was adopted as the "no signal" in modern computing because of this positional function, distributing the "yes" value of the bit /1/ across a field or plane of

representation. We need only to look at the *quipu* of ancient Incans, commonly understood as a protobinary system, to see this positional function at play. What is significant about this is that, by thinking of the bit value /0/ not as a “no signal,” a lack, a nothing, but as serving a positional function, we are encouraged to think about binary code as something fundamentally spatial, in which the bit values do not make meaning in and of themselves but only in relation to their physical position within a material substrate. Indeed, the very term “digital” comes from the classical Latin *digitalis*, measuring a finger's breadth. My argument here is that it is only by going back to the historical connection between weaving and computing, a connection that Korot makes evident in *Text and Commentary*, and which foregrounds the contribution of both women and communities from outside of the global North to the histories of science and technology, that we can better understand this spatial aspect. Although the information might be encoded in lines in weaving, video, print, and computing, it is never simply linear and it is perhaps the all-over pattern of woven cloth, the in-formation image, that speaks to this fact most directly.

Second, by treating information as being more like textile, it is possible to foreground the body in ways that disrupt a number of conventional narratives about computation as an ultimate act of dematerialization or incorporeality. Built up line by line, pattern creates an in-formation image that is indexed not just to an algorithm but to a body. “Weaving notation gives instructions to hands and feet,” says Korot. “It is a computer but it is humanizing.”¹ As N. Katherine Hayles has discussed in her pathbreaking work on the histories of information (or, more precisely, “how information lost its body”), it is the

legibility of pattern – ordered, organized – as opposed to randomness, that signals presence over absence: both a body to convey and a body to receive information.^{li} In this way, pattern can be mobilized to challenge the long-standing historical narrative of information as something abstract or immaterial, an idea that Hayles has argued derives from theories developed by the American mathematicians Norbert Wiener and Claude Shannon during the Macy conferences on cybernetics in the immediate postwar period, in which Bateson was also a key figure. As Hayles has shown, Wiener and Shannon developed the dominant definition of information as an entity that was distinct from the material substrates that carried it, in part building on the Boolean logic of binary choice that Shannon had first developed in his master's thesis at MIT. In other words, as a dematerialized, purely theoretical, entity, information was something other than the electrical pulses, or the voice, or the pen and paper that conveyed it: information was free to travel across time and space and would be unaffected by any changes in context. "Information is information, not matter or energy," wrote Wiener in his 1948 book *Cybernetics: or, Control and Communication in the Animal and the Machine*.^{lii} This formulation would have profound implications, not least for models of the subject in which thought was conceived as more like an informational pattern than an embodied enaction, extending the legacy of the cogito. However, as Hayles has shown, Wiener and Shannon's model of thinking about information as fundamentally immaterial was simply one possible narrative amongst many, and others, such as the British physicist Donald MacKay, proposed the inseparability of form and content, of message and receiver. Building on the argument above about binary code as a

positional notation system that is fundamentally spatial, MacKay's model of information is surely well-illustrated by the materiality of the punched paper cards of the loom, in which the code is always inseparable from its material substrate.^{liii}

What is being argued here is that it is precisely such counter-narratives within the histories of information that weaving makes evident. Not only does it illuminate the ways in which meaning is made not merely on account of *what* is shown but *how*, but weaving also insists on the body: a body to both make and receive information, and here we might be reminded not only of Korot's rhetorical move from "information" to "stories," but also the centrality of the spectator within the installation of *Text and Commentary*, seated between the textile and the video screens in a manner that recalls the position of the observer within the cybernetic feedback loop. As such, perhaps it is possible to redirect the narratives of abstraction that linger around code through an attention to the use of pattern in the woven textile, which foregrounds the inseparability of information from its material substrate – what Anni Albers understood as the "tactile sensibility" of woven textile. Furthermore, just as Hayles has shown that by countering narratives of abstraction in relation to information we can counter narratives of abstraction in relation to notions of being (undoing a Cartesian dualism), we might also say that, by thinking information through weaving, we can disrupt the exclusion of women that is implied by prevalent characterizations of information technology as transcendent in opposition to the immanence of the female body.

And thus, thirdly, as the manifestation of an active, embodied process, weaving can provide a model that challenges the forms of passivity that inhere in proprietary technologies, as described by Korot in the pages of *Radical Software*. Repeatedly described as a collective endeavor – for example in Plant’s theory of the “connectivity” and the “continuity” between subject, skill, and artifact in the act of weaving – weaving can be opposed to the singular, autonomous, subject.^{liv} This emphasis on collectivity can be framed as a challenge to the supposed autonomy of the modernist artwork (and artist) that resonates with numerous feminist projects contemporaneous with *Text and Commentary*. Furthermore, in the groundbreaking 1985 essay, “A Manifesto for Cyborgs: Science, Technology, and Socialist Feminism in the 1980s”, Donna Haraway deployed weaving metaphors to describe both challenges to the “webs of power” mounted by the women of Greenham Common and the “we” of collective political action.^{lv} Given Korot’s specific interest in the relationship between information and power, weaving might also be framed in the context of a wider challenge to the concentration of power within broadcast technologies such as television. To artists such as Korot, weaving, like video, therefore offered a model of information production and access that could be distributed beyond traditional centers of power, drawing on its resonances with amateur practices of home movie making or domestic craft.

To think information as textile, then, is ultimately to rethink power. More than an argument about the enmeshed histories of print, weaving, video, and computing based on the mutually structuring principle of line, *Text and*

Commentary can also be read as a critique of narratives about the dematerialization of information and the writing of histories of science and technology that have assigned women a certain role within them. The work both unpicks the historical abstraction of information as something immaterial, while simultaneously unravelling some of the gendered and cultural assumptions that have long been entwined with thinking about computing. To think information as textile is therefore a proposal to diverge from hegemonic knowledge and the forms of thinking that support it. It is in this way that, following from Anni Albers, we might “let threads be articulate.”^{vi}

The author would like to thank Beryl Korot for her kind assistance in preparing this article, as well as Tom McDonough and the two anonymous readers for their generous comments.

ⁱ Anni Albers, *Pictorial Weaving* (Cambridge, MA: The New Gallery, Charles Hayden Memorial Library, Massachusetts Institute of Technology, 1959).

ⁱⁱ Albers writes, “along with cave paintings, threads were among the earliest transmitters of meaning.” Albers, *On Weaving* (Princeton and Oxford: Princeton University Press, 2017), 50.

ⁱⁱⁱ Maria Müller-Schareck, “The Language of Threads”, in *Anni Albers*, ed. Ann Coxon, Briony Fer, and Müller-Schareck, (London: Tate Publishing, 2018), 140.

^{iv} I first started developing this term in an earlier article about the Canadian artist Nell Tenhaaf. See Cadence Kinsey, “Matrices of Embodiment: Rethinking Binary and the Politics of Digital Representation,” *Signs: Journal of Women in Culture and Society* 39, no. 4 (Summer 2014): 897-925.

^v Albers, *On Weaving*, 47.

^{vi} See, for example, Beryl Korot, “Excerpts from an interview with Beryl Korot,” *Artforum*, video, 07:24, 2018 <https://www.artforum.com/video/excerpts->

from-an-interview-with-beryl-korot-73087. Elsewhere, Korot has described Albers as being a “mentor” to her, despite the fact that they never met. See Valerie Amend, “*Rethinking Threads: Beryl Korot in Conversation with Valerie Amend*”, [exhibition handout], *Rethinking Threads*, bitforms gallery nyc, October 20 – November 26 2022.

vii Harry Philbrick, “Beryl Korot in conversation with Harry Philbrick,” in *Beryl Korot: Video – Text/Weave/Line* (Hanover, NH: Hopkins Center for the Arts, 2011), 9.

viii Beryl Korot and Phyllis Gershuny, “Address to readers,” *Radical Software* 1, no.1, “The Alternate Television Movement” (Spring 1970): [opening page].

ix See William Kaizen, “Steps to an Ecology of Communication: Radical Software, Dan Graham, and the Legacy of Gregory Bateson,” *Art Journal* 67 (2008): 86-106; Arlo Raymond, “Media Ecology” *Radical Software* I, no.3 (1971): 19; and Gregory Bateson, *Steps to an Ecology of Mind* (Chicago: University of Chicago Press, 1972).

x See Lauren O’Neill-Butler, “Beryl Korot: Beryl Korot discusses the origins of *Text and Commentary*,” *Artforum*, November 14, 2017, <https://www.artforum.com/interviews/beryl-korot-discusses-the-origins-of-text-and-commentary-72242>; and Evelin Stermitz, “Text/Weave/Line—Video: An Interview with Beryl Korot,” *Rhizome*, June 2010, <https://rhizome.org/community/44087/>.

xi Stermitz, “Text/Weave/Line.”

xii O’Neill-Butler, “Beryl Korot.”

xiii O’Neill-Butler, “Beryl Korot.”

xiv Valerie Amend, “Language as still life,” *Nichons Magazine* 10 (December 2019): 14.

xv Mark Godfrey, *Abstraction and the Holocaust* (New Haven and London: Yale University Press, 2007), 144. Here, Godfrey quotes Schneider’s statement that, “the most important function of wipe cycle was to integrate the audience into the information.” See also Carlotta Schoolman, “Beryl Korot” [interview] in *The Early Show: Video from 1969-1979*, ed. Constance De Jong (New York: Bertha and Karl Leubsdorf Gallery, Hunter College, City University of New York, 2006), 37-40.

xvi Korot writes, “All of these provide varying perspectives of the same information in a variety of scales and media, and translated into different systems of composition.” Korot, “*Text and Commentary* (1976),” *PAJ: A Journal of Performance and Art* (May 2002): 12. And, elsewhere, “All elements of the work coexist and provide varying perspectives of virtually the same information, but within the limitations of each medium.” Korot, quoted in

O'Neill-Butler, "Beryl Korot: Beryl Korot discusses the origins of *Text and Commentary*."

xvii Wesley Miller, "'Text and Commentary' Beryl Korot" [interview], *Art21*, video, 3:03, December 2010 <https://art21.org/watch/extended-play/beryl-korot-text-and-commentary-short/>.

xviii See Stermitz, "Text/Weave/Line."

xix Stermitz, "Text/Weave/Line." Godfrey has connected this to wider uses of the multiple and seriality in art at the time, drawing on Sol Le Witt's writing in "Paragraph's in Conceptual Art." See Godfrey, *Abstraction and the Holocaust*, 157.

xx Godfrey, *Abstraction and the Holocaust*, 162.

xxi On the relationship between democracy and video during this period more generally see David Joselit, *Feedback: Television Against Democracy* (Cambridge, MA: The MIT Press, 2010); and William Kaizen, *Against Immediacy: Video Art and Media Populism* (Chicago and London: The University of Chicago Press, 2016).

xxii Godfrey, *Abstraction and the Holocaust*, 153.

xxiii Korot, "Excerpts from an interview with Beryl Korot."

xxiv Godfrey "Salon | Artist Talk | Beryl Korot," *Art Basel*, video, 47:12, June 2014 https://www.youtube.com/watch?v=Hv41Hk_qmmM.

xxv Other recent exhibitions include *Core Memory: Encoded* at Newcomb Art Museum, Tulane (2022); *Open Codes: Living in Digital Worlds* at ZKM, Karlsruhe (2017-2018); and *Fiber: Sculpture 1960-Present* at the ICA (2014).

xxvi Christine Tamblyn, "Significant Others: Social Documentary as Personal Portraiture in Women's Video of the 1980s," in *Illuminating Video: An Essential Guide to Video Art*, ed. Doug Hall and Sally Jo Fifer (San Francisco: Aperture, 1992), 417.

xxvii For a discussion of the relationship between video and feminism see, variously, Marina Roy, "Corporeal Returns: Feminism and Phenomenology in Vancouver Video and Performance 1968-83," *Canadian Art* (Summer 2001): 58-65; Martha Gever, "The Feminism Factor: Video and its Relation to Feminism," in *Illuminating Video*, 226-241; Grant Arnold, "Kate Craig: Skin," in *Kate Craig: Skin* (Vancouver: Vancouver Art Gallery, 1998), 1-16; Maureen Turim, "Childhood Memories and Household Events in the Feminist Avant-Garde," *Journal of Film and Video* 38, no. 3/4, "Home Movies and Amateur Filmmaking" (Summer-Fall 1986): 86-92.

xxviii Tamblyn, "Significant others," 406, 417.

xxix Stermitz, "Text/Weave/Line."

xxx Lucy R. Lippard, "Making Something from Nothing (Toward a Definition of Women's 'Hobby Art')," *Heresies* 1, no. 4 (Winter 1978): 62-65; Rozsika Parker, *The Subversive Stitch: Embroidery and the Making of the Feminine* (The Women's Press, London 1984); Julia Bryan-Wilson, *Fray: Art and Textile Politics* (Chicago and London: The University of Chicago Press, 2017); and T'ai Smith, *Bauhaus Weaving Theory: From Feminine Craft to Mode of Design* (Minneapolis and London: University of Minnesota Press, 2014).

xxxi As Anna C. Chave has noted in her 1990 article, the decorative entailed a level of detail that risked the association of an artwork with intimacy. Quoting Robert Morris's "Notes on Sculpture," Chave argued that while Minimalism worked to eliminate detail, which would risk the artwork's unity and render it vulnerable and "pull it toward intimacy," intimacy was central to women's practice. Anna C. Chave, "Minimalism and the Rhetoric of Power," *Arts Magazine* 64, no.5 (January 1990): 57. See also Elissa Auther, "Miriam Schapiro and the Politics of the Decorative," in *With Pleasure: Pattern and Decoration in American Art 1972-1985*, ed. Anna Katz (New Haven and London: Yale University Press, 2019): 70-103.

xxxii Valerie Jaudon and Joyce Kozloff, "Art Hysterical Notions of Progress and Culture," *Heresies* 4 (1978): 38-42.

xxxiii Korot herself has explicitly moved away from the languages of craft in relation to this work, writing in 2002 that, "Among other concerns the work explores the non-decorative meaning and numerical basis of abstract pattern." Korot, "*Text and Commentary* (1976)": 12. Elsewhere she has stated, "I was a formalist, I guess. I was an eccentric in the field of video, but not in the context of what else was going on. I felt more related to what was happening in Minimalism." Korot, quoted in Pac Pobric, "How to Weave Stories in Fabric and Film," *The Art Newspaper*, June 18, 2014. Although the category of craft and how this intersects with questions of gender and/or labor have not been central aspects of the discussion around this work, they have been touched upon. In 1977, for example, the work was reviewed by *The Feminist Art Journal* and an *Artforum* review read, "Korot titled her work *Text and Commentary*. It would be as simple-minded to ask what was what as it would be to ask if part of the works was 'crafts' and the other part 'art.' Hangings which look useful on mats can become art subjects on videotape." Jeff Perrone, "Reviews New York: Beryl Korot, Leo Castelli Gallery", *Artforum* 15, no. 9 (May 1977): 63-65. *Text and Commentary* has also been broadly contextualized in relation to gender and/or feminism in the exhibitions *Fiber: Sculpture 1960-Present* at the ICA in 2014 and *Thinking Machines: Art and Design in the Computer Age, 1959-1989* at MoMA in 2017-18, although the success of this has been questioned. See Kirsten Swenson, "*Fiber: Sculpture 1960-Present*", *Art in America* 102, issue 11 (Dec 2014): 147-148.

xxxiv Korot, quoted in Grace Glueck, "Art People: When Is a Book not a Book?," *New York Times*, March 18 (1977): 73.

xxxv For example, Glueck writes, "*Text and Commentary*, her new show at Leo Castelli, explores the relationship between the loom as 'an ancient

programming tool' and the programming of video works for multiple screens, and if you can't quite see the connection yet, have patience. Miss Korot may convince you." Glueck, "Art People": 73.

xxxvi Luigi Menabrea *Sketch of the Analytical Engine invented by Charles Babbage* (1843), translated and annotated by Ada Lovelace, Note A. Quoted in *Oxford Essential Quotations (6th Edition)*, ed. Susan Ratcliffe (Oxford: Oxford University Press, 2018) [no pagination].

xxxvii Sadie Plant, *Zeroes + Ones: Digital Women + the New Technoculture* (London: Fourth Estate, 1997); James Essinger, *Jacquard's Web: How a Hand-Loom Led to the Birth of the Information Age* (Oxford: Oxford University Press, 2004); *Ada's Legacy: Cultures of Computing from the Victorian to the Digital Age*, ed. Andrew L. Russell and Robin Hammerman (New York: Association for Computing Machinery and Morgan & Claypool, 2015); and Dorothy Stein, *Ada: A Life and Legacy* (Cambridge, MA: The MIT Press, 1985).

xxxviii Sigmund Freud, *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, trans. James Strachey, in collaboration with Anna Freud, assisted by Alix Strachey and Alan Tyson. VOL IV (1900) *The Interpretation of Dreams* (London: Hogarth Press, 1953). For a recent discussion of weaving metaphors in the Freudian psychoanalytic literature see Rye Dag Holmboe, "Anna Freud's Loom", *The International Journal of Psychoanalysis* 102, no.5 (2021): 932-949.

xxxix For a critique of Freud see the chapter "anna 1" in Plant, *Zeroes + Ones*, 23-27.

xi Wendy Hui Kyong Chun, "On Software or the Persistence of Visual Knowledge", *Grey Room* 18 (Winter 2004): 26-51.

xii Evelyn Fox Keller, *Reflections on Gender and Science* (New Haven and London: Yale University Press, 1985), 3.

xiii See variously Sherry Turkle, *The Second Self: Computers and the Human Spirit* (Cambridge, MA: The MIT Press, 1984); Turkle, *Life on the Screen: Identity in the Age of the Internet* (Cambridge, MA: The MIT Press, 1995); Rosi Braidotti, "Cyberfeminism with a Difference", *New Formations* 29 (1996): 9–25; and Faith Wilding, "Where Is the Feminism in Cyberfeminism?", *n.paradoxa* 2 (1998):6–13. On the distinction between manual and mental labor in relation to the gendering of science and technology see Hilary Rose, "Hand, Brain, Heart: A Feminist Epistemology for the Natural Sciences", *Signs: Journal of Women in Culture and Society* 9, no.1 (Autumn 1983): 73-90.

xiiii Plant, "On the Matrix: Cyberfeminist Simulations," in *The Cybercultures Reader*, ed. David Bell and Barbara M. Kennedy (Routledge: London and New York, 2000), 331-332.

xliv Chun, "On Software": 34.

xlv Lisa Nakamura's work on the gendering of indigenous labour at the intersection of weaving and computing is relevant here for thinking about the specificity of the bodies involved. See Lisa Nakamura, "Indigenous Circuits: Navajo Women and the Racialization of Early Electronic Manufacture", *American Quarterly* 66, no. 4 (Dec 2014): 919-941, 1169.

xlvi The mathematical work of René Descartes is in fact connected to that of George Boole through Gottfried Wilhelm Leibniz's development of symbolic logic. For an early discussion of the history of binary code that includes reference to the Jacquard loom see F.G. Heath "Origins of the Binary Code", *Scientific American* 227, no. 2 (August 1972): 76-83.

xlvi Plant, *Zeroes + Ones*, 35. Quoting Lacan, Plant goes on to write, "Lacan lays down the law and leaves no doubt: 'There is woman only as excluded by the nature of things,' he explains. She is 'not-all,' 'not-whole,' 'not-one,' and whatever she knows can only be described as 'not-knowledge.' There is 'no such thing as *The* woman, where the definite article stands for the universal.' She has no place like home, nothing of her own, 'other than the place of the Other which,' writes Lacan, 'I designate with a capital O.'" Plant, *Zeroes + Ones*, 35. A relevant passage from Luce Irigaray might be when she writes in *This Sex Which Is Not One*, "For if 'she' says something, it is not, it is already no longer, identical with what she means. What she says is never identical with anything, moreover; rather, it is contiguous. *It touches (upon)*. And when it strays too far from that proximity, she stops and starts over at 'zero': her body-sex." Luce Irigaray, *This Sex Which Is Not One*, trans. Catherine Porter (Ithaca, NY: Cornell University Press, 1985):.21.

xlviii For critiques of Plant, see variously Susan Hawthorne, "Cyborgs, Virtual Bodies and Organic Bodies: Theoretical Feminist Responses," in *Cyberfeminism: Connectivity, Critique and Creativity*, ed. Susan Hawthorne and Renate Klein (Melbourne: Spinifex, 1999), 213–49; Judith Squires, "Fabulous Feminist Futures and the Lure of Cyberculture," in *Fractal Dreams: New Media in Social Context*, ed. Jon Dovey (London: Lawrence & Wishart, 1996): 194–216; Bela Bonita Chatterjee, "Razorgirls and Cyberdykes: Tracing Cyberfeminism and Thoughts on Its Use in a Legal Context," *International Journal of Sexuality and Gender Studies* 7, no. 2–3 (2002): 197–213; Braidotti, "Cyberfeminism with a Difference"; and Alison Adam, *Artificial Knowing: Gender and the Thinking Machine* (London: Routledge, 1998).

xlix On the history of zero/0 see Robert Kaplan, *The Nothing That Is: A Natural History of Zero* (London: Allen Lane The Penguin Press, 1999).

¹ Korot, "Excerpts from an interview with Beryl Korot." Elsewhere, Korot has described the process of weaving as "visceral." See Beryl Korot, "Thinking Machines – feat. Beryl Korot, Zabet Patterson, Tamiko Thiel," *MoMA Live*, video, 1:41:23, November 2017 <https://www.youtube.com/watch?v=idl4PqhXsmg&t=999s>.

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- li N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature and Informatics* (Chicago and London: The University of Chicago Press, 1999).
- lii Norbert Wiener, *Cybernetics; or, Control and Communication in the Animal and the Machine* (Cambridge, MA: The MIT Press, 1948), 132.
- liii As part of a wider project putting German media theory into dialogue with post-war American cybernetic discourses, Bernhard Siegert has also made a similar point about the material substrate of perspectival images. Through the writings of Leon Battista Alberti, Siegert has argued that the primary description of the grid in the history of western perspective was that of a woven veil, which served to mediate the construction of images. This ‘textile image’ is what enables objects to ‘come to sight’ by locating them in a *locus* or place. See Bernhard Siegert, *Cultural Techniques: Grids, Filters, Doors, and Other Articulations of the Real* (New York: Fordham University Press, 2015): 99-100. See especially the chapter “(Not) in Place: The Grid, or, Cultural Techniques of Ruling Spaces”, 97-120.
- liv Plant writes, “Conceived as the product of his genius and as a means to his own ends, even complex machines are understood to be tools and mediations which allow a unified, discreet human agency to interact with an inferior natural world. Weaving, however, is outside this narrative: there is continuity between the weaver, the weaving and the woven gives them a connectivity which eludes all orthodox conceptions of technology.” See Plant, “On the Matrix,” 332.
- lv In a well-known line, Haraway writes, “‘Networking’ is both a feminist practice and a multinational corporate strategy - weaving is for oppositional cyborgs.” Donna Haraway, “A Manifesto for Cyborgs: Science, Technology, and Socialist Feminism in the 1980s”, *The Haraway Reader* (London: Taylor & Francis, 2004): 30
- lvi Anni Albers, *Pictorial Weaving* (Cambridge, MA: The New Gallery, Charles Hayden Memorial Library, Massachusetts Institute of Technology, 1959).