

A Thesis Presented to  
The Faculty of Alfred University

Compulsion: An Exploration of the Link Between Touch and Creation

Rebecca A. Flis

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Under the Supervision of:

Chair: Coral Lambert

Committee Members:

Kate Dimitrova  
Dale Inglett

Auguste Rodin once said “the artist must create a spark before he can make a fire and before art is born, the artist must be ready to be consumed by the fire of his own creation.” Using Rodin’s metaphor, my spark is the ceaseless curiosity I experience, which fuels my compulsion to create. My interest, inspiration and connection to my work is the result of a deep interest in history, technique and the tactile quality of the cast metal process. By exploring the relationship between the figure and tactility in the cast metal work of Classical Greece, Rodin, and myself, I add to my understanding of the link between touch and creation, further inspiring my artistic practice.

Four years ago when I first came to Alfred, I had it set in my mind that I was going to become a painter. Through the exposure to other mediums in Freshman Foundations, I gradually transitioned from painting to sculpture and eventually to cast metal. During the course of my Junior Foundry class, I became enthralled and encapsulated by the foundry process and found myself making work beyond the assignments given. The foundry process requires much hand-to-work interaction and I used this to my advantage in my art making, especially by exploring the tactility of the wax-working process. *Iron Imprint* (2012) (Fig. 1) explicitly shows this element. When I was shaping the bowl form in its wax stage, I continually pressed my fingers into the surface, leaving impressions of my fingertips as evidence of the making process (Fig. 2). As I continued making work however, I started to notice an allergic reaction that I was having to the materials I used. I was breaking out in hives (Fig. 3) and having trouble breathing, especially after the metal pours each week. As the semester continued, my health greatly deteriorated as my symptoms grew and I had a choice:

stop working with cast metal or find a way to use it that had less effect on my body, because with each exposure my reaction worsened exponentially.

This came about at the end of fall semester of my Junior year, when I was already committed to taking an independent study in the spring titled “Environmental Foundry,” a course that focused on ancient metal casting techniques. In the spring, however, as the independent study course progressed, I realized that the materials used with these ancient processes were from the earth; there were no industrial chemicals to bind the mold together, simply clay, grog and water. I had found the solution to my problem. My allergic reaction to the industrial mold-making materials, mainly the toxic resin used to bind the sand molds together, caused me to have an allergic response to the material. Through my allergic reaction, I was having a conversation with the material, albeit a negative one. My response to our disagreement was a forced adaptation to my situation. In all modes of creation, with the work that one makes, there are always problems that are encountered and one must learn how to address them appropriately.

I gravitate toward problem solving and out of all the materials with which I have worked, cast metal offers the greatest number of problems to solve. Problem solving to me is like a puzzle, but with an infinite number of ways of fitting the pieces together. How do I use what materials I have to do what I want to do? In the mold-making process, especially with part-molds, decisions need to be made about how many pieces to break the mold up into and where these breaks should occur to most efficiently capture the work with the least amount of finishing necessary once the object is cast into metal. This line of thinking is what draws me in and when I finally reach a solution,

the sense of satisfaction is unrivaled by any other part of the casting process. This brings me to ask myself: What compels me to create at all? Is it the object, the final result that drives me? Or is it the process, the motions I go through to eventually arrive at a finished piece that keeps me pressing forward?

As the spring semester of my Junior year carried forward and I delved deeper into my independent study, I became curious about the history of the metal casting process. This drove me to do further research and upon my discovery of the environmental effects and practicality of these processes, my interest in using them increased. Although my initial introduction to these practices was the result of academic requirements and physical need, knowing the history and seeing these ancient practices come back to life before my very eyes inspired me to work with renewed vigor.

Modern foundry practices can be traced back to ancient civilizations from across the globe. For example, ceramic shell casting is a modern mold-making technique in which the wax sculpture positive (the pattern) is dipped into a wet slurry mixture (Fig. 4), which is then coated with a silica powder while still wet (Fig. 5). This process of dipping and coating is repeated several times to create a stable “exoskeleton” mold around the pattern. The components of this type of mold-making can be viewed as a modern version of the ancient African dung-and-clay mold-making technique. The dung-and-clay method involves applying a wet mixture, consisting of dung, clay, crushed fired-clay grog and water, over the wax pattern in layers to create a similar exoskeleton (Fig. 6). Both the ancient and modern methods require multiple layers of mold material added on top of the original wax pattern to create the mold.



Another example of a modern process that can be traced to ancient times is the sand-molding method. Today, sand mold-making is a process that involves taking a mold of a pattern, which can be made of many different materials including wax, clay, wood and even foam. A resin that sets up over time is mixed in with the sand and then the sand is rammed and shaped around the pattern (Fig. 7). The complexity of the pattern determines how many pieces make up the final mold.

The part-molding sand practice dates back to ancient Chinese bronze casting. In this ancient mold-making method, the original pattern was made from clay. Additional layers of clay were placed around the pattern and, once dry, are cut away in pieces (Fig. 8). The inner core was ground down and placed back in the middle of the sections of the outer layer. The hollow cavity between the inner core and outer mold pieces is where the molten bronze flows to cast the piece.<sup>1</sup> The elements of this ancient method are present in today's sand mold-making practices. The major difference, besides material, is that the pieces of the mold are made separately to form a whole instead of a whole that is then cut into pieces. While these present-day processes use modern materials, the basic elements stemming from the ancient processes remain unchanged.

I wonder why it is important to know the history of our practice? How does knowing the history of our practice and material influence our decisions regarding our practice? It can be argued that any work of art can be traced to something that came before it, whether or not the artist was aware of these connections to the past. In my case specifically, I feel a deeper connection with my material by knowing its history. The understanding of where my practice comes from helps me make decisions regarding

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<sup>1</sup> Smithsonian Institution, "Bronze Age Casting," *Smithsonian's Museum of Asian Art*, <https://www.asia.si.edu/explore/china/bronzes/casting.asp> (accessed 1 May 2014).

intention of specific artistic elements such as material, surface treatment, and coloration. Knowing what artists in the past have done gives me an unlimited catalog of references.

The knowledge of the material and process's origins are embedded in the very practice itself. Almost five thousand years after the Chinese discovered bronze casting, I was using similar ancient techniques in my own art practice. While I breathed new life into these ancient practices, I became more aware that I am only one part of this continuum of knowledge. Where do I fall on the cast metal spectrum? Although the trajectory of my medium is apparently continuous, it is difficult to comprehend that I fall somewhere in the middle, because the future has not yet happened. Regardless of where I am placed, I am part of the lineage of art production and history. When viewed in this manner, I am honored to be a part of a the larger continuum of cast metal.

During the spring semester of my Junior year, I was also enrolled in an art history course on ancient Greek and Roman art. Seeing the large-scale cast-bronze figures from this period, like the *Seated Boxer* (Fig. 9) — and the Roman marble copies of Greek bronze originals, the *Diskobolos* (Fig. 10) and the *Diadoumenos* (Fig. 11) — heightened my interest in ancient casting processes beyond those I was learning in my Environmental Foundry course. The calculated care taken to create the perfectly proportioned statues we studied in class caught my attention. One sculptor specifically, Polykleitos, was viewed as the father of this way of creating perfectly proportioned figures. Polykleitos wrote about his ideas on the representation of the ideal human form in sculpture in his text, the *Kanon* (ca. 450 BCE). This was his treatise on process and what necessary steps and calculations were required by the artist to achieve beauty and

perfection in a statue. His view was that the relationship and proportion of each element in association to the whole was what constituted a beautiful statue.<sup>2</sup> A second-century CE Greek medical writer, Galen, described Polykleitos's canon as follows: "beauty...lies in the proportion (*symmetria*) of the members: of finger, obviously, to finger, of all the fingers to palm and wrist, of these to forearm, of forearm to upper arm and of all to all."<sup>3</sup> Polykleitos created the *Doryphoros* (ca. 440 BCE) (Fig. 12) to illustrate his canon.

I was impressed by the perfection of figures made that were based on this canon and I became enthralled with Classical cast metal sculpture. Thinking about how, in the sixth century BCE, this ancient culture had the technology to produce hollow, full-scale bronze figures — a prospect so far out of reach in the scope of my own practice — was and still is unfathomable to me. The figures in ancient Greek cast bronze statuary are calculated, precise, and idealistic. Now, from a new perspective, I could understand and appreciate the process of creating these statues with the same way I understood and appreciated puzzles and problem solving in the cast metal process, especially through the making of part-molds.

Because of my interest in this calculated and precise way of creation, I wanted to adopt the Classical ideas about the figure into my own foundry work. I did not have the skill to make figural creations, however, nor did I want to merely replicate Classical statuary. Instead, I incorporated the figure into my work through the absence of the figure. I left evidence of the hand in my work, using the impressions my hands made in the wax while I was shaping it to create forms that are reminiscent of the body, alluding

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<sup>2</sup> John Griffiths Pedley, *Greek Art and Archaeology*, 4th ed. (Upper Saddle River, NJ: Pearson Education, Inc., 2007), 276-77.

<sup>3</sup> Warren G. Moon, *Polykleitos, the Doryphoros, and Tradition* (Madison: University of Wisconsin Press, 1995), 38.

to the figure without representing it directly. The culmination of this way of working resulted in my final piece of Junior year, *Offering* (2013) (Fig. 13), in which forms that simulate cupped hands in a gesture of offering hang in clusters, creating a cascade of offerings, mimicking rainfall, an offering of nature.

The summer between my Junior and Senior years came and went, ending with a month of incapacitation due to a horrendous case of poison ivy that stretched the entire length of my right leg, from ankle to hip (Fig. 14 & Fig. 15). When I returned in the fall for my first semester of Senior year I was still rattled from the horrific experience, but I was determined to make something good out of it by using images from the experience as inspiration for making work. The result was a series of paintings (Fig. 16) and cast blister forms (Fig. 17), the shapes of which were transcribed from images of my own blisters from the summer. When midterm arrived, I was extremely frustrated with the work I was making. I had moved away from painting and focused my attention on the cast metal forms. Within the body of cast metal work, I transitioned to creating more pattern-like clusters using a half-sphere module, a generalized blister form. After spending the beginning half of the semester desperately trying to cast the blister forms using environmental processes and not achieving a desirable result, I was forced to switch back to using the modern materials like resin-bonded sand, with extra precaution to prevent serious allergic reaction. As much as I wanted to continue using the ancient processes, they were much slower than the modern processes and for the sake of time I had to abandon the environmental practice.

At this point in the semester, the annual Foundry Guild event, Meltdown, was rapidly approaching. Meltdown is an iron pouring event which invites faculty and

students from other schools in the area to come, bring molds to pour, and participate in the casting process. It is an all-day event that encourages teamwork and cross-school bonding. I wanted to produce a large mold for Meltdown, however because of my frustration and disinterest with the blister shapes, and my need to switch back to modern mold-making processes, I did not have a direction in which to go. On a whim, I took a mold of the largest object in my studio space: an aesthetically beautiful piece of driftwood I collected over the summer. I relished in the act of making the mold. I perfected the crisp parting line and sanded the surfaces smooth. One half of the mold was of the driftwood, capturing the natural surface of the object. In the second half of the mold, I spent ten and a half hours repetitively forming wax cones to create a texture that covered the hollow cavity the driftwood left behind (Fig. 18). This patterning, the clustering of texture together, was influenced by the blister clusters I cast previously, however it was more intricate and meditative than the blister forms. The tactile nature of meticulously working the material with my hands calmed me and slowly eased my frustration.

Why am I drawn to tactile work? Maybe it is because I can relate to the creation of it. Perhaps working with my hands in my own practice makes me more perceptive to the hand of the artist in other work. For example, in the early Modernist period, the sculptor Auguste Rodin cast figures that were distinctively different from the norm of the time in which he worked. Movement and gesture, as well as the tactile manipulation of the material, were especially emphasized. The expressiveness of Rodin's rugged sculpting technique is visible through his treatment of the surface of the material as can be seen in his portraits *The Old Courtesan* (1885) (Fig. 19) and *Jules Dalou* (1884) (Fig.

20). These portraits, as well as many other works by Rodin, are scattered with impressions and bumps, creating a complex landscape of mountains and valleys contained in the rough quality of their exterior. The impression of Rodin's hand in the original clay model is exquisitely captured in the surface of the bronze. This is especially noticeable in *The Thinker* (1880) (Fig. 21) and *The Gates of Hell* (commissioned 1800) (Fig. 22 and Fig. 23).

Rodin's belief was that the blood and breath of all exceptional work is good modeling and movement.<sup>4</sup> Rodin expressed that the key to producing life in a sculpture is "the science of modeling," taught to him by a companion named Constant. Described by Constant, the science of modeling is to "never see the form in length, but always in thickness. Never consider a surface except as the extremity of a volume."<sup>5</sup>

Like Rodin, I believe that form and movement are keys to breathing life into a work of art, and although I do not work with figural representations, his theory is still relevant. My work is an organic flow of shapes and though the figure is absent, the reference to life and the body is still present.

As I moved into second semester in my Senior year, I continued to employ natural objects as a metaphorical representation of the figure. By using organic material as inspiration, my work references life. The shape and form of each piece are abstract figural gestures. The textured branch cast at Meltdown (Fig. 24) was a turning point in my work. Focusing on representing the figure with the absence of the figure, I continued to explore the relationship between an organic base form and the addition of the

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<sup>4</sup> Auguste Rodin, *On Art and Artists*, trans. Romilly Fedden (New York: Philosophical Library, 1957), 82.

<sup>5</sup> Rodin, 76.

overtaking texture, paralleling the relationship of my body to the materials I use and the resulting allergic reaction to the modern materials. After experimenting with new textures — the inspiration for such textures resulted from my hands as they worked the malleable wax (Fig. 25 & Fig. 26) — I decided to make a counterpart to the textured branch using the other half of the driftwood and a different texture. The finished piece, *Two Souls* (2013-14) (Fig. 27) includes both textured branches attached to the same wooden base. They stand upright, however the rigidity of their position is contrasted by their organic surfaces and the gestural form of the branch shape itself. The secondary limb gracefully protrudes slightly outward and extends up, alluding to an outstretched arm or a raised hand. The two castings mirror each other — in material, form, as well as orientation — creating a complex dialogue between two similar, yet equally different, entities.

After successfully completing the casting of the second textured branch, I was ambitious enough to participate in the week-long Large Mold Workshop hosted by Morgan Donohue at the Alfred foundry. Ten grueling days, two thousand pounds of sand, and one hundred eighty pounds of iron later, *Palm* (2014) (Fig. 28) was cast. *Palm*, like *Two Souls*, stands vertical, but the sweeping curl at the base of the casting and the gentle bowing of the overall form counteracts its clear vertical orientation. The right edge of the piece curls in on itself, creating an association with fingers as they curl into the palm of a hand. The underlying linear texture of the palm bark parallels the lines etched into all palms. Life is present, even though the figure is not.

Throughout the span of my final semester, I created an accumulation of cast textured slabs. The plant-inspired base forms were made by shaping the wax with my

hands, sometimes laying the wax over my arms or legs to get a particularly graceful curve. The texture on each tile was placed with careful consideration, attempting to illustrate a sense of growth and expansion of the forms. *Growing Existence* (2014) (Fig. 29) is an installation in which these textured tiles hang on the wall in an arrangement that echoes the patterned texture of each individual casting, alluding to the growth and development that all life experiences over time. The piece spans from the floor to a measured five and a half feet. This height places the top of the installation at eye level, again implying a connection with the absent figure.

*Two Souls, Palm, and Growing Existence*, compose my BFA thesis exhibition, titled *Iron Presence*. The title, like the works, alludes to the figure. “Presence,” defined by the Oxford English Dictionary, is “a person or thing that exists or is present in a place but is not seen.”<sup>6</sup> These three pieces, in addition to referencing the absent figure, exhibit my interest in the tactile nature of cast metal and my curiosity about the process. Furthermore, my physical connection to the work by using my hands as a tool for creation is essential.

Do all artists look to the hands as a means of inspiration? Rodin had an obsession with hands that continued to take presence in his work throughout his career. He became obsessed with hands and feet after the criticism one critic made about *The Age of Bronze* (1876) (Fig. 30). The critic stated Rodin used casts from a live model instead of hand sculpting the perfectly proportioned hands and feet.<sup>7</sup> After this criticism Rodin was determined to prove that he did not use life casts, but sculpted his figures

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<sup>6</sup> *Oxford English Dictionary*, s.v. “presence”, accessed May 4, 2014, <http://www.oed.com/>.

<sup>7</sup> “The Bronze Age, also known as The Vanquished,” The Metropolitan Museum of Art: Heilbrunn Timeline of Art History, accessed May 5, 2014, <http://www.metmuseum.org/toah/works-of-art/07.127>.



entirely from scratch, sometimes purposely altering the proportions of the hands and feet to further drive home his point. Was Rodin so focused on hands because he was drawn to them as tools for creation? His interest in fragments as art was a way of finding new relationships between body parts; this recalls the ideas laid out by Polykleitos's *Kanon*.<sup>8</sup> Could it also be possible that Rodin's interest in hands stemmed from an interest in finding the relationship between the hands and creation, exploring the lineage of thought from mind through hand and finally solidified into the material?

I share a similar interest in this flow of idea to hand and finally material. Many contemporary artists, such as Damien Hirst, Richard Serra and Louise Bourgeois at the end of her life, never physically touched the work themselves. These artists use assistants to produce their art for them.<sup>9</sup> By contrast, the artist's hand is an extremely important part of my own body of work. When I am making, I am interested in capturing the process with the material. I think of the final piece as an embodiment of the process and the history of its creation. When looking at art, I am curious about how it came into existence. This curiosity stems from my excitement about the making process. The physicality of the relationship between my hand and the material brings an intimate quality to my work. I explore the nature of cast metal as a material, the meticulous textures evoke the action the hand makes, the act of creation. By using my hands as a tool for creation, I explore tactility. When my pattern is cast into metal, the tactile quality of the process remains in the work.

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<sup>8</sup> Dominique Jarrassé, *Rodin: A Passion for Movement*, ed. Jean-Claude Dubost and Jean-François Gonthier (Paris: Finest S.A./Éditions Pierre Terrail, 1995), 213-215.

<sup>9</sup> Michael Petry, *The Art of Not Making* (New York: Thames & Hudson, 2012), 11.

In human development, the sensation of touch is one of the earliest senses to develop, occurring while a baby is still inside the womb. In our early years of life we use our sense of touch to experience the world around us, instinctively grabbing objects, even putting them in our mouths, in order to understand them better.<sup>10</sup> Touch is extremely important to survival. Babies can die if they have no physical contact. The details of the result of skin-to-skin contact necessary for infants' survival is still unclear, but studies have shown that babies who are touched often gain weight almost twice as fast as those who are not.<sup>11</sup> Without physical contact, we would not survive.

Tactility is still an essential element in our adult lives. We still benefit from touching things, even when we get older, as touch is still one of the ways we interact with our surroundings. Along with this, touch also plays an essential role in social context. Haptic communication is a form of nonverbal communication by which people communicate by touching. It is an important part of social interaction, which in turn is important in relationships, both professional and personal.

Tactility has always been an important part of my own life. As a child, my first memories of art involve covering myself in paint — dunking my hands in the containers, mixing the colors together and smearing the awful shade of gray over the entire length of my legs. I was sitting outside and I remember the prickle of my skin as the late-afternoon breeze cooled the slow-drying layer of paint, causing my hairs to stand up. This was not a singular incident of my curiosity about the sensation of touch winning

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<sup>10</sup> Kylene Arnold, "What is the First Sensory System to Develop in Babies?," *Livestrong*, Livestrong Foundation, <http://www.livestrong.com/article/537086-in-babies-what-is-the-first-sensory-system-to-develop/> (accessed 7 Apr. 2014).

<sup>11</sup> Daniel Goleman, "The Experience of Touch: Research Points to a Critical Role," *Archives*, New York Times, <http://www.nytimes.com/1988/02/02/science/the-experience-of-touch-research-points-to-a-critical-role.html> (accessed 7 Apr. 2014).

over my common sense, but it is my most pleasant memory concerning my beginnings as a tactile artist.

The sensation of touch is important to me in the making of my work. My pieces are evidence of my compulsion to touch. It calms me to feel the material on my skin, to experience the sensation through my fingertips. Touching the work calls back to my earliest memories of art and tactility. The foundry processes are tactile in a way that most two-dimensional work is not.<sup>12</sup> With foundry, there is a physicality to the material that is tangible and weighted. Whereas painting for me is a combination of color, value, and shape, sculpture weaves together form, texture, and structure to achieve balance, unity, and harmony.

While wax-working and mold-making require the intimacy of the physical hand to carry out the process, the casting, chasing, and patination stages have a degree of separation between the hand and the work of art because of the use of tools to do what the bare hand cannot. Although there is a physical degree of separation, my desire to touch the work is still there. Whenever I melt iron in the induction furnace and it comes time to transfer the metal from furnace to ladle, I always yearn to reach out my hand and touch that molten stream. It is glowing, enticing and so beautiful that I feel compelled to touch it and it is not until I remember that it is molten, 2800° F liquid metal, that I realize if I placed my hand under that stream I would not have a hand anymore. What is the relationship of the hand to the material? Of the hand to the tool? What exactly does the idea of the “hand of the artist” in a piece mean? Tactility — whether actual, physical contact, or just the thought of it — is such a large part of my work and

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<sup>12</sup> I acknowledge that there are two-dimensional media that are sculptured — such as textiles and intaglio — however when speaking about two-dimensional work I am thinking specifically of painting and drawing.

the casting process, which is likely the reason I was so drawn to casting metal as a medium.

In the end, working in a contemporary period of art, I relate myself and my work to the world through history and a tactile exploration of my environment. Touch provides me with an personal context to the world, just as knowing the history of my practice provides me with an personal context to my art and understanding my placement in art history.

Will I ever lose my deep sense of curiosity? I have always been a curious being — always asking questions, constantly lost in thought, wondering away while the world moves around me. With works of art, I am interested in the history of the object. I want to know how it came into existence. What is its story? What circumstances occurred that led to its creation? Why is it the way it is? This deep-seated curiosity extends to the history of my own existence as an artist. By tracing the development of my artistic practice, I examine the continued importance of touch in my art and my life. Through looking at historical examples for inspiration, and forming connections with my own work, I better comprehend the relationship between expression and tactility, the connection between hand and creation.





Figure 1

*Iron Imprint*, 2012. Cast Iron.





Figure 2

*Iron Imprint* (detail), 2012. Cast Iron.





Figure 3

Allergic reaction to using foundry materials.





Figure 4  
Ceramic shell slurry.





Figure 5

Ceramic shell silica powder.





Figure 6

Layers of ancient African dung-and-clay mold method.





Figure 7

Example of ramming sand around a pattern.



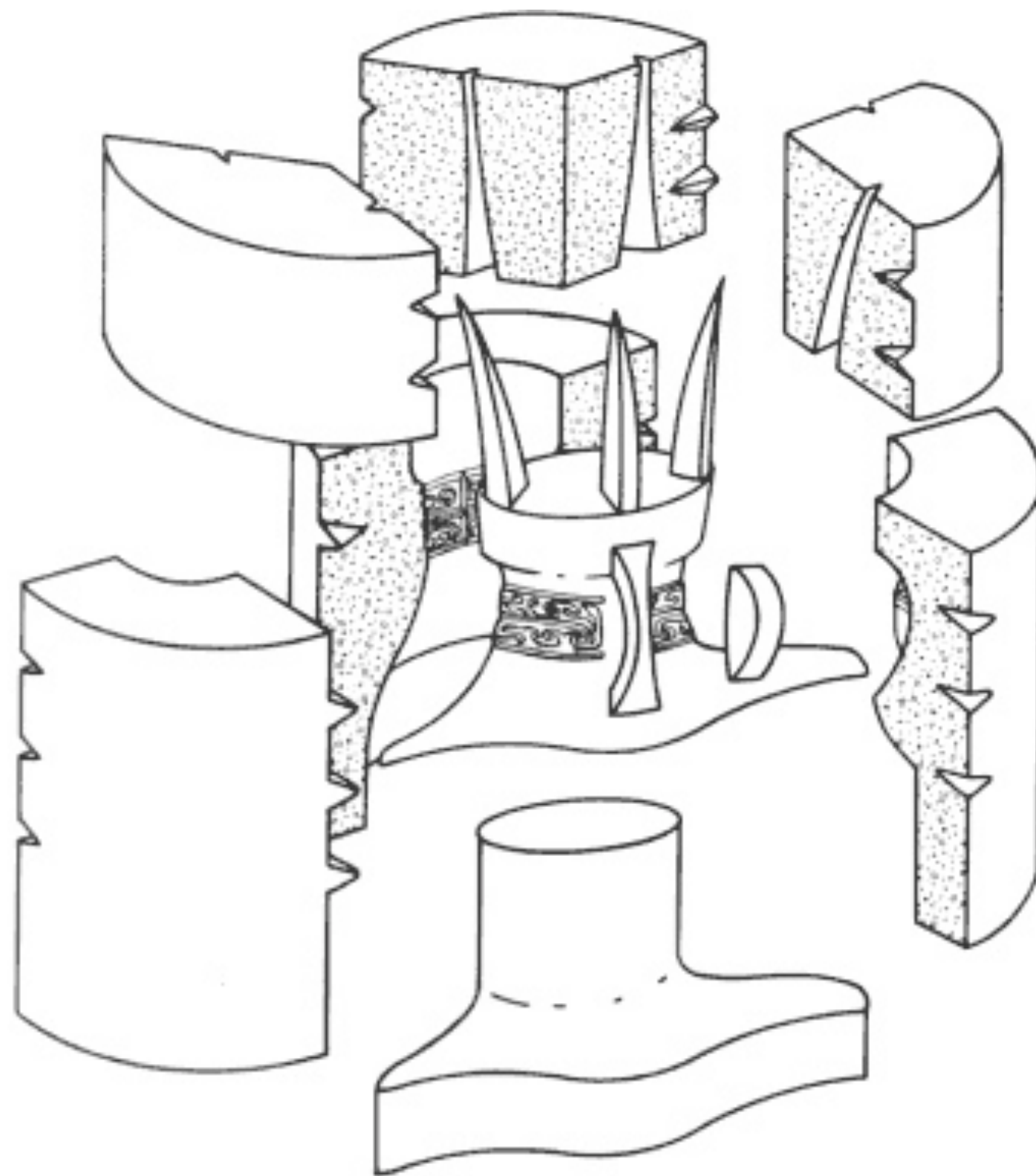


Figure 8

Drawing of ancient Chinese part-mold.



Figure 9

*Seated Boxer*, c. 100-50 BCE. Bronze.





Figure 10

*Diskobolos* by Myron. Roman marble copy of a c. 450 BCE bronze Greek original. Marble.



Figure 11

*Diadoumenos* by Polykleitos. Roman marble copy of a c. 430 BCE bronze Greek original. Marble.



Figure 12

*Doryphoros* by Polykleitos. Roman copy of a bronze Greek original of c. 440 BCE. Marble.





Figure 13

*Offering*, 2013. Cast Bronze, twine.





Figure 14

Poison ivy reaction, knee to ankle.



Figure 15

Poison ivy reaction, hip to back of knee.





Figure 16

Painting of blisters.



Figure 17

Metal castings of blisters.





Figure 18

Wax texture in sand mold.





Figure 19

*The Old Courtesan* by Auguste Rodin, 1885. Bronze.



Figure 20

*Jules Dalou* by Auguste Rodin, 1884. Bronze.



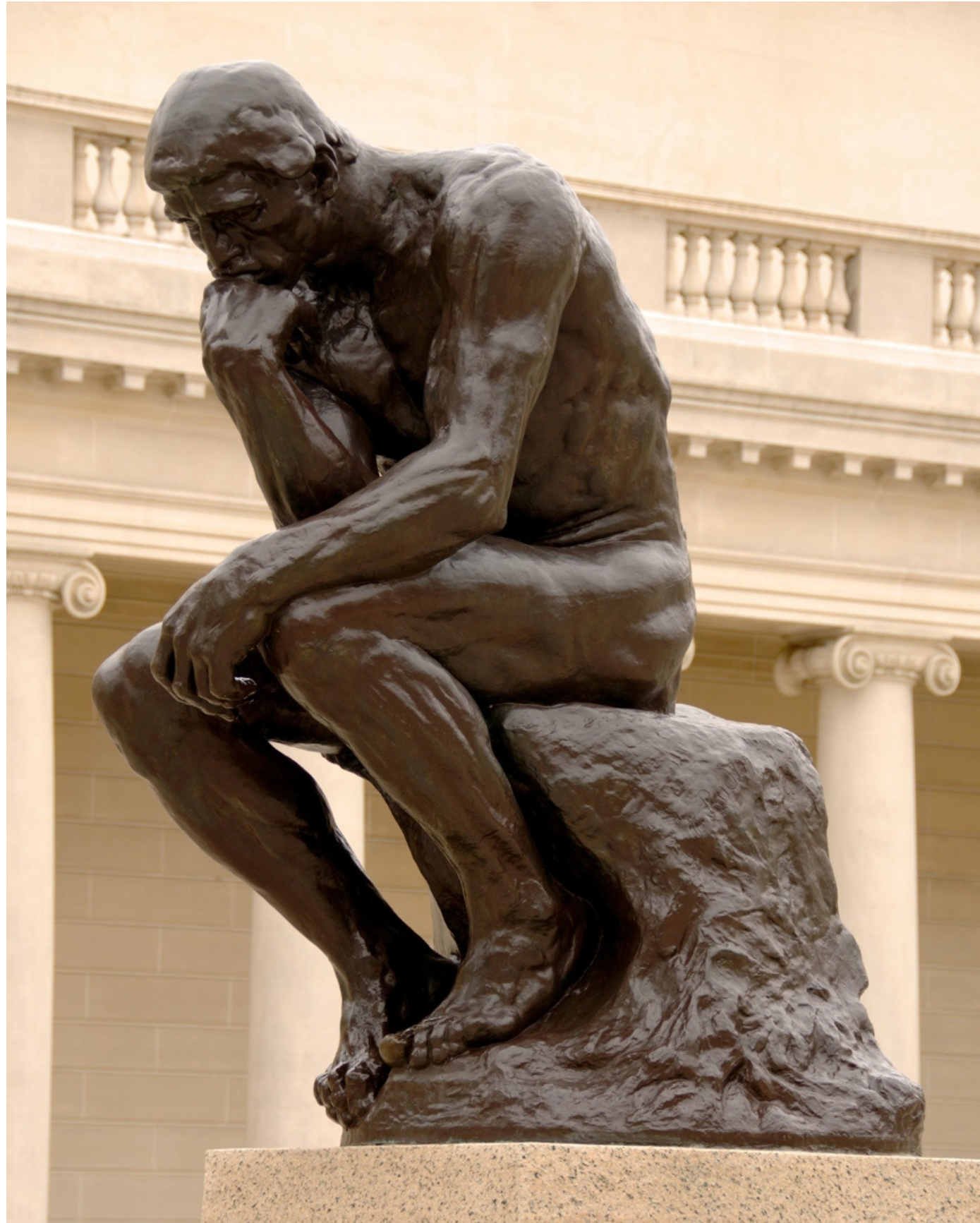


Figure 21

*The Thinker* by Auguste Rodin, original conception 1880, full-scale figure 1904. Bronze.





Figure 22

*The Gates of Hell* by Auguste Rodin, commissioned 1880. Bronze.





Figure 23

*The Gates of Hell* (detail) by Auguste Rodin, commissioned 1880. Bronze.





Figure 24

Cast texture branch. 2013.



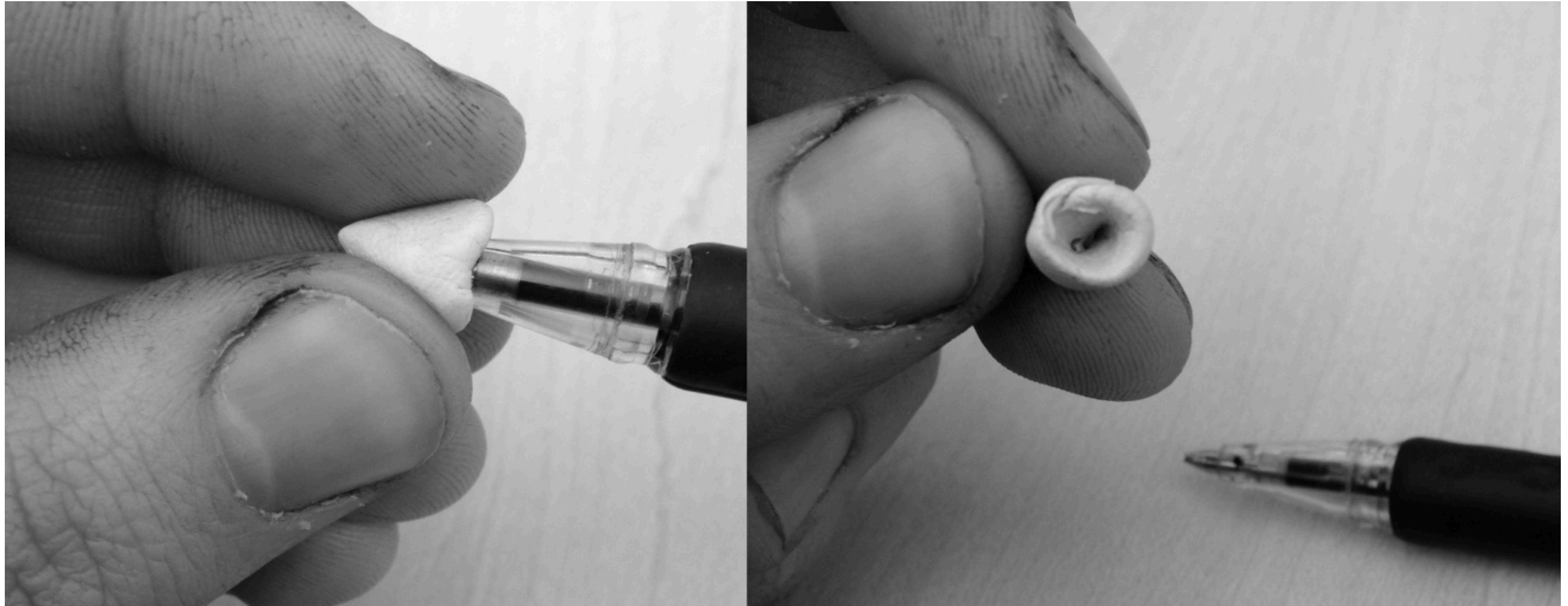


Figure 25  
Hand-inspired texture.



Figure 26  
Hand-inspired texture.





Figure 27

*Two Souls*, 2013-14. Cast iron, ash wood.





Figure 28

*Palm*, 2014. Cast iron, ash wood.





Figure 29

*Growing Existence*, 2014. Cast iron.





Figure 30

*The Age of Bronze* by Auguste Rodin, 1876. Bronze.



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