THE MNEMONIC NATURE OF PATTERN AND ORNAMENT

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BLA, The University of Georgia, 1995
MLA, The University of Georgia, 2005

A Report Submitted to the Lamar Dodd School of Art
of The University of Georgia in Partial Fulfillment
of the
Requirements of the Degree
MASTER OF FINE ARTS
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April 30, 2007
TABLE OF CONTENTS

LIST OF FIGURES .............................................................................................................ii

PASSEMENT, ARTIST STATEMENT .............................................................................1

INTRODUCTION .............................................................................................................2

THE PROCESS
   Achieving Pattern in Copper Mesh ..........................................................................4
   Vitreous Enamel on Copper Mesh ............................................................................8
   Creation of a Jewelry Object with Enameled Copper Mesh ..................................11

THE SERIES, PASSEMENT
   Making Adjustments and Letting Go ......................................................................13
   Passement Defined ....................................................................................................19

CONCLUSION .............................................................................................................20

WORKS CITED AND CONSULTED ...........................................................................26
LIST OF FIGURES

Figure 1: Drawing on Copper Mesh ......................................................... 7
Figure 2: Resist on Copper Mesh .............................................................. 7
Figure 3: Etched Copper Mesh ................................................................. 8
Figure 4: Opaque Enamel Layers .............................................................. 9
Figure 5: Transparent Enamel Layers ....................................................... 9
Figure 6: Transparent over Opaque Enamel Layers ................................... 9
Figure 7: Liquid Enamel on Copper Mesh ............................................... 10
Figure 8: Memory Device brooch, 2006 ................................................. 12
Figure 9: Memory Device, detail - back .................................................. 13
Figure 10: Memory Device, detail - front ............................................... 13
Figure 11: passement series pattern ...................................................... 14
Figure 12: passement 1.533d.e2.925.b .................................................... 15
Figure 13: passement 1.936.e3.925.b ...................................................... 16
Figure 14: passement 1.929m.e1.925.b .................................................... 16
Figure 15: passement 1.533d.e2.925.b, detail – back ............................... 16
Figure 16: passement 1.936.e3.925.b, detail – back ................................ 16
Figure 17: Six brooch frames with piercing ............................................. 17
Figure 18: passement 1.929d.p1.925.b ..................................................... 18
Figure 19: passement 1.800d.p1.925.b ..................................................... 18
PASSEMENT, ARTIST STATEMENT

'This body of work is an investigation into the limbic space between art, craft and design. While much of my inspiration is rooted in historical ornamentation and pattern of ages past, I seek to approach these details in a contemporary and unique manner, translated specifically into body adornment through the medium of metals. Of particular importance to this current work is the (de)valuation placed upon ornamentation during the past century. Through this work I seek to promote a new language of ornamentation based upon the consideration of ornament not simply as decoration, but as object itself. Materials and methods play important roles in the work, often leading to an underlying tension between object and image; between physical content and implied context. Each piece has been created utilizing involved technical processes, the dominant of those being etching, piercing and enameling. These processes employed have been specifically chosen due to the laborious nature of the work; as an intentional celebration and glorification of the handmade through both process and mnemonic imagery. Through fragmentation and distortion, ornamentation is required to rely on itself for both structure and form. The resulting lace-like composition is both literally and metaphorically fragile. This fragility, in combination with color and the emergent tension between object and image, is meant to suggest the notion of memory; yet memory specific to no particular time or place.'

Above is the accompanying artist statement for the *passement* series of jewelry created by Krista M. Coleman-Silvers in the six months between October 2006 and March 2007. The *passement* series was intended as the body of work to be presented in the 2007 Master of Fine Arts Candidates Exhibition at the Georgia Museum of Art in partial fulfillment of the Master of Fine Arts degree at the University of Georgia Lamar Dodd School of Art. The following text is provided to support the work and statement as well as to document the processes through which the series was envisioned and created.
INTRODUCTION

The world in which we reside is replete with pattern; it adorns our daily movement and, in its quotidian condition, is most often completely overlooked. Pattern exists within our natural environment from the subtle and calming shadows cast by various textures of foliage to the intricate thread-like veining on an insect's wings. In our built environment patterns intersect boundlessly from the grided urban street system to the glistening windows comprising a structure's façade. Pattern and ornamentation have been utilized for centuries upon centuries and across all cultures to embellish and adorn, but most importantly to communicate.

In 1908, the Austrian Architect Adolph Loos began writing and publicly lecturing on what he titled “Ornament und Verbrechen,” translated into English as “Ornament and Crime.” Though his book of the same name would not be published in Europe until the 1920's, this subject would become Loos' manifesto on the degenerate nature of ornament that was superfluous or unnecessary to everyday objects, be they architecture, fashion or the like. This ideology of Adolf Loos would impact the fields of architecture and design for the following century and perhaps beyond.

Previous to his extremist statements disregarding the value of ornament, Loos had spent three years in the United States where he had become a “convinced advocate” of Louis Sullivan’s (a fellow architect) motto of “form follows function.”

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Sullivan was not anti-ornament in his design philosophies. Sullivan believed,

“Ornament and structure were integral; their subtle rhythm sustained a high emotional tension, yet produced a sense of serenity. But the building’s identity resided in the ornament. It was the spirit animating the mass and flowing from it, and it expressed the individuality of the building. Nurtured by the artist’s sympathy with life, the ornament spoke: it was the voice of the artist and the building -- indeed they were one, the building a ‘stock personality’ and the architect an interpreter and prophet.”

A true extremist, Loos had taken Sullivan’s “form follows function” statement out of context and utilized the theoretical statement to promote his own beliefs. Yet, while dogmatic in his view, Loos did provide a good argument against ornamentation based upon the historical context of his time for, at the turn of the twentieth century, building technologies were greatly evolving and industrialization was beginning to take hold over traditional craftsmanship. In the view of Loos and others of the time, machine stamped ornamentation was dishonest in its presentation as the artisan’s hand was no longer needed for the production of such.

Why point to the philosophies held by architects to speak about, or use for the justification of, ornament? It is from architecture that the movements of modernism and post-modernism grew, and architecture may indeed be the most easily accessible art form known to the masses. We, as human beings, have a strong (arguably natural) predisposition to connect the objects with which we come in contact within a spatial

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construct. This spatial relationship is most often tied to some form of architecture for architecture is, in fact, object itself.

How is this relationship tied to ornament and pattern? Within our spatial construct we humans also seem predispositioned to consider objects by breaking them down into their individual elements, creating a mental map of the object for later recollection. The more complex an object, perhaps the more patterned or ornamented, the more we are asked to consider it. It is this consideration, whether consciously or sub-consciously thought out, which links our memory to ornament and pattern and lends resonance to each.

THE PROCESS
Achieving Pattern in Copper Mesh

During Spring Semester of 2006, for the Jewelry and Metals department at the University of Georgia, Professor Linda Darty of East Carolina University conducted a two day visiting artist workshop on an introduction to enameling. A practicing enamel artist as well as professor, Ms. Darty had recently published a book “The Art of Enameling,” and her broad knowledge of the subject was a welcome supplement to the curriculum. The visit and workshop were highly anticipated as many of the students had little or no working knowledge of enameling techniques and processes but were interested in the possibilities of incorporating color on metal through enameling.

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After participating in Professor Darty's workshop, personal interest in the integration of enameling into a new body of work grew significantly. The integration and use of a woven copper mesh was being considered for new work prior to the workshop. The properties of the mesh were similar in nature to a cloth textile and a previous series of work had explored the translation of textile, specifically textile patterns, into the format of jewelry. At the time, thought was being given to translating the copper mesh through traditional sewing techniques such as stitching and embroidery, but with a fine gauge, fine silver wire substituted for thread. The hope was to then add the enamel to both enhance the meaning through color and strengthen the delicate mesh to increase the wear-ability of a finished piece.

Four twelve inch by twelve inch samples of copper mesh were purchased from Metalliferous Inc., a supplier out of New York City. These four samples were chosen to test the properties of a variety of weaves of mesh when stitched upon and/or enameled on. The mesh sizes were: .0045" wire at 100 x 100 threads per inch, .0055" wire at 80 x 80 threads per inch, .0075" wire at 60 x 60 threads per inch and .009" wire at 50 x 50 threads per inch. Stitching and embroidery with 30 gauge fine silver was attempted, but each ultimately failed for the intended purpose. No matter the variation in weave size of the copper, a needle was required to penetrate the silver thread through the mesh surface; the smallest of needles ripped through and left the mesh with jagged gaping holes.

Yet, not all hope for utilizing the mesh was lost. Though the needle holes were awkward and unappealing, the resulting negative space had the potential of creating striking visual interest. The focus shifted from creating pattern through the addition of
material on the surface of the copper mesh to creating pattern through the subtraction of the copper mesh itself.

For the subtractive process on the mesh, several techniques were considered including piercing (mesh was too fragile for the sawblade’s pressure), cutting with scissors (scissor blades stretched the edges of the mesh) and die punching (only specific shapes could be removed). Ultimately it was decided that utilizing an etching process would produce the most desired image/pattern result and cause the least harm to the woven structure of the copper.

Though the etching of copper sheet stock with a solution of Ferric Chloride is relatively straightforward, new problems presented themselves with the etching of copper mesh. The mesh, even when flat, has a greatly increased surface area, comprised of many individual wires that must be fully protected with a resist where the metal is meant to remain intact. Three main resist types are utilized for etching, asphaltum, Press-n-Peel Blues (PnP Blue) transfer film (a computer industry product for circuit board etching), and opaque oil-based-medium paint pens. Asphaltum, though it can be applied with a paint brush, is a material with low viscosity that does not lead itself to fine details. It is best utilized, as in printmaking techniques, by covering an entire surface with the material and removal of a drawing by “scratching off” of the surface. The PnP Blue works with a heat transfer process through which the film resist is burnished onto the surface of the metal. Due to the extreme surface area of the mesh previously discussed, the adhesion of the PNP Blue transfer film was limited, at best, on the mesh. The remaining resist method to be tested was the oil-based paint pen.
Early trials with various brands and colors of oil-based paint pens were unsuccessful as the resist did not withstand the Ferric Chloride etching solution, and the mesh became brittle upon the cleaning off and removal of the resist medium. Other colors and brands of paint pen were tested, with additional layers of resist applied, until a successful etch of the mesh was achieved with no degradation to the woven mesh structure following cleaning. The testing samples proved that the Sharpie® brand paint pen in the color red provided the greatest resist to the Ferric Chloride solution. It was also determined that a minimum of three coats of the resist would be needed on each side of the mesh surface for protection of the woven mesh structure.

In order to transfer and image or pattern onto the mesh prior to the application of the resist, a fine tipped black permanent pen was utilized to draw directly onto one side of the copper mesh sheet. (Figure 1) Once the pattern was drawn, the paint pen resist was used to fill in the areas to be protected with resist. (Figure 2) Due to the semi-transparent nature of the mesh sheet, it was not necessary to draw the pattern on each side with permanent marker for, once one coat of the resist had been applied, the sheet could be flipped and the pattern seen.

Figure 1: Drawing on Copper Mesh

Figure 2: Resist on Copper Mesh

Typically, etching processes are utilized to produce an image in the surface of metal sheet only; the image to be etched is applied with resist and the remaining surfaces of the metal (specifically the sides and the entire sheet back) are covered with resist before the image is etched away from one surface. However, since the desired result with the mesh was the integration of image/pattern through complete subtraction of the copper mesh in specific areas, it would be best to apply the resist in pattern on each side of the mesh and etch from both sides simultaneously to avoid any undercutting or degradation of either mesh structure or desired image.
through. Resist could then be applied to the opposite side. This process would be repeated until, as stated before, a minimum of three coats of resist were placed on each side of the mesh.

When fully dry, the copper mesh with applied resist was placed in the Ferric Chloride solution. Etching times varied based upon several conditions including, but not limited to, freshness of the solution and ambient room temperature. Under near perfect conditions (new solution and warm temperatures), a successful etch could be achieved in thirty to forty-five minutes. In lieu of harsh removal chemicals such as acetone, the resist was cleaned off of the mesh surface by placing the mesh fragments into disposable plastic bags, filling with a 3:1 solution of concentrated biodegradable Simple Green® cleaner and water, and agitating in a heated ultrasonic cleaner for approximately thirty minutes. The resulting mesh fragment had a crisp clean pattern etched through the entire surface. (Figure 3)

Vitreous Enamel on Copper Mesh

Once the most successful process of etching a pattern into the copper mesh had been determined, various samples of pattern mesh were treated with vitreous enamel. While still utilized as a means of determining the process that would be applied to a
final piece of work, these enameled mesh samples were just as much an exploration into the various surfaces that could be achieved through the use of vitreous enamel.

Two prominent enameling techniques were tested on the copper mesh, the first being the technique of sifting. Briefly, this application involves sifting a ground enamel powder onto the carefully cleaned\textsuperscript{7} surface of copper. On shapes with little or no dimension, sifting can be done with no binder. For shapes with more dimension, a holding binder should be applied to the copper surface prior to sifting the ground enamel. The binder holds the enamel in place for prior to firing. Once the binder is dry the piece can be placed in an enameling kiln and fired between 1450 and 1500 degrees (Fahrenheit) until the desired surface is achieved, typically around three minutes in time. Ground enamel can be purchased in a wide range of colors, both opaque and transparent, and multiple colors were tested either singularly or in combination with one another. Varieties ranged from all opaque layers (Figure 4) to all transparent layers (Figure 5), as well as an opaque base with transparent over-layers (Figure 6).

\begin{figure}
\centering
\includegraphics[width=\textwidth]{images}
\caption{Opaque Enamel Layers}
\end{figure}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{images}
\caption{Transparent Enamel Layers}
\end{figure}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{images}
\caption{Transparent over Opaque Enamel Layers}
\end{figure}

\textsuperscript{7} Penny Brite\textsuperscript{®} was applied with a soft toothbrush in order to gently clean the etched mesh fragments.
Liquid enamels were also tested on the patterned copper mesh. Liquid enamel is best described as similar in type to the enamel that is utilized in industry to surface appliances. For the jewelry studio, liquid enamels can be purchased pre-mixed, or in dry powder that must be mixed with distilled water prior to application. With the exception of one semi-clear option, all liquid enamels are opaque. The copper was coated with the liquid enamel by both dipping into and pouring on of the enamel. Prior to firing in an enameling kiln, the liquid enamel must be allowed to dry to "bone dry" to avoid separation cracking during firing. Liquids can be fired at the same temperature range as ground enamel. Thinly applied liquid enamels produce an interesting color effect on the fired surface of the copper mesh due to the copper oxides that combine with the liquid enamel. (Figure 7)

For firing of either enamel type, placement of the delicate copper mesh pieces was an experimental undertaking, and modifications from typical firing methods would need to be made. Trivets, whether three or four pointed, provided initial support for the mesh but, once the enamel reached a flow temperature, the center portion of the mesh would begin to sink and the mesh would slide down into the trivet. Enameled mesh samples were also fired on steel wire firing racks. Alone, the racks would leave a discolored indentation at each contact point on the mesh; with a mica sheet between the mesh and the rack, discoloration was not an issue. However, small flakes of the mica would embed into the enameled surface of the mesh.
Though the mica could typically be removed with an alundum stone, the fragile nature of the mesh made this undertaking nearly impossible. Additionally, with each testing of the firing rack, any formed dimension in the mesh would nearly disappear as the mesh would sink under its own weight when the enamel reached flow temperature. Finally, it was determined that the best possible firing set up for enameling onto the mesh with little or no distortion would be to suspend the mesh fragments vertically from nichrome wire attached to tri-pointed trivets.

Creation of an Object with Enameled Copper Mesh

Once a sufficient number of samples had been produced in order to understand the working properties\(^8\) of and best processes for creating the samples alone, the next challenge was to devise a method for incorporating the enameled fragments into a wearable piece of jewelry. Working within the parameters that had been recently established through the sample making process, a pattern was chosen, sketched onto an oval of a mesh fragment, etched, and prepared for enameling. The concept for this piece was intended to return to the earlier ideas of utilizing stitching within this new work, and an oval frame was constructed with the aim of suspending the enameled fragment within the frame utilizing fine silver wire.

The color chosen for this piece was white; it was selected for its neutral qualities. The oval shape of the frame and interior enameled mesh fragment was also a conscious

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\(^8\) Though all of the various weaves of copper mesh worked for both etching and enameling, the 0055\(^*\) wire at 80 x 80 threads per inch and the .0075\(^*\) wire at 60 x 60 threads per inch had the least amount of problems during the etching and enameling sample processes.
decision based upon the desire to utilize a shape that was classical in composition and easily read. The wall of the frame was exaggerated in height, the outside wall sparse and finished in a brushed satin texture, the interior walls high polished. The upper edge of the frame was cut to reference objects not unlike silver flatware. When placed inside the frame, the course texture⁹ and irregular edge of the mesh fragment created a stark contrast with the smooth and shiny silver surfaces.

Suspending, or stitching, the enameled mesh into place with fine silver wire was unsuccessful. The wire, though pliable, did not create enough tension to hold the enameled mesh in place. In lieu of the wire, a teal colored silk embroidery thread was used and provided color contrast within the piece. Ultimately this piece of jewelry, titled Memory Device (Figures 8, 9, 10) would become the springboard for an entirely new body of work.

Figure 8: Memory Device brooch, 2006

⁹ Texture was achieved through multiple firings of opaque white enamel, the last two firings reaching first “orange peel” and then “sugar fired” surfaces to render the texture.
THE SERIES, PASSEMENT
Making Adjustments and Letting Go

Many lessons were learned from the test sample processes and the making of

*Memory Device* as described in the preceding text. Technical issues relating to the
manipulation of, and production of pattern in, the copper mesh had been solved. A
procedure had been developed for the application and firing of vitreous enamel onto the
mesh. One method of setting the mesh fragment into a wearable piece of jewelry had
been developed. The use of the pattern in combination with the silver and thread had
begun to formulate fairly specific connotations. Yet upon further contemplation of the

*Memory Device* piece, it seemed abundantly clear that there was a disconcerting
connection between the frame and the enameled mesh fragment. Scale seemed an issue as well. How could the two be better integrated; how could the imagery and context be made less specific for allowing the viewer to consider a piece further? At what scale could the pattern and resulting piece of jewelry be rendered most effective?

While utilizing the same pattern (Figure 11) from Memory Device, three new brooches were produced. These three would be the first of eighteen brooches\(^\text{10}\), one necklace and one sculptural object comprising the series. In keeping with the structured use of a frame (as with Memory Device), sterling silver sheet was utilized once again but oriented horizontally rather than vertically against the plane of the body’s front. The frame edges were treated with a cut pattern detail similar to their predecessor, and the frame structures were of classic shapes – circle, oval and square. Where the new pieces differed was with the interaction of the mesh to the frame.

Smaller shapes corresponding to the frames’ exteriors were offset from the edges and pierced out of the sheet frames leaving a significant negative space in each. The patterned mesh fragments were then forced through the negative space and held in

\(^{10}\text{The ratio of brooches to other jewelry formats within this series is significant. While the brooch is the least intimate of personal jewelry adornment (as it makes little direct contact with the physical body), this format is viewed as an object of engagement between the wearer and the viewer, creating a dialogue (spoken or not) of the ideas represented or supposed.}\)
place with surface tension. The forcing of the tactile mesh resulted in a distortion of the surface, and subsequently the pattern. The result, though somewhat uncontrolled, created a significant rupture from the static flat planes found in the Memory Device piece.

The final test would be the enameling process. Because sterling silver was being used in lieu of fine silver, the enameling of these pieces was a bit uncertain if not risky. Liquid enamel was chosen for these pieces for its ability to be poured onto the surface to be enameled. Once the mesh was coated, additional enamel was added to cover the backs of the brooches and to make a connection in the areas where the mesh was in direct contact with the silver frame. The brooches were fired at 1485 degrees, held at this temperature for approximately two minutes and removed from the kiln. So as to slow down the rate at which the pieces cooled (due to the expansion and contraction rates of the sterling silver to enamel), they were placed atop the kiln to cool. Though some warping and slumping of the mesh had occurred upon firing, the results were alluring and effective.

(Figures 12, 13, 14)

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11 Related to silver, enameling is more compatible with fine than sterling silver. Fine silver and enamel have similar rates of expansion and contraction when heated or cooled. The varying rates of expansion and contraction when enameling on sterling silver can lead to cracking or breaking on the surface of the fired glass. Sterling Silver must be depletion gilded for best results. This process brings a layer of fine silver to the surface of the metal with repeated heating and cleaning in an acid bath. Additionally, oxides in sterling silver can cause discoloration from the enamel's intended color. However, this result could be purposefully intended.
Unexpectedly, the backs of each of these brooches had taken upon a life of their own when fired. The layer of liquid enamel had combined with the copper oxides in the sterling silver alloy. Texture and an additional color were created through this combination, adding depth and interest to the back of the pieces, an area often overlooked. (Figures 15 & 16)
Prior to the end of 2006, six additional brooches were added to the series, and an additional shift was made within the parameters of the frame. Again sterling silver was utilized with liquid enamels on the mesh fragments; like the previous three brooches, the shapes of the frames were constrained to classic but simple shapes. The frame variation was achieved by piercing the brooch frames with the same pattern being etched into the mesh. The pattern on each frame varied in both scale and in the specific area of the pattern duplicated. Additional variation was achieved by utilizing a variety of shapes or motifs found within the pattern to create the negative space through which the mesh would be inserted. The edges of these six frames did not receive a decorative detailing; rather the pattern was allowed to overlap and fragment. (Figure 17) Three of the six frames were concave, three were convex. These six pieces were fired at the same temperature as the previous three. Additional colors were utilized in this set to broaden the depth of the series. (Figures 18 thru 23)
Passemmt Defined

Explanation should be provided for the title of both the series and the individual pieces of which it is comprised. Titles are often provided to lead the viewer into a piece, to provide an additional layer of understanding. Conversely, a title can be too leading, and cause the viewer to lose interest. The title passemnt was meant to do neither; rather it was intended to be ambiguous enough for one to want to look further, to question the work and its intent. Technically, as defined by Webster’s Unabridged Revised Dictionary, the meaning of passemnt is lace, yet passemnt is a relatively obscure term that is seldom used. The accompanying artist statement denotes that the pieces within the series are “lace-like” – yet they are not specifically meant to be about lace. The obscurity of the word ‘passemnt’ seemed to help solidify this thinking. All lowercase letters were used in the word ‘passemnt’ in the hope that this submissive treatment would also carry resonance within the title.

The numbers and characters in the individual piece titles are a system of categorizing the work. As this work began as a series, it was important to keep a record of the various details unique to each one. These categories of classification are not intended to enhance the meaning of the work or the title for anyone other than the maker, but an example of the system follows:

Where title is -- passemnt 1.929m.e1.925.b,
then: 1 equals the pattern number used (times the number of pieces of mesh i.e. 1x3), and 929 equals the color number of liquid enamel used
m indicates a matte (etched) surface,
and e1 equals the pattern of the edge treatment,
and 925 indicates the frame material is sterling silver,
and b indicates the piece is a brooch.
CONCLUSION

How does pattern, as incorporated into the *passement* series (remaining pieces and installation view Figures 24 thru 36), work as a mnemonic device? While some may view these pieces as "lace-like" due to the presentation of the patterned imagery, others may indeed draw relationships that are very different. For instance, actual remarks have been made in regard to these pieces bearing a likeness to naturally occurring organisms such as lichens or sea plants. Considering the detail (pattern!) found on these beings, such is neither surprising nor discouraging; in fact, these correlations strengthen the argument for pattern as a mnemonic device.

While the colors incorporated into the series are specific, the hope is that their softness and muted character also help the viewers' recollections be led to a general feeling of nostalgia, of 'serenity' as earlier referenced by Sullivan. A juxtaposition to this nostalgic view has been incorporated through the metaphoric and literal fragility of the individual *passement* pieces. A viewer would be hard pressed to look at this series and not begin to remember, to make connotations with, something they have experienced in the course of a life; memories are themselves fragile. It is not important for these memories to be a similar collective thought; rather the actual intent of the series is to spark the memory and lead it to where it naturally might want to go. And, like Sullivan's belief that the 'subtle rhythm' between ornament and structure resulted in 'high emotional tension,' so do I believe the identity of the pieces within the *passement* series resides within the ornament, the pattern, itself.
Figure 33: passement collier

Figure 34: passement collier, detail - center


