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DiFi: Digital and Fiber

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This text explores a network of interrelationships between two superficially disparate media. Digital and fiber are entwined technologically, linguistically and socially. Digital culture does not only appropriate fiber vocabulary, it shares meaning that is tied to the history of fiber in art and civilization.

DiFi: Digital and Fiber

Terms

The Information Age is a postindustrial, postmodern era epitomized by digital systems. However, fiber has been instrumental in culture from the start. Significantly and historically fiber and textile works have maintained a constant expanding role in social evolution. And, comparing fiber heritage with digital reveals characteristics that locate new media in temporal continuity with art and culture.

Restrictions of what substance is permissible for art have been repeatedly challenged. Mind-good-body-bad philosophies are not paramount, and we do not define art according to the suitability of objective or subjective matter that is engaged. We experience and contemplate ranges. Art is permitted to engage in combining and recombining media and meanings, attaching or lacerating structures and doctrines, and sowing or shredding social behaviors. Although we cannot fix a set definition of style or subject on art, form follows function in elegant design, and content merges with manifestation in successful art. Content may be identified with meaningful information. So, the arts are uncertainly, complexly and essentially information media.

A cross-stitching of terminology between digital and fiber spins dizzying patterns in cognitive webs. In Greek the root word for art, craft and skill is also text, context, texture, technique, technology and textile. The Latin, textus, extends to weave, web, net and fabricate. Fabrication branches to other terms relating to construction including form, formula, inform and information. Digits, or fingers, used to craft material, also count and sort. Fingers type and fingers sew. Fiber, an organic or synthetic physical substance, is used to describe immaterial well as material systems. We speak of social fiber and moral fiber as well as filaments that constitute the extracellular matrix of biological connective tissue.

The scope of digital and fiber products and processes challenge dichotomies. Digital and fiber media are flagrantly bipolar in a classical context that segregates mechanical, virtual or ephemeral media from natural, tactile and concrete media. But, integrated thinking embraces disparity and champions amalgamations. Inclusive reckoning defies rigid divisions between utility and meaning, survival and knowledge and other body/mind issues. In a pluralistic field a multidirectional expedition into the organizations and meanings of digital and fiber is fitting.

Prehistory

Summaries of the pre-history of computing mention counting notations, calendars, clocks and megaliths. Generally the abacus is called the first calculating device. Then, there is a 4000 year leap to 1642 with Pascal's adding machine. Reference is made to the invention of algebra, from al-jabr, to mend, literally ``the reunion of broken parts.'' Again, there is a leap to the 19th century and Boole. Other names and devices dot the historic expanse. But the curtain really rises on Jacquard's Loom of 1881. The story rushes on to the eccentricities of Charles Babbage and Augusta Ada Byron, Countess of Lovelace, who used a Jacquard loom, the only available machine with enough complexity, to develop the hard and soft ware of the Analytic Engine that amazingly includes the main components that are present in modern-day computes: memory, processor and input/output protocol.

This sketchy account of computer history leaves the impression that not only the contraptions, but also, the social structures that relate to computers, began in Victorian parlors. The 4000 year jump in the story of information technology indicates that the modern era of industrialism, and the social economic and political transformations it propagated, was the biggest social boom since the dawn of civilization. Joseph Marie Jacquard's monumental contribution in 1801 was that he devised a loom capable of weaving and reproducing patterns of great complexity.

The importance of pattern is not only related to the economic value of fabric, it is related to the heritage of textiles as information/art. Complexity and reproducibility in textile patterning brought industrial mechanization up to code with the social and cultural demands of textile production. Thus, modern factory-made textiles were able to continue a lineage in a technology and art symbiosis that had evolved along with fiber from prehistoric times.

Mechanical processes exist in intricate natural systems and organisms, such as, the solar system and the human body. And, prior to inventions of automated devices humans utilized mechanical processes. Artifacts of preliterate cultures show evidence of counting and signage on stone carvings and cave paintings. This establishes the arts as information media at least 30,000 years ago. Reeds and skins are more perishable than stone; so, we must imagine the styles, inscriptions and decorations that adorned the bodies, dwellings and rituals of prehistoric communities. But, if pigment was used to paint on cave walls then, it is likely dyes were used to inscribe and decorate more portable and fragile materials. Furthermore, carving and painting are methods to calculate, transmit and record socially significant information, are knotting, stitching and weaving are flexible, portable methods favorable to accounting, signage and signaling.

Signals relating to identification and affiliation are ubiquitously related to the human body and social groups. And, the intimate felt experience of the body impacts the mind and attitude. For example, soft and smooth versus rough and prickly sensations infuse products with merged meaning and utility. Close to the skin, silk is more user-friendly than wool, whereas wool is optimal in the damp cold. Substance and procedures that stimulate relief, comfort and pleasure are of central concern, and they are fundamental to ontological, social and economic systems. The desirability of silk etched a trade rout between Europe and China. And, understandably, fiber products are fashioned in symbolic as well as useful ways. Additionally, fibrous structures are useful representations for ideas relating to complex interwoven, interconnected and interrelated forms of ontological, cosmological and social systems.

Fiber work is ancient. Looms were among the earliest technologies. Textiles held a lead in the industrial revolution. And, a weaving machine is appliquéd onto modernism as a monumental foreshadow to the Information Age.

Industry/Information/Technology/Art

Computers and textiles industries have comparable features. Both industries make products of extreme value built with cheap elements. Both digital and fiber media utilize hard components; yet, their functioning substance is soft. The products of both industries are more ubiquitous than is apparent. Computers and textiles are integrated into a diverse range of products in which they are embedded. For example, a car is not a computer or textile but it has an oxygen sensor and belts. Social history is entwined with fiber and digital to an extent that is seldom obvious.

Both computer and textile industries function with related labor needs supporting a class system of workers, management, and designers. Owners of the industries are among the wealthiest most powerful members of society. The use and possession of computer and textile products situate people in the social order. The quality of product used corresponds to social status. And, those without adequate access to computer or textile products are outside the social loop of the industrial culture.

The importance of textiles as a major industry is valid. However, this socioeconomic

aspect pales compared to the history of fiber and textiles as information media. The significance of complex reproducible patterns falls into place in relation to textiles as information devices.

Incredible tapestries illustrated symbolic stories, like paintings and stone masonry, in eras when textual information was unavailable, exclusive or forbidden. But, the ubiquitous use of fabric extends beyond the art of tapestries to clothing, furnishings and other accessories. Fashions and fabrics maintain significant semiotic power in the maintenance or disruption of societies. In light of this, laws and regulations are enforced to rule the acceptable use of textiles. These range from uniforms and insignia, to restricting the use of purple die for royalty and forbidding the burning of national flags. Fabric related traditions, laws and prohibitions are not based on fiber as a utilitarian material, but on fiber products as signal-transmitting information media.

The work of artists and designers is not just technical and decorative. It is to design the information that will be distributed via the fabricated product. Artists work within or outside of the approval of ruling authorities. Art, like science and philosophy, is useful, not just as a device to perpetuate dogmatic norms, but as amethod of sorting meaning in complex, abstract and uncertain contexts.

Art can perpetuate alternative modes of perception and cognition. Adaptations or rejections of industry standards manifest in minority styles and obscure fashion statements. The fusion of diverse traditions of art and culture nourishes a pluralistic flexibility. And, popular culture manifests a tribe-like discourse that contrasts with top-down mediation. Subcategories and alterations grow out of the most accessible, and least refined elements and processes, from macramé to freeware.

We can compare trends emerging on the internet to folk arts. Neither proper nor sanctioned, they adopt the most accessible techniques and foster rustic, divergent and idiosyncratic styles. Creative use of home computers and the internet resemble traditions of embroidering, quilting and needlepoint. Design and craftsmanship ranges from shabby to elegant while ignoring industry standards. Convoluted, unrefined and personal themes, along with practices of interactivity, collaboration and sharing, are integral characteristics of fiber and digital 'folk' art.

At ctheory.com, Michael Dartnell compares HTML to needlepoint. "The significance and impact of HTML, like that of needlepoint, lies not in the truth of what is told, but rather in their telling, which is social, told at specific moments, socially altered, and part of socio-political argument. Echoing Benjamin's aestheticization, de-spaced and re-placed politics are less a realm of debate, decision and resolution in a movement toward absolute truth than one of representation of human experience."

Considering the internet as a descendent of both computer and textile industries, with digital and fiber roots, contextualize important relations between information theory and cultural theories. Digital culture does not only appropriate fiber vocabulary. It shares meaning that is enmeshed with, embedded in, and derivative of fiber's heritage as an information and art medium.

Props, Costumes and Positions

"If you wear a cowboy outfit you can be a cowboy, too." The Gold Coast Singers, circa 1960.

Social position, personal identity, and indications of desirability are varieties of information transmitted via apparel and accessories. Garments broadcast the identity of a person. From kilts to kimonos, attire that exhibits rare elements and expensive craftsmanship signifies the extraordinary value of the personality. Refined threads and exclusive dies combined with brilliant patterns and immaculate design identify a person as elite, intelligent and impeccable. Through fashion and fabric, a plethora of terms cross-dress between visual and evaluative social characterizations. For example, either costume or character can be identified as bright or dull. Our identities and affiliations are branded in how we are outfitted. Labels and tags categorize our status as incorporated or excommunicated.

In a digital culture using and owning high-tech products for work and play are signs of wealth and authority. We wear, as well as employ, technology. Armies, palaces and academies are furnished with informative systems, of both textiles and computers, that correspond to the position and function of affiliates. Proper and appropriate uniform is worn to conform to standards and comply with established standing.

We can alter or falsify information, like wearing inappropriate cloths or badges, to deceive or disrupt a system. The manipulation of garb, like other organizational adaptations, functions effectively to disguise and camouflage, as well as inform.

Misinformation travels the same lines as valid data. Breaking codes, or deviant exploitation, of fiber and digital schemes mess with the constitution of an establishment. Information devices can be applied conservatively to fortify, and radically to to upset the norm. And, information devices can be used creatively to entail alternative solutions.

DiFi

Digital media are located in an assemblage of traditions that combine media. Rituals, ceremonies, theater and cinema all combine extensive cross-media components. Pomp, circumstances, suspended disbelief, hidden meaning and poetry all contribute layers of meaning to productions. And, multidirectional fiber related statements and tricks have active counterparts in digital systems. Fiber and digital applications can be rigidly authoritarian and radically irreverent. Top-down propaganda and media distribution, bottom-up infiltration and sabotage, internal regulation and external exoticism, crossing of cultural and disciplinary boundaries, scrambling after and defying regulations, ignoring propriety, and establishing or disguising identities are all aspects of an eclectic jumble.

DiFi signal and story is a woven epic of art and culture. Complicated, intertwined and influential characteristics of fiber map a social history for information technology and mass media, and exposes the roots of information arts as fibrous.

Appendix

::CrossReference

last 5 articles posted by Angel

:: **DiFi: Digital and Fiber** - May 15 2001

:: **Virtual Environments and The Internet** - Jun 14 2000

:: **IdeaConsciousness NetWorks** - Jan 1 2000

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