Industrial Mechanisms in Jewelry: Aesthetics, Function and the Human Condition

By

Laura Elizabeth Mullen

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By

Laura Elizabeth Mullen

Approved:

[Signature]

Rob Jackson, Major Professor

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Date
In art as well as in life, opposite and contradictory tendencies occur and shifting movements evoke reaction. Movements in art can act as social indicators, as they evolve and change to address contemporary issues. This is seen in the example of the Arts and Crafts movement of the late eighteen-hundreds and early nineteen-hundreds. The Industrial Revolution placed consumable objects into a factory setting, eliminating all evidence of the hand in the final product. Society was yearning for evidence of the maker in objects by hand marks and tool marks and this shift in attitude resulted in the Arts and Crafts movement, which was a reaction to this sterile and mechanical production of items. It is in this same way my thesis body of work is a reaction to how I view contemporary society.

The work is made up of jewelry that uses mechanical components for aesthetic value. The first eight pieces make up a series of brooches that invite viewer interaction with small crank turned mechanisms. The second series is made up of eight necklaces that evolved to use mechanism in a more wearable format. Both series reference large scale machines from an industrial setting and symbolize to me the growing mechanization of culture, while at the same time they offer an intimate experience. The appropriation of mechanical language removes the mechanism from real world applications and miniaturizes the scale. By removing the function, these same elements are viewed for aesthetics of ornamentation and invite viewer interaction. The industrial materials steel, aluminum, rubber and glass are often combined with precious materials such as silver, gold, diamonds and pearls. The juxtaposition of these materials is intended to bring perceived notions of value into question. This work explores issues of scale, decoration, material values and viewer interaction, which are all effective in offering an intimate experience, and evoking contemplation about increasing depersonalization of contemporary society.

While both series are about interaction, the Cranky Brooch Series express ideas about enticing

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1 Adamson, Pg. 44
2 Adamson, Pg. 69
interaction with movement. *Cranky Brooch #3* (Img. 1 and Img. 2) uses spoke gears attached to a pulley system which all rotate when the handle is turned. The pearl handle is not only inlayed with rubber; it has small faceted stones, which are also set at the end of each spoke on the gear system. When the gears on the underside of the brooch are worked, the top pulley system is also turned. The main shaft of the gear penetrates a nickel back plate and connects to one pulley. The pulley then has a black rubber gasket which is used as a pulley belt, so when one pulley is turned around the belt causes the second pulley to turn as well. *Cranky Brooch #6* (Img. 3 and Img. 4) has precious stones and pearls encased in glass components, and when the crank is turned the chain unwinds to reveal stones on one side while covering them on the other. One side of the glass center is a larger circumference than the other. As the larger side un-rolls the chain, the thinner tube cannot catch up and roll the chain at the same rate. The extra chain is left dangling in a long loop off the base of the brooch. In this series every
piece has a manual crank that, when turned, causes a mechanism to move and this draws viewers in with manual stimulation. Contact with the pieces creates an intimate relationship between the viewer/wearer and the object.

The other series in this mechanical body of work is the mechanism necklaces. These eight necklaces each investigate a new and different mechanism while also maintaining the wearability. The mechanical inspiration is miniaturized and made of silver, which is sometimes embellished with stones. One necklace in this series is the Load Clamp Necklace (Img. 5 and Img. 6), which is based on a mechanism that is used on large-scale industrial moving operations such as loading crates or barrels. This necklace utilizes this same industrial load clamp but in a jewelry context. In industry the mechanism clamps harder to its load the heavier the load is. This is also the case in the Load Clamp Necklace and every link clamps onto a small sand filled glass vial. Each lower vial is descending in circumference and attaches to another claw to complete the link unit. The piece must be built on the body because if there is no gravity pulling on the load, the clamp will not hold the lower link in place. Another way in which the necklaces explore mechanism in a wearable format is through the use of springs which expand to be put on and then contract onto themselves while being worn.
The Piston with Ball Joint Necklace (Img. 7 and Img. 8) has compression spring loaded pistons which expand out when pulled on. The ball joints are made of nickel plates with pearls acting as the ball bearings. Pearls are used to draw attention to the precious material by using it in an industrial joint connection. The pearls are protected from being scratched by the nickel plates because there are rubber o ring gaskets sandwiched in each unit. Another of the mechanisms explored in this series was inspired by an antique stethoscope and used these elements in Spring Mechanism Necklace (Img. 9 and Img. 10). When the spring is compressed, two hinged glass legs, which encircle the neck, open and close. These legs are set in silver housings, filled with burnt sand, and capped with silver, rubber gaskets and cubic zirconium. When the spring in this piece is compressed the hinges all move and cause the glass legs to open up so the piece can be put around the wearer's neck. While the Cranky Brooch Series evoked interest by the working of the mechanism, the necklaces shift to using mechanisms in a more
wearable format. The act of putting on any of the *Mechanical Necklaces* causes the moving parts to activate and this evokes a personal experience between the piece and the wearer.

The reduced scale seen in these pieces is used for a few different reasons. One practical reason why the mechanical elements are undersized is a result of the removal from real world applications. Since the mechanism is removed from a real world application the focus is placed on only the moving part. The elements can be appreciated for their aesthetics instead of their functionality in industry, or their ability to be applied in workings of a larger whole. The scale is one of the most direct ways that this work addresses the issue of depersonalization and suppression of human emotional tendencies.

Suzanne Ramljak writes,

> Intimacy is a universal human desire. We are destined to pursue close personal and physical relationships with other people and things. While the means for achieving such intimacy vary from culture to culture, this basic need finds fulfillment in every society. Within our own high-tech culture the opportunities for intimate, personal encounters are becoming rarer as mediated experience supplants direct contact and public and private realms increasingly coverage.³

This illustrates how it is in human nature to crave personal experiences and all cultures historically have dealt with this human condition. Our culture will be no exception; unfortunately contemporary society is searching for the prospect of intimacy and there are not many stages where experiences are encouraged. One piece which encourages personal encounter is *Cranky Brooch #1* (Img. 11 and Img. 12).

³ Ramljak, Pg. 186
12). The design is based off of a piston and rotating shaft mechanism and then miniaturized in scale, and when the viewer turns the rubber inlaid pearl handle the crank shaft rotates causing the pistons to unguulate back and forth inside glass tubes. There are small stones set on the ends of the pistons, and this intricate detail invites the viewer to experience the piece’s smallness, and this creates an intimate experience. This is a result of the direct manual relationship of the operator to the mechanism in the piece.

A significant indicator of an intimate object is miniature scale and intricate detail. The prevailing affinity for little things can be witnessed throughout human history, and it can be posed that the fascination with the diminutive is linked with control. Capability to manipulate the very small gives the appealing satisfaction of control over an object or situation. The minuscule scale of a piece can also evoke an intimate experience because it draws the viewer in by requiring more focus and a heightened awareness to detail. Just as Ramijak writes “Just as a whisper makes us draw nearer to decipher the worlds, so too intimate objects demand close proximity before divulging themselves.”

The use of mechanical elements as decoration for their aesthetic value brings attention to aspects of machines that are present in everyday life. Machines often exist in order to assist humans and are usually built from necessity. Industrial machines especially have little or no decoration and attention to the aesthetic, but purely obey the form follows function model. If a machine is decorated usually this adornment is applied to an outer case or functions in its own way to hide or protect the moving parts. These aesthetically ignored and disregarded aspects are what I find most beautiful and I strive to call attention to these hidden gems in our culture. The deeper aspect of the decoration concept is represented by the seemingly unnecessary addition of small faceted stones to almost all ends

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Ramljak, Pg. 190
of gear spokes, tops of bolts and caps of pistons. In the *Piston Necklace* (Img. 13 and Img. 14), the end of each piston is capped with a facet stone, which draws attention to the moving part as well as bids the viewer to examine the finer, almost hidden parts of the piece.

Other principal elements used to connect with viewers on a personal level are secretive, or almost easily missed, finely decorated components. This attention to detail is seductive and inviting in nature as a result of discretion and effectively offers a personal experience. Repetition is used as the essential design element in some of these pieces in order to add visual interest and emphasize their importance. Many recurring elements aid in the design by enabling mechanical elements to be placed in the traditional jewelry necklace format. This is used in the *Universal Joint Necklace* (Img. 15 and Img. 16), which uses a repeated mechanical element. The necklace is able to be rotated and twisted around as a result of the industrial and mechanical connection between each link. In this body of work the

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5 Ramljak, Pg. 190
white faceted stones, made of the material cubic zirconium, are applied to the ends of many gear spokes, inside of piston mechanisms, and on the end of small bolts. This is used in *Cranky Brooch #2*, (Img. 17 and Img.18) which has each gear spoke capped with a small faceted stone. The spoke gears cause a plexiglass topped cage to rotate and tumble around faceted stones and pearls. These stones on the end of the spokes frequently appear, and their presence is deliberate because they add an extra dazzle or sparkle to the ends or parts of a machine, which is not normally adorned or acknowledged. They also aid in bringing attention to moving parts in a mechanism.

In this body of work many different materials are used, some of which are expected in jewelry and some which are not. Adolf Loos writes,

> Which is worth more, a kilogram of stone or a kilogram of gold? The question probably seems ridiculous, but only to the merchant. The artist will answer: All materials are equally valuable as far as I am concerned ... The artist has only one ambition: to master his material in such a way that his work is independent of the value of the raw material. ⁶

Traditional jewelry metals used in this body of work are silver and gold, which have intrinsic value as well as connotations of wealth and power. Other materials that are used which have inherent values are pearls and faceted stones such as diamonds and garnets. Another material that is often seen in my

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⁶ Loos, Pg. 115
current work is burnt resin bonded sand. In Spring Mechanism Necklace (Img. 9 and Img. 10) the sand also represents an inexpensive waste material, but the act of placing it inside of glass gives it value and imposes preciousness onto an otherwise unvalued substance. Materials that are customarily considered industrial are used to add to the mechanical aspect of the work and allude to metal when it is used in industrial machines. The metals (precious or industrial) that are used all can be considered white metals, which are used as a result of the intention to imply a clean neutral and almost sterilized feel to the pieces. This sterile sense is a visual metaphor representing beauty that is cold, unyielding and un receptive. The juxtaposition of precious and non precious materials is intended to bring perceived notions of value into question. This can be seen in Cranky Brooch #5 (Img. 21 and Img. 22), which is a miniaturized bike chain that was handmade out of aluminum. Sterling silver bolts hold it together as it moves around two aluminum cog gears. On the chain there is one 18-Karat yellow gold link with two diamonds set into the tops of the bolts. This presence of gold and diamonds amidst the aluminum, plastic and steel catches the eye as it orbits around the piece, and emphasizes how precious that one small link is in comparison to the rest of the materials in the piece. The materials I use in these pieces challenge material denotations of value. This challenge is further intensified when combined with the fact that everything is hand fabricated. The aspect of the handmade and the time invested pushes the significance of invaluable materials. The most interesting way this work pushes the idea of material values is when a precious or delicate material is inserted into a traditionally industrial format. An
example of this is *Piston with Ball Joint Necklace* (Img. 7 and Img. 8) which has compression spring loaded pistons which expand out when pulled on. The ball joints are made of nickel plates with pearls acting as the ball bearings. Pearls are used to draw attention to the precious material by using it in an industrial joint connection while also using that same connection as a setting for a conventional jewelry material.

For Donald Kuspit, a critic trained in psychoanalysis, art objects have the capacity to function as restorative “toys” for adults. According to Kuspit, children use toys to make the transition from subjectivity to objectivity, whereas adults use “the toy of the work of art to make transition back to the interior reality he or she tends to forget in his or her dealings with exterior reality. He further observes that there is very little in modern society, apart from art, that encourages us to become subjective. Among the various form of art, intimate objects have a distinct advantage in cultivating our subjectivity and in aiding the transition back to ourselves.”

These pieces function on a visually interactive stage because the construction and workings are not veiled or concealed. A viewer can look at the pieces and work out how the mechanism would turn or spring back to place. This visual communication encourages manual interaction of the viewer. The need to hold, touch and experience this small kinetic object strikes and seduces viewers and offers them promise of an intimate experience.

One aspect that all pieces in this body of work share is that every mechanism is analyzed, sketched, samples made and then completely hand fabricated. Each component is cut out by a jewelers saw, soldered, filed, fit to others and then sanded. The visual presence of the hand-made is important to the work and gives the pieces greater value and depth than if machine made components had been used. The accuracy and speed that machines produce objects with is a great benefit to our society. This absolute precision saves time and eliminates the presence human error, which effectively lowers the value of human labor. Unavoidably, when industrial production is discussed there is also the argument

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7 Rowley, Pg. 187
that, as Adamson states, “Automated production, it is assumed, led to the indiscriminate production of poorly designed goods.”

The Arts and Crafts movement was a reaction against the regulated - lack of hand evidence products seen as a result of mechanized manufacture. The act of recreating precision elements by hand offers gratification as well as evokes conversation and contemplation about the positive and negative sides to stubbornly ignoring technology or existence of ready-made parts.

Another advantage in hand producing these components manually is that there is complete control over size and proportion of any part and also the whole.

The mechanisms in this body of work act as a metaphor for the human condition. The representation is used because there are obvious parallels between machines and humans; both being moving complex compositions that have purpose. The mechanical references also allude to dehumanization and mechanicalization of our culture, and conceptually warn the viewer against becoming an unfeeling entity. All pieces in these two series have a sterile ambiance which refers to how emotions are forced into a clinical and detached setting. The use of industrial materials, which are heavily laden with industrial connotations, represent the movement towards suppression of emotion and internalization of sentiment. Present-day society encourages emotional outbursts to take place secretly in private. Other visual aspects utilized in this work that are extracted from industrial visual language are texture and surface treatment. Many pieces are sand blasted or treated to emulate brushed steel, referencing machines and their emotionally barren status. Traditional formats of jewelry are used with this translation of mechanisms because of the potential for intimate and relatable associations. The atmosphere that is extracted from industry comes in the form of clean, crisp lines and geometric shapes. The fact that every part of the form follows a function and every element has a purpose alludes to humanity's desire to categorize and define everything in absolute terms. This

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8 Adamson, Pg. 44
9 Lovell, Pg. 13
10 Lovell, Pg. 13
impersonal and sterile experience visually makes indication towards present day societies' tendency to
discourage sentiment and emotion.

Artists gain inspiration from their world and aspire to immortalize what they experience. They
do this as an effort to better comprehend what they are encountering in their world. Also, they attempt
to demonstrate or call to witness others, inducing them to contemplate the concept. Research has lead
me through material explorations as well as an in depth investigation of mechanical elements. I have
discovered subtle nuances in value as well as used the intrigue that is evoked by miniaturization and
viewer interaction. Pieces combine metalsmithing techniques with material investigation to create a
body of work which comments on contemporary society as well as personal psyche. These art objects
use dichotomies placed in a tangible form. Many concepts incorporated are opposite and contradictory
yet they all embody a reaction to the clinicalization of society and depersonalization of modern life while
at the same time offer an impactive, yet rare, intimate encounter. I envision my current work to be a
subtle, yet appropriate reminder to the twenty-first century audience that there is no sense in avoiding
the evident truth of emotions as it pertains to our mental state. Within contemporary culture,
seemingly stripped down to function and efficiency, many aspects of the human condition have been
removed from society and placed in a clinical setting. Contrary to this movement, the suppression of
emotion and internalization of sentiment has shown to result more often in uncontrollable emotional
breakdown.\footnote{Johnson, Pg. 7} Although this work touches upon a subject our culture is in denial of, the work is still
extremely effective in articulating the concept of control as well as restrictions of the individual as
imposed by society. The aim is to demonstrate to the viewer, and evoke contemplation about the
condition they themselves are living in.
Bibliography


