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## Between Art, Craft and Industry Porcelain techniques of Fanny Garde and Effie Hegermann-Lindencrone

"Seldom did the interaction between the two impulses, art and craft, see such ambitious goals and their successful achievement as in those works" – wrote Jacob Bing about Fanny Garde's (1855–1928) and Effie Hegermann-Lindencrone's (1860–1945) pieces created at the Bing & Grøndahl porcelain manufactory.<sup>1</sup> In the course of more than forty years of cooperation, during which Garde and Hegermann shared an atelier at this Copenhagen-based enterprise, the two artists developed a unique language of formal expression that proved to be both recognizable and publicly acclaimed not only at the Danish, but also the international ceramics scene.<sup>2</sup> Garde's and Hegermann's characteristic style of porcelain decoration consisted mostly of meticulously carved, openwork and underglaze painted floral motifs taken directly from the Danish nature (fig. 1). Having been hired by Bing & Grøndahl in 1886 and working there until the end of their lives, they experienced the most revolutionary time in the history of Danish ceramics, described in literature as an "International Breakthrough".<sup>3</sup> Garde and Hegermann contributed greatly to this achievement of Danish ceramics, not only by laying the foundations for the creation of the Underglaze Department at Bing & Grøndahl, but – most importantly – by pushing the technical limits of plastic decoration of porcelain.

Only by combining an analysis of the limited number of remaining historical accounts, Garde and Hegermann's *arbejdsbog* (a shared, handwritten register of all their works executed at Bing & Grøndahl) and of the objects themselves, can it currently be determined which techniques precisely were

used for the creation of their works.<sup>4</sup> Without combining all these components, it would be difficult to establish the working methods of Garde and Hegermann, especially given that the complex techniques they used have been long forgotten by the porcelain industry. Although the two artists started creating unique works according to their own design already in May 1890,<sup>5</sup> their signature style developed just before the World Exhibition in Paris in 1900.<sup>6</sup> Starting from around that time, they had most of their pieces' basic shapes "hand-thrown on a potter's wheel to their specific purpose and according to a detailed sketch".<sup>7</sup> A close cooperation between the artists and the throwers was therefore indispensable to the success of the finished work (fig. 2). Bing's remark about the interplay between art and craft in the works of Garde and Hegermann, quoted at the beginning of this article, referred however as much to the artists' collaboration with the craftsmen at the factory as to their own craftsmanship.

It is precisely the high level of craftsmanship inherent in Garde and Hegermann's porcelain techniques that is the focus of this article, as the research presented here aimed at establishing the steps followed by the artists in their creative process.

<sup>4</sup> I am very grateful to Lise Seisbøll and Allan Andersen from Grimmerhus – Danmarks Keramikmuseum (renamed CLAY Keramikmuseum Danmark in 2015) for making this research possible. I would like to thank Peter Poulsen, Aase Munk Nissen and Jette Sjøholm from Royal Copenhagen for priceless consultations regarding the porcelain production and decoration techniques and for hosting the technical examination of chosen pieces by Fanny Garde and Effie Hegermann-Lindencrone.

<sup>5</sup> CLAY Keramikmuseum Danmark (hereinafter: CLAY), Fanny Garde's and Effie Hegermann-Lindencrone's *Arbejdsbog* (1890–1896; 1902–1910).

<sup>6</sup> R. Marx, *La Décoration et les Industries d'Art à l'Exposition Universelle de 1900*, Delagrave, Paris 1901, p. 93, ill.; Ch. Christensen, *1900 – The Year of Art Nouveau*, The Danish Museum of Art and Design, Copenhagen 2008, p. 248–249, ill.

<sup>7</sup> J. Bing, op. cit., p. IV. Surviving parts of the *Arbejdsbog* confirm that most of the pieces made between 1902 and 1910 were thrown, save few exceptions that were slip cast.

<sup>1</sup> J. Bing, *Bing & Grøndahl's museum*, København 1955, p. IV.

<sup>2</sup> Ch. B(een), *Danske kunstindustrielle Arbejder paa Verdensudstillingen i Paris*, "Tidsskrift for Industri" 1900, 1, p. 31–33; G. Mouray, *La section Danoise, "Art et Décoration"* 1925, 48, p. 154.

<sup>3</sup> S. Nottelmann, *The International Breakthrough, [in:] Royal Copenhagen Porcelain 1775–2000. 225 Years of Design*, Nyt Nordisk Forlag Arnold Busck, Copenhagen 2000, p. 93–114.



Fig. 1. Effie Hegermann-Lindencrone for Bing & Grøndahl, lidded bowl with rowan motif, 1924, porcelain, underglaze painting, carving, modeling, openwork, transparent glaze, h. 37.5 cm, diam. 39.5 cm, CLAY Keramikmuseum Danmark, © CLAY Keramikmuseum Danmark



Fig. 2. Effie Hegermann-Lindencrone for Bing & Grøndahl, aquatic vase, 1908, hand-thrown porcelain, underglaze painting, carving, modeling, openwork, transparent glaze, h. 39 cm, diam. 32 cm, CLAY Keramikmuseum Danmark, © CLAY Keramikmuseum Danmark

As mentioned, this process commenced with a porcelain piece being given its basic shape on a potter's wheel or (less often) in a mould, after which it would be ready for the time-consuming process of decoration. One of the first historical accounts detailing the decorative technique used by Garde and Hegermann is that of Poul Simonsen from 1928: "Openwork, which is carried out in the raw (unfired) porcelain, requires the greatest patience, just as the plastic handling of the decorations requires the greatest and most thorough knowledge of the ceramist's difficult art".<sup>8</sup> Only two years later, on the occasion of Effie Hegermann-Lindencrone's 70<sup>th</sup> birthday, "Nyt Tidsskrift for Kunstindustri" published an article, in which the author noted that especially her openwork pieces have been worked through to the smallest detail; particular mention is made of the outstanding technical achievements, carved and shaped in the unfired, brittle porcelain, that is fragile as eggshell.<sup>9</sup> Also, in his obituary of Hegermann, Ebbe Sadolin admired her exceptional manual dexterity. His account confirms that the artist carved and cut the raw porcelain body, which was as delicate as cake dough, and that the work could be ruined with the slightest shake of a hand.<sup>10</sup> Finally, it is Erik Lassen who delivered the most detailed known (however still modest and partly ambiguous) description of Hegermann's working methods. She worked in raw porcelain: the low relief would be cut out/carved (*skåret ud*) and filed into shape (*filet til*) and each flower would be individually modeled through (*gennemmodelleret*),<sup>11</sup> while the decoration of higher relief would be undercut (*underskåret*), producing both lit and shaded parts.<sup>12</sup> As a matter of fact, a description of the decoration techniques survived in the artists' *arbejdsbog*. The relief decoration is simply described there as "carved" (*skaaret*) with a number of variants: "carved inside and outside" (*skaaret indvendig og udvendig*), high relief (*stærkt skaaret*) and low relief (*let skaaret*).<sup>13</sup> Having analyzed all of the foregoing, one can be sure that in order to create the relief, as well as the openwork, the artists let the vase dry to a leather-hard state at which point they used

<sup>8</sup> P. Simonsen, *Porcelænsfabrikken Bing & Grøndahl 1853–1928*, København 1928, p. 32.

<sup>9</sup> E. S., *Porcelæns Jubilæum*, "Nyt Tidsskrift for Kunstindustri", Sept. 1930, p. 145.

<sup>10</sup> E. Sadolin, *Nogle mindeord om Effie Hegermann-Lindencrone*, "Nyt Tidsskrift for Kunstindustri" 1946, 19, p. 26.

<sup>11</sup> E. Lassen, *En københavnsk porcelænsfabriks historie*, Nyt Nordisk Forlag Arnold Busck, København 1978, p. 34.

<sup>12</sup> *Ibidem*, p. 36.

<sup>13</sup> CLAY, Fanny Garde's and Effie Hegermann-Lindencrone's *Arbejdsbog*...



Fig. 3. Fanny Garde for Bing & Grøndahl, lidded vase with magnolia motif, 1924, porcelain, underglaze painting, carving, modeling, openwork, transparent and metallic glaze, h. 52 cm, diam. 25.5 cm, CLAY Keramikmuseum Danmark, © CLAY Keramikmuseum Danmark

different types of knives and wooden sticks to cut, incise, carve, file and smoothen the raw porcelain body. The artists would be able to further enhance the relief effect by attaching separately modeled fragments like a leaf to the already carved surface. The use of these techniques would allow creating all types of modeled decoration: from the delicate low relief like the one from Fanny Garde's magnolia vase (fig. 3) to a dramatic high relief like the one on Effie Hegermann-Lindencrone's sculptural vase (fig. 4). A modeled piece had to be subsequently biscuit-fired in order to permanently harden the clay. After this first firing additional modeling was also possible with sharper tools. It is a common mistake among contemporary viewers to



Fig. 4. Effie Hegermann-Lindencrone for Bing & Grøndahl, vase with cones, 1925, porcelain, underglaze painting, carving, modeling, openwork, transparent and metallic glaze, h. 20 cm, diam. 15 cm, CLAY Keramikmuseum Danmark, © CLAY Keramikmuseum Danmark

think that the decoration designed by Garde and Hegermann has been fully cast or pressed in a mould. This is especially easy to believe when one knows that the openwork shapes that feature an effect of overlapping leaves can be cast in plaster moulds on an industrial scale, only requiring a limited finishing by hand; just like the ice-cream cover from the Flora Danica set, still produced at the Royal Copenhagen factory.<sup>14</sup>

Save very few exceptions, all the works made by Garde and Hegermann are richly painted underglaze. The photographs of the artists at work document their use of a paintbrush, which was the most traditional and the most difficult way of transferring the pigments to the porcelain piece. Painting on the porous biscuit-fired porcelain body bears a significant resemblance to the watercolor technique, as the unglazed porcelain absorbs paint even faster than paper: it therefore requires confident and fast brushstrokes.<sup>15</sup> Garde and Hegermann how-

<sup>14</sup> *The Royal Copenhagen Porcelain Manufactory 1775–1975*, Det Berlingske Bogtrykkeri, Copenhagen 1975, p. 103–104, ill.

<sup>15</sup> S. Ilse, *Om underglasurmaleriets teknik*, "Nyt Tidsskrift for Kunstindustri", April 1930, p. 66.



ever probably combined the traditional paintbrush technique with the revolutionary spraying technique, which was developed at Royal Copenhagen around 1890 and quickly transferred to Bing & Grøndahl, and which involved distributing the paint by means of compressed air, allowing the creation of an even layer of a delicate, misty tone across the surface of an entire piece.<sup>16</sup> Both artists extensively used the luminous effect of the white porcelain body that would become partly or completely visible after scraping or rubbing off the excess layer of pigment (seaweed in fig. 2). The underglaze painting technique inherently offered a very limited range of colors that consisted essentially of shades of blue, gray, green and brown. Using those to create subtle shading and delicate tones, resulting in a realistic disposition of colors (naturally depending on the limited range of available pigments) like in the case of the white-grey-pink magnolia flowers on the abovementioned Fanny Garde's vase (fig. 3), was characteristic of Garde's and Hegermann's art. The artists either painted the decoration freehand onto the body, helping themselves by looking at a drawing from nature prepared by themselves beforehand, or transferred the design using a pierced template prepared on the basis of a drawing.<sup>17</sup> A painted piece would be glazed and then fired again at a higher temperature which vitrified the glaze and body together.

The range of motifs for Fanny Garde's and Effie Hegermann-Lindencrone's pieces would be provided during the numerous trips to the Danish countryside that they often went on together in the summer months, where they made countless studies of flowers, leaves, trees and fruit (fig. 5). The studies were executed with the precision of a botanist and a keen eye for detail. The two were known for taking holidays that they devoted fully to the study of nature and many of their drawings kept now at CLAY Keramikmuseum Danmark are signed with dates and names of the places in Denmark where the drawings were made. This allows to track the artists' favorite locations. Most of the visited towns are located by the seaside: Bautahøj, Tisvilde, Rørvig (by the Kattegat Sea) and Søndervig and Blåvand (by the North Sea). This choice of locations must have been dictated by an abundance of wild aquatic plants, that served as popular decorative motifs at that time, with seaweed being especially enthusiastically exploited by Hegermann



Fig. 5. Fanny Garde, Study of magnolia, undated, paper, pencil, watercolor, CLAY Keramikmuseum Danmark, © CLAY Keramikmuseum Danmark

(fig. 2). Among the techniques that exemplify Garde's and Hegermann's naturalistic approach to porcelain decoration is an effect of three-dimensional multilayered overlapping foliage, often enhanced by the use of openwork, like in the case of the lidded bowl with rowan motif made by Hegermann (fig. 1). Especially the lid represents the most characteristic type of decoration and reveals the meticulous planning and execution of the naturalistic design. Another characteristic feature of Garde's and Hegermann's style is sculpting inside and outside of the piece, which gives an impression of the vessel having been formed with a layer of foliage and blossoms glued together with the glaze, just like Effie Hegermann-Lindencrone's arrowhead bowl from 1917 (Victoria & Albert Museum).<sup>18</sup>

The transparent glaze was a very important means of expression for Garde and Hegermann, constituting both a finishing touch and a complement to their sophisticated decorative technique. The layer of see-through glaze created a glossy

<sup>16</sup> S. Schultz, *Det Danske Underglasumaleri*, [in:] *Dansk Keramik*, sp. ed. of "Porslin" Magazine, Stockholm 1960, p. 20.

<sup>17</sup> This was the case with the daisies and dragonflies bowl by Hegermann from 1903. Both the bowl and the corresponding dragonfly pierced template are kept at CLAY.

<sup>18</sup> Effie Hegermann-Lindencrone, arrowhead bowl, underglaze painted, modeled, inv. C.111-1988, Victoria & Albert Museum, London, available online: <http://collections.vam.ac.uk/item/O167567/bowl-hegermann-lindencrone-effie/>, entry: 7 September 2014.

coating over each design, muting and softening the colors on the one hand, and adding liveliness to the shape by enhancing the three-dimensional effect of the sculpted piece by an intense light reflection on the other. Especially a group of Effie Hegermann-Lindencrone's aquatic vases and sculptures, made in large numbers in the second and third decade of the 20<sup>th</sup> century, fully exploited the qualities of the transparent glaze. In the vase with aquatic motif from 1908 (fig. 2), by combining underglaze painting and hand-modeled relief, the artist created an impression of a cross-section of the sea's wildlife, constructing a decoration ranging from the dark blue shells representing the sea bottom at the lowest part of the vase, to the delicate whitish seaweed in openwork at its top part, resembling the translucent surface of the water. The imitation of the living sea bottom has been enhanced by the way the seaweed are structured (they seem to be rooted in the lowest part of the vase and growing towards the rim) as well as by the addition of the modeled fish swimming between the plants. This effect would not be as convincing without the shiny, water-like layer of the glaze. Ebbe Sadolin's remark entailing that in Hegermann's works the otherwise cold glaze "gives things such fullness and gloss that they naturally seem wet, as if they have just been pulled out of the water"<sup>19</sup> could be an illustration of this very piece. The seaweed was one of Hegermann's favorite and most frequently used motifs.

Completely different decorative properties of the glaze than the ones mentioned above have been used in the bronze-like, metallic effects of the painted surface, created by both artists, but employed especially extensively by Fanny Garde (fig. 3). Jens Ferdinand Willumsen was the one at Bing & Grøndahl who started the experiments with new glazes, with a focus on a "deep, metal-like color, that in firing could vary between the dark effects of iron and the light ones of bronze".<sup>20</sup> Garde and Hegermann built up many of their bronze-like finishes based on Willumsen's experiments, but further research is needed to determine exactly how closely they followed his recipes and whether they created any of them independently. It seems that at least the finish that the artists themselves called "matt brown" (*mat brunt*), like the one used by Fanny Garde for the decoration of the iris vase from 1909 (Bröhan-Museum),<sup>21</sup> was a com-

ination of two colors designed by Willumsen: a red-brown with a blackish metallic color on top.<sup>22</sup> Both color recipes include ochre, an earth pigment that naturally contains hydrated iron oxide, which is responsible for the brown tint of the surface. Colors like these, despite being commonly called "iron oxide glazes" (*jernoxydglasur*), could yield an equally desirable effect by either being applied as a glaze, or as an underglaze color subsequently glazed all over with a transparent glaze. Garde and Hegermann experimented with both underglaze and overglaze decoration, treating the latter as a complementary technique. A bowl featuring hawthorn berries made by Fanny Garde in 1910 (Victoria & Albert Museum)<sup>23</sup> is an example of the combining of the two techniques. Here, the inside of the bowl has been glazed with a brown-reacting color, covering the surface that had been painted in green tones in the underglaze technique.<sup>24</sup> The final effect is a metallic bronze-like glaze that is quite similar to the effect described above, but rather more shiny and showing stains of the green pigments beneath. The bronze-like finish has been used for the decoration of countless pieces by Garde and Hegermann and it serves many different decorative purposes. In the case of the magnolia vase (fig. 3) it acts as a metallic socle, while in the rowan bowl (fig. 1) it forms part of the foliage at the base of the piece.

The combination of all the techniques described above, requiring patience and a significant degree of skill, meant that Garde's and Hegermann's working method was exceptionally time-consuming. Many of the pierced pieces decorated with high relief and underglaze colors would often take around 60 hours to complete, while more sizeable and complicated pieces could take up to 210 hours of the artist's time, like the Hegermann aquatic vase (fig. 2).<sup>25</sup> The significant amount of time devoted to the creation of a single piece, necessitated by the use of a complicated set of techniques, illustrates how Fanny Garde and Effie Hegermann-Lindencrone managed to combine, in their everyday work within the confines of a large manufactory, a vision and design of an artist with the skill and patience of a craftsman.

<sup>19</sup> E. Sadolin, op. cit., p. 26.

<sup>20</sup> E. Lassen, op. cit., p. 28.

<sup>21</sup> Fanny Garde, iris vase, underglaze painted, modeled, h. 23 cm, inv. 92-054, Bröhan-Museum, Berlin, available online: <http://www.bildindex.de/dokumente/html/obj06150305#|0>, entry: 7 September 2014.

<sup>22</sup> CLAY, Fanny Garde's and Effie Hegermann-Lindencrone's Arbejdsbog...; CLAY, Glasurprøver med Kobber og Jern, recipe notebook, entries 5 and 6.

<sup>23</sup> Fanny Garde, hawthorn bowl, underglaze painted, modeled, inv. C.91-1987, Victoria & Albert Museum, London, available online: <http://collections.vam.ac.uk/item/O167427/bowl-garde-fanny/>, entry: 7 September 2014.

<sup>24</sup> CLAY, Fanny Garde's and Effie Hegermann-Lindencrone's Arbejdsbog...

<sup>25</sup> Ibidem.