



A White Etching Ground for Drawing: An Argument for Rembrandt's Lost Ground

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[Desenho / Drawing]

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Abstract

This paper examines the origins and the significance that the etching varnish has had in the practice of drawing within printmaking, from Bossé's initial paradigms up to the innovative and obscure techniques from the 19th century. The common etching ground is framed within the possibility of a white etching ground for drawing as used by Rembrandt van Rijn, and the developments this same ground went through: its origins, its definition, its use and its ever-changing formulas. Different techniques and methods are analysed in this context, from the more accessible and perhaps better known method as proposed by Bossé to the more obscure and obsolete positive method. This varied definition of white ground is set against a series of other possible "grounds" traditionally used in painting and drawing, and through these experiments we argue that the overlap between printmaking, painting and drawing allows artists to adapt these various systems to meet the requirements of certain experimental procedures, thus furthering the study of new possibilities and methods in these same practices. In considering the white ground as a framework for this potential, this essay presents examples that function as a means to recover these techniques and emphasize a deeper connection between these art forms. As we aim to point out with this experimental study, there is a wealth of drawing and painting techniques to explore within the printmaking practice.

A Varnish for Etching

To establish the significance of a white ground in the context of traditional hard-ground etching, it is necessary to first provide a brief overview of what constitutes an etching varnish and how it has changed since its inception. Because the terms "ground" and "varnish" are used interchangeably in this essay it seems necessary to establish the distinction (or lack thereof) between these two terms. Some examples are William Faithorne's (1616-1692) *The Art of Graving and Etching*, in which the author uses both these terms interchangeably,³ the *Encyclopedia Britannica*

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³ Faithorne, W: *The Art of Graving and Etching*. William Faithorne, London. (1662), p. 25

which also refers to these terms synonymously⁴ as well as André Béguin (1927) in his *Technical Dictionary for Printmaking*.⁵

Any introductory essay on the history of *intaglio* will make it a point to establish Abraham Bossé (1604-1676) as its champion, being the author of its very first treatise, and as such one of its most significant innovators. In this regard this essay is no exception. Before his contributions, there hadn't been any particularly significant treatises on the methodology and chemistry of etching, or, more pointedly, one that was as widely accepted and widespread as his.

Ad Stijnman gives a particularly succinct chronological account on the development of acid resists for metal etching. There are certain substances that possess specific chemical properties that make them exceptionally appropriate for the chemical processes that occur during an etching bath. These substances are called hydrophobic, which essentially means that they repel water, and water is the predominant ingredient in almost all mordant recipes for etching. These first hydrophobic substances are beeswax, oil varnish and oil paint, referred to by Vasari as *cera*, *vernice* and *colore a olio*.⁶ They are referred to as the oldest known etching "varnishes", and oil paint happens to be the oldest example of a resist used in the etching of designs on metal objects. According to Stijnman, a manuscript titled *Secretum Philosophorum*,⁷ dating from the 14th century, describes the bathing of an oil paint covered iron object in a "vitriol" solution, which is described as sulphate. This substance is particularly close to the contemporary etching practice since the most widespread mordant used nowadays is a copper sulphate solution which is another combination of sulphate, water and salt. It is also important to note that these processes, before being applied to what we now refer to as etchings, were first applied to the etching of various objects and were practised by "(...) the goldsmith, metal-chaser, (...) the armourer and the gunmaker".⁸ The first example of the use of these processes in the context of printmaking is no earlier than 1513, Urs Graf's *Girl Bathing her Feet*.⁹

Initially only singular ingredients were used because they demonstrated the efficiency required for this purpose. With scientific advancement, curiosity, experimentation and some trial-and-error however, combinations of these ingredients and other new ones became standard, and the typical combination of ingredients that comprises an etching varnish was thus established in the first half of the 17th century and remains much the same in contemporary printmaking. A 19th century article published by the Royal Society for the Encouragement of Arts, Manufactures and Commerce, under the topic N. 1 Etching Ground for Engravers lists these key

4 The Encyclopedia Britannica, vol. 9 (1842), pp. 373–374

5 See A Technical Dictionary of Printmaking under "Etching Ground",

6 Stijnman, A: Engraving and Etching 1400-2000: A History of the Development of Manual Intaglio Printmaking Processes. Archetype Books, London (2012) under section "Producing the Matrix", p. 197

7 See Stijnman, 2012, p. 49

8 Hind notes that while it is impossible to pinpoint exactly the date of the first etched weapon, there is a verifiable manuscript from the beginning of the 15th century with instructions on how to etch iron. See more in Hind, A: A History of Engraving and Etching: From the 15th Century to the Year 1914. Dover Publications, Inc., New York. (2011), p. 105

9 Hind, 2011, p. 106



Fig. 1 Rembrandt van Rijn, *Portrait of Saskia in a straw hat*, 1633, metal point on vellum, 18.5 x 10.7 cm (CC) Creative Commons Licence

ingredients: asphaltum, Burgundy pitch and virgin wax.¹⁰

There are many variations of recipes; one mentioned by Stijnman states that the plate is to be covered with oil varnish, dried over fire and, when dry, drawn upon. A wax rim is then added to the borders so as to not bite into any small and hard-to-see-faults and the plate is then drenched with a corrosive substance composed of several ingredients.¹¹ This “etching ground” is in truth a combination of ingredients that function better combined rather than separately, making it an early demonstration of the search for the most efficient resist through combinations of different proven or chemically similar ingredients; Bossé himself recommends a concoction consisting of candle grease and olive oil cooked together for a stopping-out varnish.¹² Almost all other subsequent varnishes were combination-based, and there are few occasions of single use ingredients.

There are numerous variations of these formulas, and the history of the development of etching varnishes, and, indeed, etching itself, is fascinating and storied. The 17th century happens to be the most innovative period of its development,¹³ and it is also the period of Rembrandt’s (1606-1669) activity, a prolific and inventive artist. His work in engraving and etching parallels his work as a painter and draughtsman, and the close technical relationship between etching and other art forms is made evident in his work. It has already been established that it is common to use instruments traditionally associated with painting and drawing in etching, e.g. the use of oil varnishes and paints as acid resists in the very first developments referred to earlier. If indeed the white ground is of his making, then it is possible to infer that he did it so as to perhaps simulate the feel of paper on an etching plate. The following segment will elaborate on the possible attribution of the white ground varnish to this artist, its development and the motivations for its creation.

Defining the White Ground

White ground as a concept bears discussion as it has had much speculation regarding its origins. There appears to be a consensus on its purpose, and it is that it means to make the distinction between drawing and etching less severe; it appears to aim to merge these two art forms together, giving the appearance of a piece of paper to a metal plate. Some texts mention the wish to create a paper-like *dead white* surface on metal plates.¹⁴

Research on the composition of different coatings and the resulting relationship between drawing practices and printmaking practices con-

¹⁰ Turrell, 1824, pp. 58–67

¹¹ Stijnman, 2012, p. 49

¹² https://www.polymetaal.nl/beguina/mape/etching_ground.htm

¹³ See Stijnman, A: Experiment and Trial: Technical Developments in 17th Century Intaglio Printmaking, An Overview. Monte Artium, 3, 115–126 (2010) for a more detailed account.

¹⁴ Herkomer, H: Etching and Mezzotint Engraving: Lectures Delivered at Oxford, Macmillan and Co, New York. (1892) p. 4



ducted by PURE PRINT¹⁵ show that some of the earlier formulas used for metal point drawing, for example, share some similarities with the so called white etching grounds. The recipe reconstructions carried out on the topic of paper preparation grounds suggests a great variety of interpretations and uses of raw

Fig. 2 Metal point ground over hard-ground varnish on a zinc plate

materials applied for different purposes. According to Schwartz, from all of Rembrandt's surviving preparatory drawings, only three show signs of having been traced,¹⁶ suggesting he would work directly on the ground of his own creation. Rembrandt's purported use of a white etching ground then suggests a broad range of coatings may be replicated and reused in both art forms. There are even examples of "lightly inked prints"¹⁷ that look similar to the effect produced by metal point, and this technique was itself already largely abandoned by the 16th century, aside from one large focus of production in the Netherlands.¹⁸ These prints, usually unresolved and unfinished works, present a "messy aesthetic", as suggested by Nadine Orenstein.¹⁹

The Netherlands is also the birthplace of the *tafeletten* method. The *tafelet*, dutch for small board or tablet,²⁰ were portable erasable drawing boards assumed to be cheap replacements for paper. The recipe consists of a highly diluted gum Arabic and calcined bone pigment²¹ spread on wood, paper or any other available surface. According to Camp, Hendrik Goltzius (1558-1617) executed all of his metal point drawings in *tafeletten* boards.²² This, as well as the indication that Rembrandt favoured exceptionally thin copper plates²³ allows us to ascertain the likelihood of Rembrandt using these lighter plates with a white ground possibly made from the *tafeletten* ground. Some of Rembrandt's surviving metal point drawings are known to have been executed while traveling, namely landscapes. Wetering argues that this might be proof of Rembrandt's use of *tafelet* boards.²⁴

15 Machado, G., & Belkot, M: Drawing for Reproduction: Toward recreating surface prepare papers for making prints and exploring creative practice. (2019) Paper presented at the Confia 2019, Viana do Castelo, Portugal

16 Schwartz, G: The Complete Etchings of Rembrandt: Reproduced in Original Size Dover Publications, New York (1994), p. 15

17 Heer refers these lightly inked prints in the context of surface tone; he elaborates on the different results produced by different methods of wiping plates and argues that these "lightly inked prints" share similarities with the look of a metalpoint drawing. See http://www.rembrandtpainting.net/rembrandt_etching_technique.htm

18 Modern day Belgium was also part of this focus of production. See Sell, S. et al: Drawing in Silver and Gold: From Leonardo to Jasper Johns. Princeton University Press, Princeton and Oxford. (2015), p. 145

19 Orenstein, N: Scratches, Speckling and Crooked Lettering: Rembrandt's Messy Aesthetic. Georgia Museum of Art, Georgia. (2001)

20 See Wetering, E: Rembrandt: The Painter at Work. Amsterdam University Press, Amsterdam (1997), p. 61

21 Wetering refers to this recipe proposed by de Mayerne in opposition to Cennini's version, which contains saliva instead of diluted gum Arabic. See Wetering, p. 62

22 Sell, S. et al, 2015, p. 146

23 See Schwartz, 1994, p. 14

24 See Wetering, 1997, pp. 71–72

It is agreed by many that Rembrandt is an exemplary etcher; the fluid and bold line work of his etchings mirror his draughtsmanship on paper. Morse analyses his 1641 etching *Landscape with a Hay Barn and a Flock of Sheep*,²⁵ and in this analysis he argues that although Rembrandt is lauded for his spontaneity, his work is a result of careful study and preparation. There appears to be at least five studies in preparation for this etching, which isn't particularly unique or unusual for an etching or, indeed, any other art form. The more compelling argument Morse makes regarding Rembrandt's practice is in reference to a 1660 recipe book in which Rembrandt's varnish is described. The varnish itself is quite basic and not at all revolutionary, but attached to it is as follows: "(...) *lay your ground very thin, and the white ground upon it. This is the only way of Rinebrandt.*"²⁶



Fig. 3 Rembrandt van Rijn, *Hay Barn with a Flock of Sheep*, 1641, etching on paper, (12.8 x 32.1 cm) (CC) Creative Commons Licence

The same book then lists multiple recipes of different coloured grounds, and goes on explaining in detail how to best apply a white varnish over a black one.²⁷

Although zinc is perhaps more popular nowadays due to its lower price point and relatively comparable efficacy, copper remains the more traditional metal used in etching and Rembrandt naturally

made much use of it; covering a varnished copper plate with a white ground and then etching it with a needle or similar tool produces an effect which is very similar to that of a drawing on paper or tablet. Sanguine was a very popular material at this time, and the metal exposed in the process of etching copper is reddish, as is the line produced by sanguine. The result of both processes is indeed quite similar, if not mirror. There is also an interesting surviving preparatory drawing for the *Diana at the Bath* etching, which is unique amongst Rembrandt's sketches in that it is a completely mirrored version of the etching in question. The back of it had been completely rubbed with black chalk and its lines were indented, which is typical of tracing.²⁸ This etching constitutes a small but significant example of the possibility of this artist's use of the white ground.

Still in Morse's essay there is yet another compelling piece of evidence found in a letter Peter Paul Rubens (1577-1640) sent to Peter Van Veen²⁹ in 1622 in which he states he had received a recipe for a white ground which he described as a white paste, though he could not remember what it was. Though this letter has no source it appears to be the very first written reference to white ground; the first complete recipe can be found in Bossé's 1645

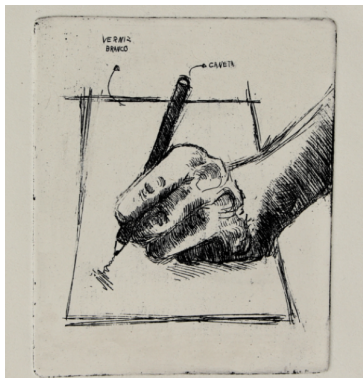
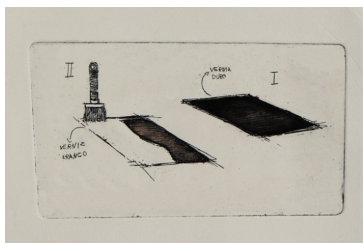
²⁵ "In summary, all evidence shows that Rembrandt (...) laid a foundation of lines on his plate with a single etching. He then mantled the sketch with rich drypoint lines, to give a sensitive chiaroscuro to the finished work. The integration of etching and drypoint is striking. (...) " Morse, P: Rembrandt's Etching Technique: An Example. Smi. Inst United States National Museum, 250, p. 93-108 (1966), p. 96

²⁶ Morse, 1966, p. 100

²⁷ Browne lists numerous coloured grounds and gives particular attention to the white ground method. See more in Browne, A: *Ars Pictoria, or An Academy Treating of Drawing, Painting, Limning, Etching*. J. Redmayne, London. (1669), pp. 99-105

²⁸ See https://www.britishmuseum.org/collection/object/P_1895-0915-1266

²⁹ This letter to *Pieter van Veen* is dated June 19th, 1622. For context see https://archive.org/stream/rubenshislifeiso1michuoft/rubenshislifeiso1michuoft_djvu.txt



treatise.³⁰ Saunders provides an excerpt of this letter in *The Letters of Peter Paul Rubens*:

*"I am glad that you have found that method of drawing on copper, on a white ground, as Adam Elsheimer used to do. (...) Before he etched the plate with acid, he covered it with a white paste. Then he engraved with the needle through to the copper, which is somewhat reddish by nature, it seemed like drawing with a red chalk on white paper. I do not remember the ingredients of this paste, although he very kindly told me."*³¹

Why then is this ground not a staple of printmaking? There are numerous recipes referenced from the 17th century up until the early 20th century, but the general knowledge of its existence seems to be lost on contemporary etchers. The practical application of the white ground seems to provide benefits that greatly outweigh its detriments as it is easy to prepare, to apply and to remove. Not only is it an acceptable medium for drawing directly on the plate, or transferring drawings, it is also an effective replacement for the smoking of the plate which, although a proven and traditional method, seems to be unneces-

sary in light of this alternative. The experiments conducted with the white grounds also indicate that it has no impact in the biting process; when the desired sketch is completed and the drypoint scratched on the metal, the artist may simply remove the white ground with water or a damp cloth, revealing the layer below.

The idea of a white ground has also appeared in some contemporary³² recipes, though it is a very different substance. This white ground, more

Fig. 4 Flor de Ceres Rabaçal, *Verniz Branco I*, 2020, etching, aquatint and watercolour on paper, 7.6 x 13.3 cm (plate) 12.5 x 15.5 cm (paper)
From right to left, applying white ground over a layer of hard ground varnish.

Fig. 5 Flor de Ceres Rabaçal, *Verniz Branco II*, 2020, etching on paper, 10.5 x 8.6 cm (plate) 12.5 x 15.5 cm (paper). After the white ground is dry, it is possible to sketch and draw freely on the white surface with any common material. Pictured is a fine-line pen.

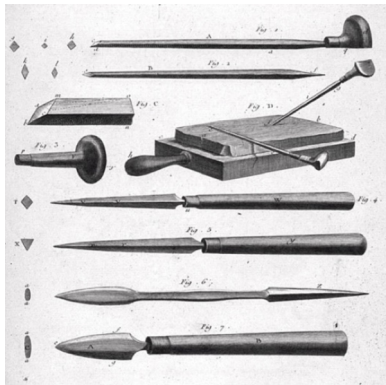
Fig. 6 Pen drawing over *tafeletten* ground

³⁰ Morse, 1966, p. 100

³¹ Saunders, R: *The Letters of Peter Paul Rubens*. Northwestern University Press, Evanston. (1955)

³² It is important to note that there have been past iterations of a water-soluble white, or whitish lift-ground. Da Vinci made use of such a ground, made of egg (perhaps only the whites) and white lead. For more, see Ladislao, R: Leonardo da Vinci and the Graphic Arts: The Early Invention of Relief-Etching. *The Burlington Magazine* Vol. 113, No. 817, 188–195 (Apr., 1971)

Fig. 7 Many of the tools used in engraving and etching bear a stark similarity with the metal point, insofar as they are pointed tools made of metal, and perhaps may have been interchangeable. Source: Diderot's *Encyclopédie*, 1767. Wilson Library, University of North Carolina at Chapel Hill. (CC) Creative Commons Licence



commonly known as soapground, is seen as a tool to be used in combination with the aquatint method. This white ground is very different from the one discussed in this essay however, since it is effectively not a line etching method. Frank Cassara has written perhaps the most in-depth and informative essay on the subject,³³ and in it he states that it is a remarkable tool for the aquatint method. Experiments were conducted for this essay with soapground in the same context as the other white grounds, though it proved unsuitable for this purpose. It is not possible to produce any kind of line drawing or sketch on this surface due to its semi-permanent humid state. In spite of this, the findings demonstrate that it is a relatively suitable method for line engraving, though it isn't very advisable since soap is very soluble in water. Much care and attention is necessary to correctly use it, and even in the most apt conditions it is prone to possibly bite the plate in unexpected patterns. The results of these experiments are not included in this paper since they do not belong within the same definition of white ground nor do they allow for effective drawing.

There is no actual recipe authored by Rembrandt himself, though earlier recipes of the white ground are found in certain recipe books, like Pernety's³⁴ and Perrot's,³⁵ which gave us a first insight into the original composition of this ground. A more complete recipe was found in a 19th century recipe by the French chemist and engineer Matthieu Villon.³⁶ It is essentially identical to Pernety's recipe, though it is more complete; Villon explains how this ground is created a surface for transferring drawings, whereas Pernety only presents the ingredients and the method of its production.

Villon's example is quite interesting because not only does it provide the instructions on producing the mixture, it also considers the absorbent nature of this second layer, which helps in the transfer or charcoal and pencil markings. In the results of experiments conducted for the purpose of establishing the validity of this varnish, the varnish itself was interpreted as a surface for direct drawing. The conclusions drawn from these experiments establish this varnish as a perfectly valid surface for direct drawing and equally accepting all the materials tested. The fact that this purpose is omitted from the instructions is likely due to the very common practice of transferring drawings directly onto plates. This is also common in painting.

On this note, it must also be added that Bossé also made reference to a specific method involving a white lead pigment, and he mentions it in the description of one of his etchings, titled: *The Engraver and the Etcher*. It is an example of a ground specifically devised for tracing.³⁷

³³ For the full experiment see Cassara, F: A Unique One-Bite Etching Ground. *Artist's Proof* vol. 3 n. 1, 36–38 (1963)

³⁴ Pernety, A: *Dictionnaire portatif de Peinture, Sculpture et Gravure*. Minkoff, Genève. (1756), p. 552

³⁵ For more on this *verniss blanc dit de Rembrandt*, see Perrot, A. M: *Manuel du Graveur ou Traité Complet de L'Art de la Gravure en tous Genres*. Encyclopédie-Roret, Paris (1830), p. 36

³⁶ Villon, M: *Nouveau Manuel Complet du Graveur*. Encyclopédie-Roret, Paris. (1924), pp. 82–83

³⁷ <https://www.artic.edu/artworks/72665/the-engraver-and-the-etcher>



Fig. 8 India ink and pen on Villon's white ground

Another possible formula is found in Mackenzie's *Five Thousand Receipts in All the Useful and Domestic Arts*.³⁸ It is relevant to establish the differences between Villon's and Mackenzie's processes; firstly, there is a marked difference in the complexities of both these variants, as Villon's provides quite a few more ingredients and processing of these same ingredients than Mackenzie's. Sec-

ondly, whereas the former example establishes its purpose in the matter of transferring drawings, the latter makes no such claims, as it simply restrains itself to the instruction of its application and not necessarily of its purpose or use. Finally, there is the context of both of these recipes, the books and manuscripts in which they are inserted. They are both found in generalised instruction manuals, but with a singular difference: Villon's is a sort of engraver's bible, destined for the use of engravers and etchers. Mackenzie's is a much broader and ample manuscript, and dedicated to dozens of different arts and crafts, albeit with an elaborate engraving and etching section. This final point may be the reason for the differences in complexity and ingredients in both these examples, as the target audience may be different.

This next example is referred to as the *positive manner*. The name indicates that it mimics the positive method of drawing, which is colour (in this case black) on white, and discards the negative manner which is inherent to etching. This example is quite curious and rather unusual. It is one described by Manly Banister (1914-1986), who claims to provide a *dead-white surface* upon which to draw.³⁹ There are many curious factors to take into account regarding this method. Firstly, unlike the previous examples, this recipe establishes its duality as a direct drawing surface and as a drawing-transfer surface. It gives particular attention to its transferrable properties, explaining its method in length.⁴⁰ Secondly, it does not actually propose to produce any type of concoction but instead makes use of existing materials, grease paint and pigment, and simply combines them in turn, which is unlike the previous methods aside from Bossé's. Finally, and perhaps most interestingly, it affirms the relationship between etching and other art forms, in this case theatre production, by combining materials and effectively severing the ingrained separation of both these art forms.

The final example is the *positive process*, so dubbed by its author Philip G. Hamerton (1834-1894).⁴¹ Uniquely amongst all methods, the *positive process* is the only one that makes use of the white ground as an actual acid

³⁸ Mackenzie, C: Mackenzie's Five Thousand Receipts in All the Useful and Domestic Arts. Hayes & Zell, Philadelphia. (1854), p. 77

³⁹ Banister, M: Practical Guide to Etching and Other Intaglio Printmaking Techniques. Courier Corporation, Chelmsford (1986), p. 17

⁴⁰ Banister, 1986, p. 17

⁴¹ See Hamerton, P. G: Etching and Etchers. Macmillan and Co., London (1876), pp. 435–436

resist rather than simply a surface for sketching on, as it appears to be a variation on the lift-ground method. The author clearly states that tracing is inadvisable due to it being very delicate, which is quite contrary to the previous examples. This excerpt does not expound on the basis of this varnish as it is established in a previous chapter of the manuscript; it is essentially a solution of white wax and ether, and in the chemical reaction following their combination the ether and the wax separate, creating two distinct parts of the liquid. The liquid is then decanted until only clear liquid is left, and this resulting solution is then mixed with Japan varnish.⁴² The end result is Hamerton's stopping out varnish, which is then used as a "white" (actually transparent) ground.

Results and final notes

Some argue that printmaking is somehow engulfed in the same denomination as drawing. If it indeed is, printmaking appears to historically occupy that space in a somewhat subservient fashion relative to drawing. Though perhaps this notion is somewhat out of touch in a more contemporary setting, it is an idea present at least since the 17th century, expounded by the likes of Vasari and hotly contested by Bossé.⁴³ Though by no means are the results of this investigation conclusive, it seems that, ultimately, the most significant aspect of the white ground is perhaps the ability to rekindle an egalitarian relationship between these two practices, and through this experiment we argue that this relationship has the potential to help further investigation in both areas.

As to how these findings reveal any potential in contemporary drawing (and, by extension, illustration and animation) is a matter of significance; specifically, the significance attributed to the act of drawing within printmaking. In layman's terms, one can certainly argue that, in theory, etching and drawing follow the same generic rule (to produce a line upon a surface), and that the linework of a print pulled from a plate essentially mirrors that of a drawing produced with a fine line pen, for example, therefore making them equivalent practices. The fact remains, however, that a logical and practical separation of the act of drawing and the act of etching that same drawing exists. Producing a sketch directly on the plate via white ground effectively eliminates this distinction and one may interpret a drawing produced on a white ground covered plate as the final product, much as 16/17th century artists viewed silverpoint drawings produced on *tafeletten* boards. There is no need to proceed with the usual and centuries-old strategies used by printmakers to transfer a drawing from paper to plate since the middleman—paper—is gone. Contemporary understanding of drawing has long since gone beyond the limitations of paper, however, and the same has happened in printmaking, for that matter. The matrix itself has been considered a potential artistic object for some time, and we argue that there is potential for the surface itself, the white ground covered metal plate, to be a variation of that artistic object.

⁴² See the full recipe in Hamerton, 1876, p. 413

⁴³ See Goldstein, C: Printmaking and Theory. *Zeitschrift Für Kunstgeschichte*, vol. 71, no. 3, (2008), p. 382



Fig. 9 Four page zinc plate bound “sketchbook” prepared in the manner of etching, covered with the different white grounds for drawing.



Fig. 10 Sketchbook cover

This series of experiments⁴⁴ was driven, then, by the desire to draw on the plate and not merely etch a preparatory drawing on said plate. The grounds used were chosen considering their temporal and technical proximity to Rembrandt's own procedures, as well as their viability for the purpose at hand. They are Villon's white ground recipe, the metal point ground and the *tafeletten*.⁴⁵ The results of using these different grounds were found to be almost indistinguishable; after procuring the ingredients, making the varnish, applying it to the plate and executing the desired design, the artist may then use the drypoint to begin etching. Before the bath, it is recommended to remove the white ground so as to fully contemplate the etching, though it is not absolutely necessary. If the white ground is taken to the etching bath it acquires a light blue tone from the blue copper sulphate solution. Though the recipes are all quite different, the methodology in applying, using and removing the grounds is almost the same in all of them though there are some specific characteristics and recommendations to each one.



Fig. 11 Pen drawing over *tafeletten* ground



Fig. 12 Flor de Ceres Rabaçal, *Há mais para ver*, 2020, recycled zinc plate, *tafeletten*, scraper and etching on paper, 7.8 x 6.5 cm (plate) 12.5 x 15.5 cm (paper)

Using Villon's recipe as an experimental white ground was, as previously explained, simply due to its ingredient list; the inclusion of ox gall, lead white pigment and cow skin glue are particularly common ingredients in painting. It was, as in all other examples, spread onto a first layer of commercial hard ground varnish. Various materi-

⁴⁴ These experiments were first conducted within the context of an as-of-yet unpublished and ongoing master's thesis titled, “*Desenhar no Metal: A gravura como meio de representação da violência*”.

⁴⁵ Soapground was also included in the original batch of experiments, but deemed unsuitable for the proposed method. Its permanent semi-humid state makes it impossible to draw on its surface with any of the chosen materials.

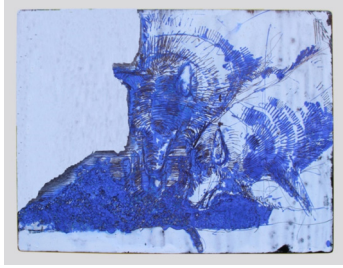


Fig. 13 Pen drawing over metal point ground



Fig. 14 Flor de Ceres Rabaçal, ...eles devoram, 2020, recycled zinc plate, metal point ground and etching on paper, 15 x 21 cm (plate) 37 x 29,5 cm (paper)

als were used to draw upon it, from dry ones such as the graphite pencil and sanguine to wet ones, like the common gel pen and India ink. We found this ground to be exceptionally receptive of these materials, though occasionally we found that it is possible to exercise excessive pressure with the chosen material, and break through the first layer onto the second, thus exposing the metal. This does not disturb too much however, and with due care the damage is quite minimised.

The metal point ground is borrowed from a recipe from Schwaib and Mazzullo⁴⁶ and it consists of rabbit-skin glue (replaced here by cow-skin), titanium white pigment and water. Due to its material density and consistency, we found that it didn't adhere as well as the other grounds, but still enough that a relatively detailed preparatory sketch was entirely possible to accomplish. Most materials adhere acceptably; some exceptionally well such as pen, lead pencil and India ink. As with the other grounds, it was deemed an acceptable possibility for use as a white ground considering Rembrandt's affinity for the metal point method and

the argument that it may have been in close association with printmaking through the use of the *tafeletten* boards.

The *tafeletten* is an exceptionally adherent surface as it was possible to effectively use all the chosen materials (pens, India ink, charcoals, sanguine, graphite pencil). It is a slightly more liquid ground and it takes longer to dry. An unbalanced mixture of gum Arabic and pigment may produce a ground that is far too liquid and prone to cracking, so the amounts must be managed and corrected until the adequate and very adherent consistency is attained.

That any of these is the exact formula as used by Rembrandt is quite uncertain, but the inclusion of many painting-specific materials in these recipes, such as glues and ox gall, leads us to believe that any one of these might be a legitimate contender. The artist's status as a painter and draughtsman favours this hypothesis since it has been well established that there is a deep historical exchange of ingredients, materials and techniques amongst painting, drawing and etching, and it just so happens that Rembrandt was supremely accomplished in them all. The possibilities in the application of this method in contemporary drawing and its numerous variants are quite endless, and this provides an equally endless landscape for experimentation.

⁴⁶ See Schwaib, S, Mazzullo, T: *Silverpoint and Metalpoint Drawing: A Complete Guide to the Medium*. Routledge, New York (2018), pp. 23–24

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