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Lost Wax: An Exploration of Bronze Sculpture in Senegal

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SIT Study Abroad

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Lost Wax:

An Exploration of Bronze Sculpture in Senegal

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International Studies

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Abstract:

The goal of this Independent Study Project was for the researcher to develop an in-depth understanding of the techniques involved in the production of bronze sculpture via a short apprenticeship at the foundry at the Village des Arts in Dakar, Senegal. The researcher also sought to gain an understanding of the cultural context of the medium, including its history and social and economic significance through formal and informal interviews with artists and visits to various art galleries and workshops. Over the course of the ISP period, five works of art were produced by the researcher at the foundry. The researcher sought to produce works that reflected the themes, styles, subjects and motifs most often explored by bronze sculpture in Senegal.

Topic Code: 107

I. Learning Goals:

In studying bronze sculpture in Senegal, my goal was to develop a holistic understanding of the medium in its cultural context. As a physical manifestation of this study, I planned to produce three sculptures, each reflecting not only my own experiences in Senegal, but also the themes, motifs, subjects and techniques common to the medium.

On a technical level, I hoped to develop a working knowledge of the techniques used in each step of the sculpting process to a degree that upon returning to the United States, I, given access to the proper materials and facilities, would be able carry out the same procedures. This would involve not only developing a complete understanding of the processes involved in sculpting an artistically valid wax model, but also developing a knowledge of the procedures and materials needed for preparing models for casting, creating and firing plaster moulds, melting and casting bronze, and cleaning, finishing and preparing pieces for display.

As for the cultural context of bronze sculpture in Senegal, it was my goal to gain an understanding of what artists choose to convey in creating bronze sculpture, how they choose to convey it, and why. This would include an examination of artists' inspirations and motivations, as well as their points of view on the strengths, limitations and unique elements of the medium of bronze sculpture. Furthermore, I intended to study what relation the motifs, themes, subjects and symbols used in bronze sculpture have to the average patron or audience member. In other words, I intended to examine what an artists' choices in creating a particular piece may say about the average consumer for this type of art, and the degree to which the consumer or patron influences an artist's decisions.

I. Resources and Methods:

The resources available for this study included the foundry at the *Village des Arts* (VDA), a state-sponsored arts facility, the artists working at the foundry, and the various art galleries and workshops in and around Dakar. My primary instructor and academic advisor was Issa Diop, a well-known sculptor with more than 45 years of experience in the medium of bronze sculpture.

The primary research method that I employed in learning the technical aspects of bronze sculpture at the foundry was participant observation. Issa or another artist would explain or demonstrate a particular technique to me, which I would then copy and adapt to the piece that I was working on. This was supplemented by informal interviews if a particular process or the reasoning behind it was unclear. In studying the styles, motifs, themes and symbols common to the medium, I used materials collection at various galleries and ateliers as well as some informal interviews with other artists at the foundry. Finally, in learning about the history of bronze sculpture and its cultural significance, I relied on formal interviews.

II. What was learned:

a. Cultural Context:

The history of sculpture in Africa is tied heavily to traditional religious and artistic practices. While the specific details of the origins and development of the medium are uncertain, ancestral sculpture has long played a role in ritual ceremonies throughout the continent. In

Senegal, sculpture has been both religious and secular, with both varieties being representative in nature and often taking on anthropomorphic forms (Sylla 2004, 40). Historically, most sculpture was produced in wood, due in large part to the abundance of this material. However, founders have been producing both practical and artistic articles in Africa for some time. For example, in Benin, there exists a long tradition of animal and human figures cast in bronze operating as symbols of prestige in wealthier households (Willett 1993). Metalworking of this variety, while less developed in Senegal, was most widely practiced in the Diourbel region (Sylla 2004, 38).

The development of Islam in Africa led to the disappearance of most forms of ritual sculpture, as Islam condemns the production of many forms of representative artwork, equating the practice with idolatry. For this reason, the sculpture department at Dakar's *Ecole des Beaux Arts* is poorly equipped, educating as few as five students per year. Finding an audience for modern bronze sculpture is also difficult, as western expatriates, the principal acquirers of art in Senegal, tend to be more interested in masks and traditional items considered by their standards to be more "authentic." While the imitation of ancient styles remains in tourist-directed art, most formally-trained sculptors have moved to producing works outside of this category. (Sylla 1998).

The history of bronze sculpture in Senegal in its current form begins relatively recently. Effectively, due to the spread of Islam, the tradition of foundry has been lost here (I. Diop 2009). It was Issa's father, Cheikh Makhon Diop, originally a clay sculptor from a *griot* family who brought artistic foundry techniques to Senegal in 1963, after traveling and studying at foundries in Mali, Burkina Faso, Cote d'Ivoire, Ghana, Guinea, and the Casamance region of Senegal.¹ Originally, his resources were limited, and he focused on producing small masks and figurines to sell to Europeans who remained in the country after independence. As time went on, he began to

¹ Interestingly enough, a summary of brass casting techniques among various West African peoples reveals a cross-section of the techniques used at the VDA foundry (see Dark 1973)

explore other subjects such as kings who fought against French invasion and other illustrations of Senegalese and regional history. He was fortunate to benefit from the cultural policies of Leopold Sedar Senghor, the first president of Senegal, who provided opportunities for contemporary arts to flourish, through state funding and promotion. Most of the bronze sculptors in Senegal today, both in Dakar and elsewhere, come from the family of Cheikh Makhon Diop (I. Diop 2009).

I was particularly surprised by what I learned about the perceived purpose of bronze sculpture in Senegal. In many ways, the medium seems not to have escaped its roots as a means to a living rather than a means of artistic expression. The issue of producing sculpture to make a living came up a number of times, including in my formal interviews with Issa and Khadim Diop. Issa referred to sculpting as “our work which lets us eat,”² (I. Diop 2009) while Khadim explained that he and his family were obligated to sculpt “in order to survive”³ (K. Diop 2009). Furthermore, I was frequently asked by other sculptors if I planned to sell my work when I returned to the United States, and when I visited the Karibou Heavens gallery in Yoff to see an exhibition of paintings and wood and bronze sculptures, the bronze sculptures were the only works to have prices listed directly on them. This seemed to indicate that they were, more so than the other form of art, created explicitly with the purpose of sale in mind. This perception was reflected in the attitudes that the artists at the *Village des Arts* expressed towards sculpture. In my conversations and informal interviews with most artists, they frequently referred to their work as “artisanal” and to themselves as “artisans,” and when I discussed stylistic choices with them, I did not find the level of self-reflection and analysis that I expected. Often, choices were justified either on purely aesthetic grounds, and discussions of symbolism and emotional impact

² “*Notre métier qui nous fait manger*”

³ “*On est obligé de faire la sculpture parce qu’on le fait pour survivre*”

of any particular piece were very limited. When I began work on my second piece, the baobab, I was shown a wax model that was created to symbolize cooperation, but beyond that I saw few other symbolic models, and symbolism in finished bronze works seemed almost nonexistent.

These attitudes towards the medium seem to play an important role in determining what subjects are sculpted and for what reasons. By and large, the clients of the foundry at the Village Des Arts are either European or American, some of whom live in Senegal and some who do not. Sometimes, they purchase works of art produced by artists ahead of time that have been created based on the artists' own desires, but they also frequently make specific requests (I. Diop 2009). While some subjects are avoided by sculptors for cultural reasons, they may make exceptions based on a client's requests. Khadim phrased it this way: "If they ask you to make foolish things, you can make them... but it's a bit shameful"⁴ (K. Diop 2009). He specifically gave the example of nude forms, saying that while the motif of nude forms is generally avoided for cultural reasons, they can be produced if ordered by clients. Issa explained that on principle, Senegalese clients will not purchase nude forms to display in their homes due to cultural conceptions about modesty, but Europeans or Americans will (I. Diop 2009). During my time at the foundry, I saw several nude forms being prepared for clients. In other words, it seemed that what will sell plays a large role in determining what is produced. This is not to say that sculptors do not have their own preferred styles and subjects, as many of the artists I spoke with favored one particular type of sculpture over another, but financial considerations may ultimately trump these preferences.

I was also able to draw a number of conclusions about bronze sculpture based on what I observed of finished artwork at the VDA and at a number of galleries. Most notably, I came to discover that bronze sculpture is not a particularly common form of art in Senegal. As Issa explained, most bronze sculpture that one comes across in Dakar comes from outside Senegal's

⁴ "Si on te demande de faire des bêtises, on peut les faire... mais c'est un peu honteux."

borders, from countries such as Burkina Faso and Guinea (I. Diop 2009). This was confirmed by when I visited Africa Art, a gallery near the Mamelles, and one of the few places to be currently exhibiting bronze sculpture. Of the several dozen bronze sculptures that I saw, only a handful came from Senegal. As was the case with the Karibou Heavens gallery, all of these pieces were labeled for sale.

Furthermore, I came to see that depictions of people, both realistic and abstract, were among the most common forms of bronze sculpture. This was particularly interesting in light of the aforementioned interdiction of such images by Islam. Khadim explained the reasoning behind it in this way: “It is only God who can create a person, but not another human”⁵ (K. Diop 2009). While I originally intended to avoid discussing the issue of religion for ethical reasons, I found the artists at the foundry discussing it frequently. In my formal interview with Khadim, he gave several rationalizations. First and foremost, he explained that despite Islam’s prohibition of the creation of images, he and others were “obligated to sculpt because we do it to survive.”⁶ He also explained that he didn’t feel that he and the other sculptors were necessarily violating Islamic law because the “people” that he and the others were sculpting do not speak or move, and thus are not really people at all. That having been said, Khadim also explained that for religious reasons, most artists would never sculpt a Marabout (an Islamic religious leader and teacher). According to Issa, while some Marabouts, belonging to more tolerant sects of Islam common to Senegal, have agreed to have their photos and images reproduced for their followers, they would never accept being sculpted in three dimensions (I. Diop 2009).

Thematically, Issa, who currently draws his inspiration from music and games, tends to focus on creating realistic depictions of either jazz musicians or children at play. Recently, some

⁵ “*C’est seulement Dieu qui peut faire la creature de la personne. Mais pas une personne.*”

⁶ “*...nous, on est obligé de faire la sculpture parce qu’on le fait pour survivre.*”

of his larger works have incorporated other materials such as scrap metal or musical instruments (I. Diop 2009). Other realistic sculptures produced at the VDA foundry deal with subjects related to everyday life in Senegal, including music, dance, sports, and more, both traditional and modern. The reason behind the popularity of sculpting subjects seen in everyday life was explained by Khadim as follows: “One cannot work with things one does not know”⁷ (K. Diop 2009). More abstract or representative depictions of people are also produced. Issa’s brother in particular devotes most of his time to producing disproportionate, slightly abstract representations of people, featuring highly geometric patterns and shapes. Outside of the work produced at the VDA foundry, depictions seem to be more representative and less detailed. Depictions of musicians are still common, though they tend to focus more on traditional musical instruments such as the kora and the tama. Sculptures of plants and animals are less common, but are still produced. Lions are the most common form of animal that I have come across, though I have occasionally seen other cats, sheep, turtles and birds as well. Baobabs are one of the few types of plants produced in sculpture, and frequently are given as gifts at the end of each year (K. Diop 2009).

Certain techniques and practices are also unique to sculpture in Senegal. Most notably, working directly with wax in the modeling stage is relatively uncommon. Issa referred to beeswax as the foundry’s “privileged material” (I. Diop 2009). A Nigerian sculptor who visited the foundry in the early stages of my training was particularly fascinated with the idea of creating a model directly in wax, explaining that he produced models in clay first and transferred them to wax later. Issa also explained that while it was common for artists to act as their own founders in Africa for economic reasons, such a practice is less common throughout the rest of the world (I. Diop 2009).

⁷ “*On ne peut pas travailler des choses qu’on ne connaît pas.*”

Finally, one thing that I did not expect to find was the level of collaboration between sculptors working in different mediums. For some reason, I expected various forms of sculpture to be more separated from one another. Instead, what I found was a great deal of camaraderie and collaboration across media. Due to the proximity of the foundry to the wood sculpture workshop of Serigne Diop, sculptors would sometimes cast miniature bronze replicas of Serigne's larger works, and artists would frequently seek inspiration from one another's work.

b. Techniques:

1. Modeling:

The method used to produce bronze sculpture at the VDA foundry is known as the *cire perdue*, or "lost wax" technique. In the initial phase of the sculpting process, an artist will create a model directly in beeswax for that which he wishes to cast in bronze. The artist will use a heat source, such as a flame or a heat gun to make the wax pliable, working first with his hands and moving on to basic tools to add detail. Sculptors have a variety of tools available at this stage in the process, most of them taking the form of either a flat blade or a point.⁸ The sculptor's tools are frequently heated over an open flame to allow them to cut more easily through the wax, to melt sections of a model to facilitate adhesion of new pieces, and to melt the outer surface of a model if a smooth texture is desired in the final product.

The advantage of working directly with wax is that both subtractive and additive sculpting techniques can be used at any point in the process. For example, if an artist wishes to reduce the size of a particular part of a model, he can simply carve it away with a knife. If he

⁸ See Appendix A, Figure 1

wishes to increase the size of a particular part, or to add another piece entirely, he can melt a new piece of wax onto the existing model. Furthermore, beeswax remains solid even in the high temperatures of the hottest months of the year, thus allowing models to be stored for long periods of time.

The raw beeswax used by the sculptors in this first phase of the sculpting process generally comes from either Kedougou or Mali, and must be refined before it is suitable for sculpting. This is accomplished by heating the wax over a fire until it is liquefied, then passing it through a strainer to remove any impurities. Occasionally, paraffin wax will be added to the beeswax for cost-saving reasons, though this lowers the melting temperature of the wax.

Modeling is arguably the most important step in the sculpting process, as it most directly impacts whether or not a successful final product will be produced. Generally, the more time is spent on creating details and smoothing surfaces in the wax model stage, the less time must be spent refining the sculpture in the finishing stages. If the artist is producing a realistic piece, particular attention must be paid to both proportions and symmetry. Additionally, attention must be paid to the amount of wax used, as roughly a ten-to-one ration weight ratio exists between bronze and wax. For this reason, larger models must be made hollow.

If an artist wishes to create multiple copies of a particular work, a multi-piece plaster mold is created at this stage. Occasionally, if an artist seeks to produce a large number of pieces in a short period of time, existing plaster molds may be used to produce hands, feet, and heads, which would otherwise take more time to create from scratch. Occasionally, other materials are used in conjunction with wax. For example, cloth soaked in wax is used to create clothing for sculptures of people, and other materials such as burlap or mesh can be used to create particular textures.

2. Preparing the model for molding:

Once the wax model has been refined to the artist's satisfaction, it is prepared for molding. This involves the addition of wax sprues, the purpose of which is to ensure that the molten bronze flows freely through the mold, filling in small details and reducing the chances of bubbles forming. Generally, the sculpture is inverted and at least one wax funnel is added to the base to create a hole into which the molten bronze will be poured. Even if a second funnel is not required due to the small size of a model, a small cylinder is added to provide a path for escaping gases displaced by the molten bronze. Without this channel, compressed gasses could form bubbles in the bottom of the mold.⁹

If a mold is hollow, a hole must be created in the hollow portion to allow the molding compound to fill the void. Nails are also pushed several inches into the void, leaving an inch or so protruding so as to hold this inner portion of the mold in place when the wax melts away during firing.

3. Molding:

The molding compound used at the foundry is produced from a 50-50 combination of quick-drying Tunisian plaster and high-quality red earth. For the initial phase of molding, the plaster is mixed with an equal amount of sifted earth to produce a fine powder. This is then mixed with a large quantity of water to produce a soupy mixture, which is used to fill in any

⁹ See Appendix A, Figure 2 for an example of a model prepared for molding

hollow voids and to cover the entire surface of the wax model. The fine-grained nature of this compound ensures that small details will be successfully transferred over into the mold.

Next, a thicker compound is prepared by mixing the plaster with un-sifted earth and a smaller amount of water. A layer of this compound in the appropriate size is laid out on a table, and iron armatures are added to increase the mold's strength. The model is then placed on top, and the rest of the mold is formed around it, with a second set of armatures being placed atop the model. The entire model is covered except for the wax funnels, which are left unobstructed. All of these processes must be completed rather quickly due to the fast-drying nature of the plaster.

Once the mold has been completed, it is covered in a layer of pure powdered plaster to facilitate the drying process. Once the mold has begun drying, a knife should be used to clear any obstructions to the wax funnels.

4. Firing:

After the molds have dried, usually overnight, they are ready to be fired. Molds are placed over a wood fire, with the open ends facing downwards to allow the wax to melt out. A brick chimney is constructed around the molds, with mortar being formed from the same materials used in the molding process. Small holes are left in the top of the chimney to allow smoke to escape. Molds are fired for eight hours at 300 degrees centigrade to ensure that the wax as well as any cloth used in the modeling process has either melted or burned away.

5. Casting:

After the wax has been melted out of the molds, they are ready for casting. For stability, all but the top few inches of the molds are buried in the earth, leaving the funnel end exposed. Dirt is lightly compacted around the molds to minimize the risk of them breaking under the weight of the molten metal.¹⁰ At this point in the process, it is very important to avoid getting dirt and debris in the molds, as this can cause blockages and undermine the quality of the final product.

A charcoal blast furnace, which consists of a round brick pit with a variable-output air blower feeding into its base, is used to heat the scrap bronze. An iron pot is placed in the furnace, surrounded by charcoal and filled with bronze. It must reach temperatures exceeding 700 degrees Celsius to melt. Generally, the bronze melted down to produce sculptures comes from recycled pipes, faucets, and other plumbing fixtures.¹¹ In this stage, iron implements are used to transport and manipulate the molten bronze. These implements must be heated along with the bronze in order to avoid prematurely cooling the molten metal upon coming into contact with it. Because this scrap metal is impure, a slotted implement must be used to remove the impurities that rise to the top of the pot before pouring.

Once the bronze has melted completely, it is poured into the holes in the molds left by the wax funnels. Timing is of the essence in this part of the process. If the caster takes too long, the bronze will cool in the ladle and not pour properly. This can happen within a matter of seconds. After the bronze has been poured, it generally takes about thirty minutes to cool to a point that the molds can be dug out of the ground and broken open.

6. Finishing touches, patina and polish:

¹⁰ See Appendix A, Figure 3

¹¹ Technically, the material used is closer to brass, an alloy of copper and zinc, than to bronze, an alloy of copper and tin. See Appendix A, Figure 4

After the cast pieces have been removed from the molds and cooled, the artist can move on to the finishing stages. First, the excess pieces of bronze left behind by the sprues are removed with an angle grinder, along with any nails used to hold pieces of the mold in place. Holes left over from the preparation steps are welded closed. Next, burrs left by imperfections in the mold are removed with a hammer and chisel. At this point, the artist moves on to using a rotary tool, files, and sanders to achieve the desired texture for his sculpture.

The pieces are then thoroughly brushed with a diluted solution of nitric acid and left overnight. This will change the color of the bronze to a reddish brown, creating a protective layer and allowing the patina to adhere uniformly.¹² The next day, the pieces are thoroughly rinsed in preparation for applying the patina. Using a blowtorch, the pieces are heated uniformly until all the water on them has evaporated. The longer a piece is heated, the darker the patina will be. While the sculpture is still hot, the first coat of the patina is applied, either by a brush or a spray. A five percent solution of potassium permanganate, a deep-purple liquid, is the most commonly used patina at the foundry, though other oxidizing agents such as ammonia will work.¹³ After the first coat has been applied and every part of the sculpture has been covered, the piece is again heated with a blowtorch until the patina begins to achieve a cyan hue. A second coat of patina is then applied, and the piece is rinsed again and left to cool.

Rather than using a patina to age the bronze, another possibility is to use a water-based dye to tint the bronze a specific color. Tints are applied in a similar fashion, with the piece being heated uniformly before application. Tinting differs from traditional patinas, however, in that the

¹² Historically, sculptors used whatever acidic compounds were available to them, including horse urine.

¹³ Historically, some sculptors placed their work by the sea to be oxidized by the salt water over time.

piece must not be over-heated, or the dye will not adhere. Additionally, only one coat of tint is applied as opposed to the two coats of patina.

For the polish phase, equal parts shoe polish¹⁴ and refined beeswax are combined in a shoe polish can. The piece is again heated uniformly by a blowtorch, and the polish mixture is set aflame. Once the wax and polish have entirely melted, the mixture is extinguished and brushed, while still hot, directly onto the sculpture in a thin coat. Once the sculpture is covered, it is heated slightly again to remove any lumps in the polish coat. After the piece has cooled, the artist has the option of scouring parts of the sculpture with steel wool to reveal the original bronze color underneath to emulate ageing. Finally, the piece is polished with a clean cloth.

III. What was produced:¹⁵

Talibe, arm outstretched:

This was the first piece that I decided to undertake upon choosing bronze sculpture as my ISP topic, as well as the first sculpture that I started during my training at the Village des Arts. In choosing to create pieces that reflected my experiences in Senegal, the image of the *talibe* immediately came to mind as being an important element of the explicit culture of Dakar. In creating this sculpture, I wanted to capture the mixture of emotions that I feel when I encounter *talibes* or other beggars in the streets: sadness, pity, frustration and distrust. The physical appearance of the boy, particularly of an active pose, was inspired by a series of other sculptures produced by Issa and the other artists at the VDA featuring children at play. In some respects,

¹⁴ Black or brown shoe polish may be used depending on the artist's desired final color

¹⁵ See appendix B for photos

however, this sculpture represents a departure from the themes, motifs and styles present in those works. Stylistically, I wanted to portray this boy in a realistic fashion, including minute details such as fingernails and hair, as I had seen in the other representations of children. However, I chose to exaggerate certain features, such as the fact that he is skinnier than he should be for a boy of his height, and his eyes are slightly oversized. Furthermore, whereas the other sculptures of children are paired with very square, very smooth bases, I chose to place my *talibe* on a base more evocative of the uneven streets and sidewalks of Dakar. Thematically, this sculpture represents somewhat of a departure from the works that inspired it, as most sculptures of children that I have observed portray their subjects as happy, smiling and carefree.

Senegal: Tradition and Modernity

This was the second piece that I produced, and it changed significantly from concept to execution. I knew that I wanted to create a piece that represented the dual nature of Senegalese culture—firmly rooted in tradition while enthusiastically embracing modernity. Initially, my plan was to represent this concept with a potted plant with symbols of tradition connected to its roots, blossoming into a geometric, modern form representative of modernity. When I explained my initial idea to some of the artists I was working with at the VDA and showed them some sketches, they did not seem to like it. I discarded my original designs and decided to develop a new piece exploring the same theme via different motifs as suggested by the other sculptors. Several artists recommended making a baobab rather than a generic plant, as this is not only the primary type of plant depicted in bronze sculpture, but also an important symbol in Senegalese culture. Furthermore, the general agreement among the other artists was that huts were the best

symbol to represent tradition, and I sought a short list of recommendations as to what might act as symbols of modernity specific to Senegal. Of particular note is the empty hand featured in the center of the tree, reaching upwards. I included this element to represent freedom, openness, and a desire to embrace the future. An outstretched hand was also one of the motifs I had considered to represent modernity in my original designs. It was recommended by a number of artists that I create a wood base for this particular sculpture, but I was unable to find a piece of wood that I felt was large enough to create an aesthetically pleasing base.

Roaring Lion:

While I developed ideas for my first two pieces relatively early on in my ISP, I had a significant amount of difficulty coming up with an idea for a third. It was Issa who made the following suggestion: “You’ve already made a person and a plant, why not an animal?” I immediately thought of a lion, the national symbol of Senegal, and an animal I had seen reproduced frequently in various forms of both high and low art. I ultimately settled on producing a lion specifically due to its appearance in low art. As I came to understand the role that bronze sculpture played in Senegalese culture, particularly its importance as a source of revenue for its creators, I felt the need to create at least one piece that reflected this “generic” type of art similar to what one might see at an artisanal market, created with the intent of appealing to as wide an audience as possible so as to increase the likelihood of sale. I chose to create a lion in mid-stride, with its mouth agape, as a reflection what I had observed in other realistic sculptures, in which the subjects are portrayed as in the process of completing a particular action, implying movement and tension, that the piece may at any moment spring to life. Interestingly enough, I saw an

almost identical piece for sale at the Africa Arts gallery near the Mamelles.

Statuesque Woman Carrying Calabash:

I chose to produce this piece as a representation of femininity in Senegal. Stylistically, I was inspired by a series of pieces entitled *Masai Dance* produced by artists at the VDA foundry. This series features more stylized representations of people devoid of details such as facial features, fingers and toes. I felt that this style was conducive to my desire to portray a general representation of femininity rather than one type of woman in particular. Through this piece, I wished to convey the variety of traits that I have come to associate with women in Senegal. First and foremost, I have come to notice that something about the way in which Senegalese women carry themselves makes them seem much taller than they actually are. It was for this reason that I chose to make this woman disproportionately tall. Furthermore, I wanted to convey what I have observed about the hard-working nature of women in Senegal. In particular, my mind kept returning to the image that I had seen during my village stays of women carrying calabashes and other containers back and forth on their heads throughout the day. Finally, I wanted to create a form that was indicative of the sensual and seductive nature of women here, without being overtly sexual. For this piece, I experimented with a different patina technique, creating a black finish by more thoroughly heating the piece and applying a coat of black polish.

Untitled Abstraction:

This piece was inspired by some of the works of Serigne Diop, a wood sculptor working at the

VDA that I developed a friendship with over the course of my instruction. From time to time, I would stop by his atelier to drink attaya and discuss his work. I was struck by the abstract forms that he produced in an improvisational manner, chipping away at the wood as he felt lead in a purely aesthetic sense. After seeing a number of works produced in this manner, I also noticed a certain amount of cross-over between bronze and wood sculpture. On occasion, some sculptors would cast miniature versions of some of Serigne's larger works in bronze. Inspired by this collaboration, I chose to pursue a similar improvisational, abstract design. While I chose to stick to a largely cylindrical form to reflect the influence of wood sculpture, I employed both subtractive and additive sculpting techniques in producing the wax model. This is not a luxury which is not afforded to wood sculpture, which relies on purely subtractive techniques. For this piece, rather than use a patina of potassium permanganate, I opted to try tinting it. Unfortunately, the only color available at the time was black, making its finish almost indistinguishable from that of the *Statuesque Woman Carrying Calabash*. However, this at least afforded me the opportunity to experiment with different patina techniques.

IV. Difficulties Encountered:

Throughout the time that I spent studying bronze sculpture in Senegal, both at the foundry at the Village des Arts as well as at various art galleries, I encountered a number of challenges, both expected and unexpected. The most prominent of these difficulties was the issue of the language barrier. While communicating with and learning from Issa was relatively easy, some of the artists and workers, especially those specializing in finishing, spoke little French. Due to his schedule, Issa was not always available to supervise my work, and I occasionally had

to make do with the minimal Wolof skills that I possessed. Ultimately, I was still able to learn despite this barrier, relying on observation rather than verbal instruction to learn particular techniques.

Even when I was able to learn and communicate in French, I still encountered language-related difficulties. Specifically, I found that I lacked a useful vocabulary when it came to the various tools and implements used at the foundry for many steps of the casting and molding process. Often times, other artists would ask me to pass them a particular tool and I was unable to understand what they were asking for. The situation was exacerbated by my unfamiliarity with the processes involved with bronze sculpture, which translated into an ignorance as to which tools were used in each part of the process.

While I ultimately enjoyed the actual process of sculpting itself, I also encountered a number of challenges along the way. First and foremost of these was the difficulty that I had in accepting the temporary nature of the wax model stage of sculpting. Because each wax model required multiple hours of work (as many as 16 in some cases), I came to view each model that I created as a work of art in itself, whole, complete and worthy of display. Furthermore, I had not previously spent a great deal of time working with a material such as wax, which does not ever harden or become un-useable after a certain period of time as clay does. I frequently had to make modifications to my models based on the recommendations of Issa and the other artists. Usually, this step involved what I considered to be drastic alterations: chopping sections out of limbs, gouging holes in torsos, and more. I saw the other artists undertake these same alterations without hesitation, but it took me a few days to get used to the idea of wax as a material that could be altered repeatedly without any adverse consequences to the final product. On top of this, I had to accept the fact that the wax model is completely lost in the molding process. It was

initially difficult for me to accept that something that I had put so much work into was going to be completely melted away as a necessary step towards achieving a final product. I particularly appreciated how Idi, who is in charge of the molding, firing and casting phases, phrased his views on the matter after building the chimney during my second week at the VDA: “Now, our children are in the fire.”¹⁶

Another difficulty I had early on was the method of teaching that some of the artists used in explaining certain techniques to me. When I would ask some of them how to make a particular element of my model, they would simply make it for me. This was initially frustrating, as I wanted to create sculptures that were thoroughly my own, but I also did not want to offend the other artists by refusing the help that they were offering. After a bit of struggling, however, I ultimately found a solution. I started working with crude duplicates of the models I was creating. This way, if an artist wanted to instruct me on a particular technique by doing it for me, I could give him the duplicate model to work with.

I also faced the problem of not being able to complete every step of the process myself as I had initially wanted. While I was able to do all of my own work on the wax modeling phase, I had more difficulty with the other phases for various reasons. What I came to learn early on is that many of the sculptors work primarily in the wax modeling phase and leave the molding, casting, and finishing touches to others who specialize in those tasks. On top of that, the issue of time constraints came into play in determining what I could and couldn't complete. While I wanted to complete the plaster molds for each of my own sculptures, the fact of the matter was that due to the time-sensitive nature of the molding process (the plaster dries incredibly quickly), I was only able to assist in the mixing. Had I insisted on doing the mold myself, I likely would have either created insufficient molds and risked a faulty final product, or I would have

¹⁶ “*Maintenant, nos enfants sont dans le feu.*”

completed satisfactory molds at a speed that would have resulted in a waste of plaster that could have been used for other artists' works.

I faced similar problems with the casting phase, in addition to safety concerns. Even if I had felt comfortable working with the molten bronze, I would not have been able to work quickly enough to pour it into the molds for my sculptures without risking premature cooling. This would have been especially problematic given the large number of sculptures that are cast at a time. However, it is also worth noting that the casting step is usually the work of a small number of workers at the foundry; sculptors generally do not cast their own pieces.

I also encountered a fair number of difficulties in trying to contextualize my research outside of the foundry. While there is no particular shortage of art galleries in Dakar, I had a hard time finding ones that exhibited bronze sculpture. While this may have been due to the rotating nature of gallery exhibits, a more likely explanation is that it was a result of a general lack of local interest in bronze sculpture. In the rare case that I did discover a gallery that featured bronze sculpture, the pieces most often came from other West African countries such as Mali, Burkina Faso, and Nigeria. I spoke to various gallery workers and/or curators, who consistently explained that the medium is not nearly as popular in Senegal as it is in neighboring countries. This fact was supported by what I learned from Issa, who explained that bronze sculpture in its current form in Senegal was brought by his father about forty years ago, after having visited foundries in multiple neighboring countries. Consequently, I ended up having to base my work on a very limited amount of outside knowledge.

Finally, I also faced the difficulty of dealing with issues of timing. Initially, my plan was to learn a fair amount about the cultural context of bronze sculpture before beginning my training at the Village des Arts. However, I realized that in order to deal with Tabaski and other possible

delays, I would have to begin my training very early on in the ISP period. Originally, I had planned to model, cast and finish my sculptures one by one, starting a new wax model only when I had finished the patina stage on the previous piece. In this way, the works I produced would represent a chronological progression of what I was learning about sculpture. However, I had to abandon this plan early on. The problem that I encountered was that the foundry would only cast molds in bronze once every week at most. Ultimately, this meant that my first few days at the foundry were spent producing the wax models for the first three sculptures that I had planned to create, and I had to learn about typical motifs and styles along the way.

Issues of timing also ended up influencing what research methods I was able to use. I had not anticipated how busy most of the artists at the foundry would be when I initially planned to conduct formal interviews with them. Ultimately, I found that most of the sculptors were unable to take time out of their work for formal interviews, but were willing to answer questions in an informal setting. This worked in some ways to my advantage, freeing me to ask questions as they came to me.

A result of these obstacles was a somewhat unintentional shift in focus of my ISP. Whereas I had originally planned to focus more heavily on cultural contextualization, both timing issues and discoveries I made along the way lead me to focus increasingly, both consciously and unconsciously, on the procedures and techniques involved in sculpture itself. This translated to producing more works of art that I had planned as part of my learning goals, and focusing less on examining a wide range of viewpoints of artists and patrons of bronze sculpture.

V. Recommendations for future study

Based on what I learned about the cultural context and history of bronze sculpture in Senegal, possibilities for future study are numerous. Further studies would profit from seeking to examine the medium either in a broader regional context, including a more detailed history of the development and spread of particular techniques, or to draw comparisons between bronze sculpture and other forms of sculpture in Senegal, from artistic, social or economic perspectives. Other researchers might also conduct a comparative study of variations in sculpture styles and motifs between various regions and ethnic groups. Further study might also examine the foundry at Diourbel, which I did not have time to visit. Additionally, a researcher more interested in sociology rather than art might seek to conduct an in-depth study of the client/artist relationship or gender issues related to bronze sculpture, in particular a lack of female sculptors and foundry workers. Sociological studies might also focus on ways in which sculptors and other artists rationalize what is considered in certain interpretations of their religious beliefs to be “deviant” behavior, or differences in attitudes toward “artisanal” versus “artistic” works, and what qualifies a particular trade as one or the other from the perspective of both producers and consumers.

NOTE: Appendices are not included in electronic copy for reasons of file size.

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