CAMEOS FOR MODERN TIMES

A thesis submitted to the College of the Arts of Kent State University in partial fulfillment of the requirements for the Degree of Master of Fine Arts

by

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Wearable low-relief carvings depicting kings, myths and the likenesses of loved ones have continued to cycle in popularity since antiquity. Each age has had a distinct approach to the art of the cameo and each found inspiration from previous master carvings. Cameos are found world-wide and carvers have explored materials as diverse as shell, rock, glass pastes and more recently plastics. As a recurring style of personal adornment, the cameo offers the modern jeweler an opportunity to contribute to the rich tradition of image and object-making.

The man-made material, plastics, has revolutionized every facet of modern life. The impact of the petroleum industry on our economy and environment cannot be exaggerated. With this in mind, I explored a renewable resource first developed in 1896 that provided me with an alternative polymer product that I used for the production of my cameos. Casein (a protein found in milk) is a polymer once used for buttons and imitation ivory but is now used in some food preservative coatings and certain paints. The task was to replace the use of formalin (a non-eco-friendly stabilizer) with a more sustainable chemical like tannic acid (found in acorns and oak) then an eco-friendly plastic with workable and archival properties can be explored.

As a part of my thesis research I developed just such a plastic from which cameos can be carved. I have transformed an edible agricultural product into traditional adornment depicting modern scenes referencing industrialized agriculture. These signifiers of status, position, and cultural affiliation become conversation pieces that discuss the state of the American food chain, from agribusiness to man-made plagues.

_Cameos for Modern Times_ exists along a continuum of older technologies of jewelry production and particularly cameo production. The depiction of individuals and
carving of miniaturized relief from naturally occurring stone, ivory, or shell required an extensive study of material properties and decades of arduous training. With the rise of glass pastes and the eventual shift to plastics, a direct and reductive approach to the materials was abandoned to make way for the molded and mass-produced. With the demise of the hand-wrought, material knowledge and skill becomes secondary. The achievements in mold technology mirrored the larger industrial mechanization that would permeate the culture of the Sears, Roebuck & Co. catalog.

*Cameos for Modern Times* is as much about the imposition of the assembly line onto food production and the Aristotelian conception of animals as machines as it is about the current political state of the jeweler’s skills and resources. Although each assemblage of colored milk plastic is hand–carved into the form of an animal or crop, it follows in the long tradition of cameo portraiture.

With the popularization of the concept of “blood diamonds” and fair trade resources, the public is more complicit than ever in the consumption of unsustainable goods. Plastic saturates the life of the consumer citizen in what they wear, what they drive, and what they eat. As China entered the plastics industry, an enormous pool of cheap labor lowers the cost of manufacturing and sets what is known as the China price.\(^1\) The China price raises issues of origination, safety, technology, petroleum and human rights and imbues the plastic commodity with a connotative power, particularly pointed when the plastic object gains intimacy with the body.

The harm to humans from fossil fuel-based agricultural products has been documented in Rachel Carson’s *Silent Spring*. Petroleum-based insecticides have been linked to “confusion, delusions, loss of memory, mania—a heavy price to pay for the
temporary destruction of a few insects.”2 Recently, hard plastic sport bottles were found to leach chemicals mimicking hormones when exposed to harsh detergents or sunlight.

On the other hand, one may focus on the renewable and plant-based chemistry that are producing more sustainable alternatives known as ‘the green plastics’. Henry Ford in 1941 introduced a car made entirely from soybean, a durable concept car that smelled strongly of formaldehyde. Yet such soy-based innovations would flounder as industry embraced a new world of colors and textures provided by the wood and petroleum-based products, Bakelite and Celluloid. Before Rachel Carson’s revelations, the synthetic molecule was harmlessly entering every aspect of daily life. The technological trickle-down from industry to studio artist would bring plastics into artful adornment and object-making leaving a devastating trail of safety concerns that would prove lethal for many pioneers in the crafts. Plastics with their bright colors and seductive and shiny surfaces came to symbolize progress.

When a new art material is understood it can be exploited for its political meaning. An artist can exploit the meaning of its materiality and associated technologies only after the push/pull between critique and uncritical play.

The power of the arts to anticipate future social and technological developments, by a generation and more, has long been recognized. In this century Ezra Pound called the artist “the antennae of the race.” Art as radar acts as “an early alarm system,” as it were, enabling us to discover social and psychic targets in lots of time to prepare to cope with them. This concept of the arts as prophetic, contrasts
with the popular idea of them as mere self-expression. If art is an “early warning system,” to use the phrase from World War II, when radar was new, art has the utmost relevance not only to media study but to the development of media controls…

Art as a radar environment takes on the function of indispensable perceptual training rather than the role of a privileged diet for the elite.³

As one of the immortal artifacts of modernity, plastic remains the most iconic and politically charged. Wedded to petrol politics and American ingenuity, plastics is a field on the cusp of a new era. With the Gulf of Mexico filling with crude oil, glacial melting and climate change, the politics of petroleum remain more relevant than ever to the modern consumer citizen. As corporations greenwash their image to quell the growing discontent among those affected the Recession, a synergy between plastic and agriculture fill the need for rebranding. Bioplastics – green plastics based on biological polymers (plant or animal proteins, starches, cellulose and fibers) – existed long before Henry Ford’s 1941 soy-based concept car, yet only now can it find a niche of its own by supplementing the established petroleum industry.⁴ Already subsidized corn and soy compete for the same plastic dollars as subsidized petroleum. Like any new technology, hype and enthusiasm easily outweigh health considerations for both humans and the environment alike. In the march of progress the road to tomorrow is paved with casualties. From acid rain to Three Mile Island, history continues to provide reasons for caution and vigilance.
Deskilling, the infiltration of the division of labor into the art world served three purposes: to free the artist from the trappings of traditional limitations of medium knowledge, to alienate the artist from an historical body of knowledge; and to enforce an implicit dependence on an industrial production system framed as an advancement of class. The Impressionist painters found their knowledge of paint production unnecessary with the introduction of standardized and industrially produced tube paints. The advancement of technology through a concerted influx of capital toward consumer product manufacture would provide the artist with innovations and the opportunity of new processes and materials yet would earmark older techniques and technologies for the “workers in other-than-art fields.” As the arts gained prestige they lost a history of making within their practice, sacrificing the innovation in a mastery of skills to the fleeting stylistic bias of increasingly deskilled art. Most importantly, this infiltration of the division of labor within the disciplines of art deconstructs the strict roles of the artist, the producer, and the consumer.

In this context of blurred producer/consumer profiles, the artist as maker must determine the marketability of the creation. Through the avoidance of precious material or the use of ephemeral, alternative or virtual materials, the metalsmith is forced to deskill in the traditional skill-set and retool outside of the craft tradition.

The digitization of art replaces outmoded and unhealthy technology. Between CAD/CAM-based design and manufacturing programs, milling and 3D printing machines and the monetary attraction of an industrial-friendly skill-set, academia faces the technological obsolescence previously reserved to industry and the sciences. In this virtual realm the element of chance for the CAD/CAM artist must be imposed on the
custom readymade object. The simultaneous removal of the maker’s hand and the entrance of new cybernetic tool knowledge exemplifies the nature of deskilling for the contemporary metalsmith. Reenacting the paradigm shift from manual machines operated by pulleys and levers to the electrified or hydraulic tools using motors and gears, the evolution from the manipulated motor to the automated mill serves to further inculcate the platonic mind-body dichotomy and render hand-tools obsolete.

Alongside the decline of manual skills lies a current to absorb industrial technologies into realms of personal expression and an urge to miniaturize industrial processes for studio practice. This process of acquiring and adapting new technologies and skills can signify a tendency to re-skill and revalue what was deemed outside of the over-specialization that has become art making. Here one may reference the optimism within the emergence of new media proclaimed by media theorist Marshall McLuhan who would posit innovations as mere “extensions of man” deemed to be another tool equipped with its own biases, optimum uses and benign proclivity if used properly.

Energy and production now tend to fuse with information and learning. Marketing and consumption tend to become one with learning, enlightenment, and the intake of information. This is all part of the electric implosion that now follows or succeed the centuries of explosion and increasing specialism… Just as light is at once energy and information, so electric automation unites production, consumption, and learning in an inextricable process… The very same process of automation that causes a withdrawal of the present work force from industry causes learning itself to become the principal kind of production and consumption.
Automation requires an operator and thus requires continual learning. An object produced through automation references the commodity while it is imbued with this didactic element. In this spirit, *Cameos* is a meditation on Orwell’s “historical impulse” – “the desire to see things as they are, to find out true facts and store them up for the use of posterity.”  

*Cameos* answers a drive to discover a visual vocabulary with which to present the use of living things as a means rather than an end.

In a parallel fashion the industrialization of the food supply has transformed the edible. The field of green plastics or bioplastics has made little headway beyond the simple supplementation of petroleum products for the purposes of greenwashing in an attempt to subdue the consumer’s response to the politics of petroleum. Industries that have done the most research into biologically based polymers tend to be aiming for reliably safe and stable elements for food preservation – films, sprays, coatings, waxes and the like. Through that research I found the most dynamic and effective elements were corn zein (protein), casein (protein in milk), and beeswax. Ultimately, through experimentation, I chose to use an amalgam of colored milk curd and beeswax (the disappearing bee).

Known as Galalith, casein plastic dates back to the 19th century and was traditionally treated with formaldehyde as a stabilizing agent to reduce its vulnerability to the elements. I found a suitable alternative in tannic acid that could be obtained by boiling acorns. Experimentation with hard cheese processing techniques reduced bubbles, allowed more precise carving and provided a variety of methods for extracting the casein from grocery store milk.
The primary protein in milk is casein and is found in different concentrations and variations within each batch. Since the first patent in 1896, casein plastic has seen its rise as an imitation of ivory and horn (1920s, ’30s and ‘40s) fall with the advent and domination of petroleum-based plastics like Bakelite. Reserved for buttons and knitting needles casein plastic remained on the fringes of the American plastics industry until its final factory closed in 1980. The only producers still in business operate out of New Zealand specializing primarily in knitting needles for their peculiar properties of feel and flexibility. The primary factors contributing to its downfall were the rise in the raw material cost relative to heavily subsidized petroleum, and the problematic industrial waste from the formaldehyde-based finishing process. Such setbacks without new technological innovation remain valid today especially within the petroleum industry’s domination of the plastics industry.

World War II fostered new forms of food that would feed troops regardless of location or climate. Beyond the scope of the plastics industry, casein would find a small foothold in the field of food preservation, particularly in food coating processes. Advancements in a global system of industrial food production require that the natural lifespan of fresh foods be expanded to allow for transport, distribution and processing. To survive with the least amount of loss in nutrition and flavor, everything from meats to seeds require extra layers of protection from relative humidity temperature changes and the ravages of oxidation. The NASA and the Natick Laboratories and their contractors performed the most extensive work on edible food films for space flights. Toward this end, the development of edible food films has reintroduced more natural products back
into the polymer vocabulary delivering fresh research on the potential properties of proteins, polysaccharides and lipids.

Meanwhile, biopolymers as biodegradable replacements for short shelf-life plastics face the challenges of all polymers: opacity, flexibility, fragility, stability, mechanical and optical properties, and ultimately water vapor barrier properties (questions of solubility and density). The denaturation and binding properties provided by tannic and lactic acid treatment (in place of formaldehyde) finish the milk plastic - hardening it against the elements, stabilizing its constitution and establishing its place alongside short shelf-life plastics.

The rise of American industry found a boon in processed food, industrialized agriculture, and mass-produced goods as it went to work for the government to supply for the war effort. Such advances in technology would adapt to a manufactured domestic market of mass consumption for the emerging middle class. Under such conditions the rise of imitation materials and the development of marketing strategies to exalt the usurping phenomenon of colored plastic would bring affordability to the industrial byproducts that would fuel the burgeoning plastics industry: from urea, gelatin and casein in the food supply to cellulose, wood esters and acetate from the timber industry. As applied chemistry gained a foothold and dominated the realm of raw materials with advances in petrochemical technology, biopolymers and simple semi-synthetics would fade into obscurity having lost the cultural esteem and prestige of the traditional natural materials. Partly in reparations for the toxicity of synthetic alternative materials and also acknowledging the global socioeconomic and environmental impact of traditional materials, the pursuit of applied biopolymers offers a unique opportunity for a sustainable
homemade resource while still informing a critique of the industrial food supply and consumer culture. In this sense, *Cameos For Modern Times* serve less as souvenirs or stand-in for events than as signifiers of power-portraits of prominent rulers of the new empire. Pushed toward “cheap food,” American agriculture places affordability before quality as it replaces the cultural norms around food with exchange value. Industrial processing dislocates the citizen from their food and transforms them into consumers. By alienating the consumer from the consumed, industry gains a level of amoral control ideal for exploitation for capital gain - namely, biocapital - the objectification inherent in the ideology that reduces the element of life to genetic sums, a biopolitical version of capitalism.

Food animals as widgets seemed the most ideal communication of the concepts of objectification and abstraction central to the colonization of any field by the division of labor rationale. Rather than miniature depictions of rulers on currency, *Cameos* present tiny trophies of crops and livestock, colorful carvings set in silver that capture the modern fallacies in the mythos of food. Resonating with the tradition of cameos, which depict heroes, leaders, and mythological inspirations, *Cameos* subverts the hubristic hierarchy of man over nature while presenting these recently patented inventions of man. Pairings within the series reveal inversions of food crop and food animal, object and subject become indistinguishable as their genomes become interchangeable fodder through the wonders of genetic engineering.

As our proliferating technologies have created a whole series of new environments, men have become aware of the arts as “anti-environments,” or “counter-environments” that
provide us with the means of perceiving the environment itself…Today technologies and their consequent environments succeed each other so rapidly that one environment makes us aware of the next. Technologies begin to perform the function of art in making us aware of the psychic and social consequences of technology. Art as anti-environment becomes more than ever a means of training perception and judgment. Art offered as a consumer commodity rather than as a means of training perception is as ludicrous and snobbish as always.12

As living beings find themselves transformed into patented inventions of institutions, the edible becomes a rather political form. Transformed into symbols of power and domain, soybeans, corn, cows, pigs, and chickens gain an element of the mythic. Meanwhile, their cameo portraits evoke the sentimentality of Victorian Cameos, memento mori jewelry that shows an idealized and romanticized representation of what is a gruesome and awesome spectacle.

Affording the cameos commercial and aesthetic value through the use of precious metal, I acknowledge the primacy of the one-of-a-kind elitist object with all of the trappings of class and the baggage of origination. With each design originating on the computer screen, a mechanical aesthetic becomes instrumental to the development of motif. The linear process of computer design remains one-dimensional and an illusion occurs in the mind, a fugue or “juggling of realities” that is unique to the age of digital media.13 This specific distance between the creator and the created highlights the post-
human aspirations espoused by those who would own the material realm and reiterates an idealized virtual perfection aimed at a new form of colonization.

Between the health effects and environmental impacts of artistic resources, the politics of the field and its materials have become a well-established and valid function for artistic production to address. The discovery of protein-caused diseases shook the sciences of genomics, genetic engineering and genetic modification (GM) that relied on a simple formula for protein production, expression and performance. The implication of a basic building block of life as a principal agent of disease undermined the science of man-made or man-modified life where previous variables prove irksome to say the least. This harbinger of chaotic permutations remains an unaddressed and ominous shadow over the patented living factories that produce everything from the rennet in our cheese to the herbicide-resistant livestock feed that lies at the bottom rung of our industrial food chain.

To utilize these animal proteins as a raw material to adorn the body is to concretize the disconnect between the mundane and the origins of food. Gastronomical adornment from cloned animals inoculated by genetically-modified vaccines represents an intimate portrait of the unexplored contents of our bodies.

From direct hand-facture, to assisted hand-facture, to the cybernetic machine-mediated manufacture, the methods and tools of contemporary metalsmiths epitomize the overarching alienating and dehumanizing factors of the modern era. The current avant-garde of Alt-Craft, despite its initial rebellion against skill values, may infuse new hand-factured life into a field continually confronting defensive academic stagnation and industrial co-option. As industrial technologies miniaturize and democratize into studio
technologies, the ancient heritage of hand-wrought knowledge that serves to validate
the role of the maker may be relegated to the fiercest Luddite studios. *Cameos for
Modern Times* presents the art object’s inching from the haptic to the virtual and places
the metalsmith’s ultimate choice not between manual mastery and conceptual
exploration, but between creation and production.
NOTES


Figure 1

*Golden Factory*
3D Print cast in sterling silver, milk plastic
2 x 1 3/4 x 1/2”
Figure 2

*Maize Pig*
3D Print cast in sterling silver, milk plastic
2 x 1 3/8 x 1/2”
Figure 3

Pig Corn
3D Print cast in sterling silver, milk plastic
2 x 1 3/4 x 1/2”
Figure 4

*Rooster Corn*
3D Print cast in sterling silver, milk plastic
2 1/2 x 1 x 1/2”
Figure 5

*Corn Chicken*
3D Print cast in sterling silver, milk plastic
2 1/2 x 2 x 1/2”
Figure 6

*Cow on the Cob*

3D Print cast in sterling silver, milk plastic

2 x 1 3/4 x 1/2”
Figure 7

*Soy Cow*
3D Print cast in sterling silver, milk plastic
2 1/2 x 2 x 1/2”
Figure 8

*Mechano Chicken*
3D Print cast in sterling silver, milk plastic
2 1/2 x 3 x 3/4”
REFERENCES

Burn, Ian. the ‘sixties: crisis and aftermath (or the memoirs of an ex-conceptual artist).


