From Artistic Engraving to Reproductive Engraving through a Critical/analytical Study of Abraham Bosse's Treatise

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Abstract

Such is the ideological disparity between Abraham Bosse's first intaglio review (1645) and the extended revised edition by N. Ch Cochin (1745), that we can virtually speak of two different works: In order to understand the conceptual gap between the two, it is important to take into account, that when the Academy of Fine Arts of Paris was founded, in the second half of the XVII century, in France there was a fundamental shift of thought regarding art education and training, and art in general.

Keywords: Engraving; Chalcographic reviews; Academic aesthetic; Artistic printmaking; Printmaking reproductions

1. Introduction

In 1645 a treatise on chalcographic engraving entitled *Traité des manières de graver en taille douce sur l'airin par le moyen des Eaux Fortes & des Vernis Durs & Mols* ('Treatise on the manners of intaglio on copper plates by means of Etching & Soft & Hard Grounds')[1] by Abraham Bosse was published in Paris. Bosse was a pioneer in theorizing on the art of engraving. His work was republished several times in less than a century, and it became a reference point and a source of inspiration for many subsequent European theoreticians, as the versions published in languages including German, English, Portuguese and Spanish can verify.[2] In addition to the translations, references to Bosse's treatise can be found in most engraving manuals published throughout history.

An important aspect that we would like to highlight is that in most chalcographic treatises, subsequent to Bosse's, there are various references to the French work taken from the 1745 reissue, and not from the 1645 original. This fact would be of little significance if the 1745 version were not more than a reissue.

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[1] The first edition is in *octavos* format, with 75 pages, and is illustrated with 16 prints and a frontispiece.

[2] One of the oldest foreign editions is the one published in German by Böckler in 1652: *Kunstbüchlein handelt von der Radier und Etz-Kunts, wie man nemlich mit Scheidwasser in Kupffer etzen Kupfer Platten abdrucken soll (im deutschen befrödert A. Böckler),* Nüremberg, 1652.

- the Dutch edition had the following title: *Tractaat in wat manieren meno of root Koper suij den offe etzen zal. Door de middel der sterke warteren ende harde vernissen*, Amsterdam, 1662.

- the English edition was published by W. Faithorne: *The arto engrawing and etching engrawing with the manner and method of that famous Callot and Bosse, in their several ways of etching*, London, 1662.

- there were two more editions in German and Portuguese; A. Bosse, *Gründliche anweisung zur Radier und Etz-Kunst*, Nüremberg, G. P. Morata, 1761 and the one by J. C. Gütle*, Kunst, in Kupfer zu stechen, zu radiren und zu aetzen, in schwarzer Kunst und punktirter Manier zu arbeiten,* Nüremberg und Altdorf, 1795-6; a Portuguese translation: *Tratado de gravura agua forte e a buril e em maniera negra como modo de construir as prensas modernes e de imprimir em talho doce, por Abraham Bosse, gravador regio, nova ediçao, traducida do francez debaixo dos auspicios e orden de la Sua Alteza Real o principe regente nosso señor por José Joaquim viegas menezas presbítero mariannense. Lisboa, na typographia chalcographica typographica e litteroria do arco do rego, MDCCCI.*

- the Spanish translation is by Manuel de Rueda (see Rueda, 1761).

However, as we shall demonstrate, the comparison between the two editions shows two treatises with very different contents, to the extent that we could state that they are two distinct works. We aim to explain the change in direction that chalcographic engraving underwent in less than a century, and how this change is outlined in the different editions of the Abraham Bosse's treatise on engraving.

2. The different Editions of the Abraham Bosse's Treatise on Engraving

In each of the editions of the treatise there are enhancements. The second edition of the work by Sébastien Le Clerc dates from 1701. In this one, the original treatise is enhanced with the method used by the engraver to apply the mordant onto the metal and an illustration with a print engraved by F. Ertinger.

The third edition, dating from 1745, was taken charge of by Ch. N. Cochin (Paris 1715-Paris 1790). As we aim to demonstrate, it is debatable to consider whether this work is a reissue for a number of reasons. Firstly, Cochin does not take the 1645 original version as a starting point, but rather the 1701 reissue, the modifications from the original of which have already been mentioned. Secondly, the work doubles with regards to the number of pages and the range of contents. And the third important reason, Cochin substitutes some original illustrations and adds some new ones. The title is also modified: *De la manière de graver à l'Eau Forte et au Burin. Et de la gravure au manière noire. Avec la façon de construire les Presses modernes, & imprimer la Taille-douc3e* ('About the manner of Etching and Burin Engraving. And about mezzotint engraving. With the manner of constructing modern Presses & Intaglio printing').

Also by Ch. N. Cochin, there is a fourth edition, dated 1758. Once again, the author adds a new chapter entitled *L'impression qui imite les tableaux, de la Gravûre en manière de crayon, & de celle qui imite le lavis* ('Printing that imitates paintings, about crayon manner & about the one which imitates washes'), as well as two prints engraved by Louis Marin Bonnet (1736-1793) dealing with crayon manner, which also appear in the *Encyclopédie Française* ('The French Encyclopaedia').

Whereas there are several historians who devoted their analysis to the work of Abraham Bosse (Villa, 1967; Blum, 1924; Join-lambert, 2004), especially to the fourth French edition, such as the study by Moreno Garrido (2008), only A. M. Hind (1907, p.391) questions the date of publication of this fourth edition of the treatise. Although the year in Roman numerals, MDCCLVIII, clearly appears on the first page next to the title of the edition, and the same year, 1758, is repeated in Arabic numerals in the authorization of the work, Hind believes that sufficient reasons exist to state that the work was not published until 1773. They are as follows:

-   The addition about crayon manner that Cochin intersperses in this edition of Bosse's work originates from a compilation of plates from the *Encyclopédie Française* ('French Encyclopaedia'), as Cochin himself acknowledges in a footnote. The text from this part of the Encyclopaedia was published in 1757. Nevertheless, the prints corresponding to this text were not published until 1767.
-   Taking into account that both the text and the illustrations are included in the second edition of Bosse's work, according to Hind, Cochin's treatise could not have appeared in 1758 but should have been published at the earliest in 1767 or later. Even so, this argument, taken alone, is inconsistent, since by reading the text one can undoubtedly infer the existence of these illustrations, although they were not published until 1767.

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[3]Sébastien Le Clerc (Metz 1637-París 1714). An etcher from the Callot School. His etchings are representative of the transition from the seventeenth to the eighteenth century.

- However, Hind provides irrevocable arguments based on Cochin's references to circumstances and works that force postponement of the edition of this work until 1773. Cochin's quotation referring to some *chiaroscuro* prints by the English painter Arthur Pound (1701-1758) published in London "... *il y a environ quarante ans*" ('… it has been about forty years') (Bosse, 1758, p.143) is a good example of contextualization. We are certain that the series of prints to which Cochin refers were published between 1734 and 1735, and if we count forty years on, it is 1774. According to Hind, the appearance of the year MDCCLVIII and 1758 probably suggests a printing error. This new dating of the fourth edition of Bosse's work appears to be further validated by an argument we ourselves contribute: the first treatise on chalcographic engraving published in Spain is by Manuel de Rueda and dates from 1761. This work is basically a translation of the third edition of Bosse's treatise, that is, the one from 1745. In this edition, there does not appear to be any type of reference to the edition traditionally considered to be dating from 1758, which is logical if we take into account that Rueda's work appeared in 1761. This lack of reference possibly strengthens Hind's thesis. It would be hardly surprising that Rueda forgot the contributions of the 1758 edition if this work had not actually been published at that point.

An error of dating the reissues of the manual might not be too important in the global context of art historiography, but it is undoubtedly interesting to notice, for example, the way some modern authors refer the reader to a bibliographic quotation that might be erroneous, when they make reference to the technique of crayon manner invented by Louis Marin Bonnet. This is because they either allude to first editions that do not incorporate the above mentioned technique (1645, 1701, 1745) or due to the fact that Bonnet's prints could hardly be dated 1758, as we have attempted to establish. Just as we have already mentioned, there are some remarkable differences between Abraham Bosse's treatise and its version by Ch. N. Cochin. Apart from doubling its contents, it is above all the ideological indoctrination serving academism that oozes from Cochin's quill which makes a huge difference, to the extent that we could be talking about two different works. In order to understand the conceptual gap between both manuals it is necessary to consider the fundamental thinking with regards to artists' training and art in general occurring in France starting from the second half of the seventeenth century.

3. Abraham Bosse in the Royal Academy of Painting and Sculpture in Paris: The Liberality of Arts as Opposed to Craftsmanship

Regarding Abraham Bosse, our interest is in highlighting his early connections with the Royal Academy of Painting and Sculpture in Paris[4]. The Academy was founded in 1648, by a group of painters and sculptors, disillusioned with the sectarianism and control exerted upon them by the guild masters of the time. The purpose of the Academy was to mitigate and answer two fundamental questions: the first one is directly related to artist training, which would no longer be controlled by the masters and restricted by inherited knowledge; and the second one regards the reflection on the liberality of arts – referring mainly to painting and sculpture – that were attempting to overcome the concept of "handcrafted" associated with them ever since the Middle Ages (Moreno, 2008, p.711). In the new institution a new regulatory training model was established, which incorporated courses and seminaries on the most diverse subjects. Consequently, many subjects including Architecture, Perspective, Arithmetic, Geometry, and Anatomy were taught then. Bosse gave classes in Perspective[5] and in 1651 was named an honorary member. 'However, relationships and continuance as an academician was not always easy. There was quite a lot of tension, partly due to the defence of his peculiar views that were not always shared by others, which was amplified by his temperamental character.' (Moreno, 2008, p.711). In 1661 he was expelled from the Academy because he became involved in a bitter controversy with the painter Charles Le Brun and his followers, who employed different techniques.

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[4] 'En la Real Academia de Pintura y Escultura de París van a quedar constancia de todo el acontecer profesional del maestro, –en forma de actas, cursos, y discursos inaugurales impartidos-, a través de los cuáles A. G. Moreno Garrido y A. M. Pérez Galdeano van a realizar un perfil completo y complejo del artista' (In the Royal Academy of Painting and Sculpture in Paris, a record will be kept of all the events in the master's professional career – in the form of minutes, courses, and opening speeches given by him – with which A. G. Moreno Garrido y A. M. Pérez Galdeano are going to carry out a complete and complex profile of the artist). (Moreno, 2008, pp. 711-713).

[5] Since the year 1641 A. Bosse was a disciple and friend of Girard Desargues (1591-1661), the founder of projective geometry and an enthusiast of Cartesian philosophy. Desargues opened a workshop aimed at carpenters, etchers, tool manufacturers, etc. in order to teach the lineal perspective technique, which first introduced the concept of the vanishing point. See Bosse, 1647-8, 1653, 1665.

This ideological difference that caused the controversy which cost Bosse his position in the institution reveals itself between the first edition of the treatise and the third one from 1745, developed by Ch. N. Cochin.

Undoubtedly, Bosse always maintained a pedagogical attitude in his artistic ideals. We owe him for numerous writings, treatises and prints illustrating manuals on perspective, geometry, architecture and art in general. His treatise on engraving is especially important because it is the first printed version that appears in France and it captures part of the author's ideology. In the prologue, the author remarks on and defends the diversity of styles existing amid the engravers of his time: 'Perhaps, a few of those who dedicate themselves to this Art have a preference for a more prompt manner of engraving rather than one requiring a high equality and precision of strokes, which, consequently, would be neither as fast nor as easy: that is why, what I am going to say will not prevent them following the one (manner) they wish, either finished or sketched' (Bosse, 1645, p.4).[6] A few years later, Bosse defends the same premise of freedom in the execution of engravings and, moreover, he puts this art on a par with painting in his work *Le peintre converty aux précises et universelles règles de son art* ('The painter converted to the precise and universal rules of their art'): 'For the above mentioned art of engraving, it is not necessary, as in the art of painting, to be subject to a method, more so when the former (engraving works) might have the same aim, that is, being made in different manners and, for example we know that each engraver can manage or perform the grooves in different directions, and more concentrated in some of them rather than in others, because while one expresses their work through a sole line or stroke, thickening the lines to a larger or lesser extent as needed, another one will do the same through two strokes one on top of the other, yet another will do the same thing through a large number (of strokes) adding moreover fine lines and dots to different areas, to soften or stump shades, inks and mezzotints and finally, others will execute everything with several small thick dots, either joined or separated, but it does not matter either way as long as it achieves the right effect' (Bosse, 1667, pp. 160-169).[7]

Indeed, in the time when Bosse upholds these ideals, the chalcographic engravers rely on a "freedom" that becomes evident in the technical and thematic diversity of their works. There is no cohesion in the way they work and each one applies their own particular method. The task of the engraver is not catalogued: it is not considered a trade, but neither is it considered a form of artistic expression like painting or sculpture.[8] This situation entices individualism: while Stefano della Bella (1610-1664) aims at pictorial effects, Claude Mellan (1598-1688) is concerned with the purity of lines, Robert Nanteuil (1623 or 1630-1678) approaches the intimate character of the portrayed and verisimilitude, Abraham Bosse depicts everyday themes. It is then understandable that each engraver has discovered a personal technique of applying acid and handling a burin: Claude Mellan uses a procedure of a single incised line, with relatively deep simple strokes and without crossing lines. Robert Nanteuil engraves by performing multiple incisions that he spaces out, mixes, and intersperses with dots, or crosses, forming relatively closed collections. 'Bosse's ideal was based on a linear, neat, regular structure, (called by Ivins) a net of rationality' (Ivins, 1975, p.103), and in this way, the author, still sticking to the shapes created by the burin, opts for an intermediate chalcographic technique, where pictorial speed and subtleties achieved through etching, are mixed with the firm, clear and precise stroke of the burin.

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[6] 'Il peut estre que plusieurs qui viennent à s'adonner à cet Art, ont plustot affectation à une maniere de graver promptement, qu'a une qui demande une si grande egalité & netteté de hacheures, & laquelle par consequent ne fçauroit estre ny si prompte ny si aisée: pour ceux la, ce que je diray ne les empechera pas de suivre celle qu'ils voudront, ou finie ou croquée' (Bosse, 1645, p.4).

[7] 'Pour le dit art de la gravure, il ne doit être assujeti, ainsi que celuy de la peinture, à n'avoir point de manière d'autant que les oeuvres d'iceluy peuvent quoy qu'elles tendent à une mesme fin, estre faites de diverses sortes et, par exemple, l'on sait que chaque graveur peut conduire ou mener les hacheures de divers sens, et en plus gran nombre qu'un autre, car l'un exprimera son ouvrage par une taille ou hacheure seule, en grossissant les traits plus ou moins selon la nécessité, l'autre fera le mesme par deux hacheures l'une sur l'autre, un autre fera la mesme chose par un gran nombre et mesme y adjoustant en divers endroits de petits trais et points, pour attendrir noyer ou prendre ensemble les ombres, teintes et demi-teintes, et finalement d'autres exécuteront...le tout par plusieurs points gros et menus, pressez et élargés... mais qu'importe la manière pourvu qu'elle fasse bien l'effet qu'elle doit'(Bosse, 1667, pp. 160-169).

[8] Although, since the year 1649, Bosse had started an essential debate on liberal arts in his treatise entitled *Sentimens sur la distinction des diverses manières de peinture, dessein et graveure, et des originaux d'avec les copies.* (see: Bosse, 1649).

4. Artists' Training in France from the Second Half of the Seventeenth Century: The Raise of Intaglio

Around the middle of the seventeenth XVII, intaglio starts consolidating itself and replacing xylographs associated with print, mainly in luxury editions. New commercial demands and the political climate in France, make way for progressive success and establishment of chalcographic engraving, more in keeping with the predominant aesthetics of the time.[9] Even if burin engraving is a technique with a high level of difficulty and cost, the progressive establishment of etching enables the creation of a new market for metal engraving. Etching greatly speeds up the process of opening the matrix and, at first, is used as a preliminary stage in order to create the composition on the plate, which is then finished with the burin. Without doubt, Bosse, like Callot, seeks to emulate the results of the burin, since in those times this was the most prestigious, to such an extent that it was referred to as "tasteful". Callot, for instance, utilizes the *échoppe* in his etchings to imitate the burin and his characteristic fine-broad-fine stroke, thus making the most of the advantages of etching and achieving similar effects to those of the burin. This combination of factors and circumstances allows for xylography to be replaced by intaglio, and Bosse contributes to this change, not only by employing chalcographic techniques in his own works, but also by acknowledging them in his treatise, which made them available for future generations of engravers. (Moreno, 208, p.715).

As the seventeenth century progresses, chalcographic engraving achieves a rather wide market and the intention of the State to intervene in this sector starts manifesting itself. In 1651, for example, the architect François Mansart proposes that all the images produced in France should be controlled. This project provokes protest from all the engravers. Nine years later, Lavenage wants to implement the trade workers' tax regime upon the engravers, meaning that the Royal Treasury would increase its revenue by charging the engraver for the position they acquired. Although this operation will not be successful either, it is in this same year, 1660, when a definitive change in the engravers' trade occurs due to the decree of Saint-Jean-de-Luz. This decree, announced by Louis XIV, promulgates engraving as a liberal art and bestows a noble character upon it, definitively separates it from artisans' guilds, though, at the same time, submits it to the authority of Jean-Baptiste Colbert.[10] From now on, engraving will be under the king's control. It will not be long before the effects of this decree and of the task of Jean-Baptiste Colbert are felt. In the 1670s, in Paris, the production of engravings notably increases in a time when everywhere else it is on the decline. This phenomenon will turn the French capital into the hub of engraving. From 1672, by enforcing the bylaws of 17 May, the deposit of prints is mandatory. It is from this cabinet that the Chalcography of the Louvre comes into being in 1812.

The chalcographic print market's chief customer is the king himself. He has numerous plates engraved and printed, the proofs of which are sold at a good price. This policy favours the commercialization and dissemination of graphic work, even though, as a result, the themes they deal with and the way they are performed are also supervised and controlled. This control is exerted in the school of reproductive engravers that is established in the year 1667 in the Gobelins factory, within the Royal Manufactory, under the direction of Charles Le Brun (1619-1690). The first disciples are Gérard Audran (1640-1703), Sébastien Le Clerc (1637-1714), Gérard Édelinck (c.1640-1707) and Gilles Rousselet (1610-1686), who receive the equivalent of a teaching degree and the assignment of a workshop in the Gobelins.

It is hardly surprising that the new shift undertaken by chalcographic engraving around the middle of the century influences the ideological contents of the edition of the treatise taken charge of by Cochin (1745). The freedom in the manner of engraving advocated in the first edition is reduced to the establishment of a single method: the academic one. It not just a matter of offering formulae for chalcographic techniques, but the work must also serve as indoctrination for the apprentices and future engravers of the "beautiful style" promulgated by the academy. In the new institution the role of the engraver is to reproduce paintings by other artists, and the possibility to engrave their own work is not considered.[11] There is no interest in the engraver reflecting their personality and expressing themselves by any particular method; they must simply engrave according to the predominant style so that the reproductions they make are pleasant and easily sold.

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[9] In order to understand the situation of French engraving in the time of Bosse, refer to M. Préaud (2004).

[10] Jean-Baptiste Colbert (1619-1683), an ordinary counsellor for the Royal Council and the Financial Mayor.

[11] The prints of the time mention the name of the drawer (del.), the painter (pinx.), the creator of the motif (inv.), the manufacturer (fec.), the engraver (sculp. o inc.) and the editor (excud.), whose rights of reproduction are reserved.

The destruction of the artist is also determined by their incorporation into a reproduction workshop, where they acquire the standard style that guarantees a homogenous production and establishes the house's prestige. Ironically, the two mainstays of the first Academy of Paris (1648) – the opposition to the control exerted by the guild masters of the time regarding the training of their apprentices, and the consideration of the liberality of arts as opposed to craftsmanship – were replaced in a few decades by others that were possibly closer to the position held within the guild, with the only difference being that they were set up and regulated by the state power.

4.1   The Comparison between the Two Editions (1645 y 1745) of Abraham Bosse's Treatise

The comparison between the two editions (1645 y 1745) allows us to distinguish the direction that French chalcographic engraving is taking in very short time. More specifically, from the opening of the Academy in Paris in 1648 until 1661, when Bosse is expelled from the Academy and Le Brun wins the battle. The ideological division suffered by French engraving that will be recorded by the quill of both theoreticians in each of their manuals develops precisely there. It is this very difference that allows us to state that we are confronted with two treatises which are different and, from an ideological point of view, opposite: Bosse's work is aimed at the ARTIST – be it painter, drawer or engraver –, the one who etches their compositions. Although Bosse pursues commercial goals with printing[12], he considers the engraver a so-called autonomous artist. Meanwhile, Cochin's treatise is aimed at the WORKER[13] who works in a reproduction workshop. This new focus on Bosse's treatise is hardly surprising, given that Cochin was trained in one of these most important reproductive engraving workshops in France, owned by Jacques Philippe Le Bas (1707-1783).[14]

The study of the different editions of Bosse's treatise also shows how the official teachings of chalcographic engraving were passed on in academies and the way chalcographic techniques kept evolving, that is, the disappearance of some methods and the incorporation of others. Abraham Bosse devoted two thirds of his manual to hard ground etching and six pages to soft ground etching. Ch. N. Cochin transcribes the chapters of the former on hard ground and expands by forty-eight pages the subject of soft ground etching. For this author, applying soft ground for etching was usual and there are few plates that are not etched using this technique. In the eighteenth century, when etching is consigned to reproducing paintings, the linear contrasting results imitating burin engraving are obsolete. On the contrary, there is an increasing tendency towards *une gravure moelleuse* ('a smooth engraving') that expresses the *chiaroscuro* of the painting palette. With the new role given to etching, hard ground is progressively substituted by a softer one, which is, in short, the current black ground. The resistance of the hard ground to the engraving needle is the one that, according to Cochin, causes the work to be inflexible. Another inconvenience of hard ground is that it cannot be corroded by ordinary etching; it needs a special mordant composed of vinegar, ammonium salt, normal salt and verdigris. It is called *à couler,* 'free flow' etching, because the liquid must be poured continuously uninterruptedly onto the copper plate, which is held on an inclined plane; this device is necessary to avoid the build-up of salt sediment in the copper grooves which would impede the action of the mordent. This etching process is slow and the majority of eighteenth century etchers did not use it.

In the academy, the aesthetic criteria of engraving are based on the verisimilitude with the original work: a good print is the one that expresses the painting palette in black and white. According to Cochin, the best methodology is to avoid sharp contrasts and to keep representing shaded areas as a whole, though he warns the reader that they should not etch grey prints: 'In spite of that, I do not aim to make their works turn grey; on the contrary, I wish that they be strong, since the strength of a print does not reside in darkness, however, within the limits of diminishing or fading light to dark…' (Bosse, 1745, p.114).[15] In short, this is how Cochin used to engrave, in a way closely related to his black lead pencil drawings on vellum, which were more appropriate when it came to achieving *chiaroscuro* areas rather than a lineal work.

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[12] For the business aspects of Bosse's work, see Ivins, 1975, pp.105-107.

[13] F. Courboin summarizes in a few words the engraver's work in the eighteenth century: 'Engraving is regulated by a comprehensive programme: engravers seem to have their own role in a well-orchestrated symphony, they perform magnificently and with wonderful style, but they are basically performers'(Courboin, 1914, p.59).

[14] Courboin, 1914, pp.13-15; Gaucher, 1783; Goncourt, (1857-8), appears as an addition previous to the work of Jacques Philippe Le Bas in the Prints Cabinet, manuscript by Joullain son.

[15] 'Je ne prétens pas pour cela que l'on tombe à faire ses ouvrages gris; je souhaite au contraire qu'ils ayent de la force; car la force d'une Estampe ne consiste pas dans la noirceur, mais dans la diminution ou dégradation des clairs aux bruns...' (Bosse, 1745, p.114).

On the contrary, Bosse plays with contrasting effects of light and shade. He represents depth in several perfectly distinct planes. The figures in the foreground receive a vigorous treatment which makes them stand out from the rest and focuses the attention of the viewer. The light limits shaded areas and the pronounced black outlines. In order to obtain this contrast of tones, when Bosse draws with the needle on ground, he deepens the grooves in the metal in the areas intended to be darker so that the mordant works more effectively than in those where it only comes into contact with the ground. Moreover, there are two types of needles available to the engraver: ones which are sharp-pointed and others which are round-tipped, as well as the *échoppe*, the function of which is to shade the stroke left by the needle, the way the burin does. On the other hand, Cochin recommends engraving with round-tipped needles in order to avoid going into the metal, and only scrape the ground, thus achieving a more regular and consistent etch. According to the engraver, if any composition requires a more vigorous tone than the rest, the burin can be used to achieve it. This justifies keeping the chapter about the burin from Bosse's treatise in the new edition. Although the use of the burin is the not the key technique of the work, according to Cochin, it is important for the engraver to master it because some subject matters, such as portraits, as we shall see further on, due to their nature, are advisable to be engraved with this tool.

Other techniques that figure in the 1745 reissue are mezzotint and colour printing introduced by J. Chr. Le Blon (1667-1741), crayon manner and wash. These are techniques the aim of which is to emulate drawings and paintings as accurately as possible, since these are the main works that will be reproduced on plate.

Apart from technical innovations, Cochin includes in the reissue of Bosse's treatise the fundamentals of the new aesthetics of the Enlightenment. His work becomes the guideline for the new style and, for us, the best document about the way they engraved in France at the time. Bosse is not a doctrinaire and his manual is little more than technical formulae. On the other hand, Cochin is a propagator of predominant neoclassical theories and he applies them to engraving with a set of core principles and maxims which remind us of Leonardo da Vinci. For instance, Cochin remarks that an aspiring engraver must know how to draw correctly before taking their first steps in this art and he mentions the stages involved in learning how to draw that the Italian scholar sets out: 'One must apply themselves for a long time to drawing hands and feet from Classical works, from life and from skilful artists' paintings and drawings' (Bosse, 1745, p.98).[16]

In the principles of etching, Cochin repeats some themes that had already been dealt with by the classical artists. For example, how to represent human skin (Bosse, 1745, p.72), adapting the work to whether it is that of a man or a woman, that of a young person or an old one, etc. This theory of *decoro*, already exposed by Leonardo da Vinci (1877, p.20), not only focuses on the human figure but also extends to most themes to be represented: the different types of fabrics and drapes[17], hair, sculpture, water, etc. Each of these elements requires a specific treatment.

One of the most relevant aspects of the reissue carried out by Cochin's is the importance the author gives to perspective in order to represent the decline of objects, and to *chiaroscuro* in order to express the different tones of the painting palette. Once again influenced by Leonardo da Vinci's theories, Cochin makes the distinction between the linear and the aerial perspective. The former is based on the combination of lines that are relatively thick and close to one another, so that the further away the object is, the thinner the point must be and the closer the lines must be drawn (Bosse, 1745, p.78). Aerial perspective is based on the principle that the further away an object is, the lighter and vaguer it must be represented, and vice versa, the closer it is, the darker and more detailed. So as to explain this idea, Cochin uses Leonardo's argument, which is based on the premise that the further away the objects are from the viewer the more air there is between them and for this reason, they are perceived as lighter and less precise.[18]

Bosse also used Leonardo's two perspectives, as is shown on print number 8 of his treatise. The difference between this etcher and Cochin is that the former sections the space in rather delimited planes that correspond to the different etches, whereas Cochin seeks progressive tonal shading without pronounced cuts or intermittences. He pursues the same objective with shades cast by objects, which must never be cut sharply but shaded.

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[16] 'Il doit s'appliquer fortement à dessiner long-temps des pieds et des mains d'après l'antique, sur le naturel & d'après les Tableaux et les Desseins d'habiles gens' (Bosse, 1745, p.98).

[17] Bosse, 1745, p.74. Compare to the quotation by da Vinci, 1877, p.66.

[18] Bosse, 1745, p.111. Compare to da Vinci, 1877, pp. 32-34, 126, 141 i 157.

Just as Leonardo da Vinci stated, 'that they are hardly perceived, and they fade away, that you cannot see where they end' (Vinci, 1877, p.26). The same applies to the outline of the figures that must not be cut.

The subject matters of engravings are the same as those of works painted in the academy, which, having inherited the humanist conception, maintained the history painter's superiority over the rest of the artists during the seventeenth and most of the eighteenth century (Lee, 1982, p.38). The supremacy of historical subject matters also has an impact on engraving. This theme together with portrait painting – which stems from the sixteenth century tradition of illustrating books, in which the portrait of the author used to be included - are indeed the two most frequently engraved motifs of the time. In the preface to his work, Cochin devotes special attention to both subject matters and writes about the different treatment that each of them requires due to their nature. According to the author, portrait painting requires the verisimilitude and the recognition of the model being painted, and compels the engraver to meticulously draw the details that might appear insignificant in other subject matters. And in order to meticulously engrave the details he recommends the burin: 'It is this finish and this accurate execution that is facilitated perfectly by the neatness of the burin' (Bosse,1745, pp.XXII).[19] Unlike portrait painting, historical themes are more suitable for being etched: 'The free brush is better rendered by the boldness and easiness of the etching point'(Bosse, 1745, pp.XXIII).[20]

This suitability of the technique to the subject matter appears once again in the chapter about small format engraving. Cochin stood out in his engraving career as an illustrator of texts (Michel, 1987, p.23), which required small format prints. The guideline on engraving small plates is as follows: 'Small format engraving should preserve an outline idea, and the more finished it is the more it detracts from the merits of its main virtue, which consists of the spirit and the audacity of the stain' (Bosse, 1745, pp.86).[21] To achieve this, the treatise writer recommends entirely etching the plate because the burin: 'Works slowly and coldly... dims the soul and nimbleness' (Bosse, 1745, pp.XXIII).[22] The above mentioned preface ends with a conclusion that will become the predominant rule with respect to the use of etching and the burin according to motif or theme to be engraved throughout the eighteenth and early nineteenth centuries: 'Let us allow the Burin Engraving to excel in portrait painting where etching is not too shiny, and keep etching for historical themes where it spreads out better and more easily, and for the small (formats) to which it gives spirit and the characteristics of a drawing, which the burin would have great difficulties imitating' (Bosse, 1745, préface).[23] To draw up such recommendations we must take into account that the engraver had knowledge of both techniques, since he had learned how to use the burin in his parents' home[24] and how to etch in the workshop of Le Bas[25].

5. *Conclusion*

Few artists of his time benefited from such a complete training, since very often, engravers only mastered one of the two techniques.[26]

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[19] 'C'est ce fini & cette exécution précise qui parfaitement bien rendue par la propeté du Burin' (Bosse, 1745, pp.XXII).

[20] 'Le pinceau libre est mieux rendu par la hardiesse & facilité de la pointe à l'eau forte' (Bosse, 1745, pp.XXIII).

[21] 'La Gravure en petit doit conserver une idée d'ébauche, & que plus on la finit, plus on lui ôte son principal mérite qui consiste dans l'esprit et l'hardiesse de la touche' (Bosse, 1745, pp.86).

[22] 'Travaille lentement et avec froideur... diminue l'âme et la légèreté' (Bosse, 1745, pp.XXIII).

[23] 'Laissons donc la Gravure au Burin briller dans l'exécution des portraits où l'eau-forte n'est pas si heureuse, & réservons-la pour les morceaux d'histoire où elle répand plus de goût & de facilité, & pour le petit à qui elle donne un esprit & un caractère de dessin que le Burin aurait bien de la peine à imiter' (Bosse, 1745, préface).

[24] Charles-Nicolás Cochin was born to a family of artists in 1715. His father was a remarkable engraver who belonged to the second generation of reproductive engravers of the Gobelins, from which figures such as Devret, Poilly, Tardieu, Simonneau, etc stand out. His mother, Madeleine Horthemels, was an expert burin engraver like her two sisters, one of whom was married to Tardieu. For more information, see: Rocheblave, 1983.

[25] G. Audran started an artistic trend which would be continued by Nicolas-Henry Tardieu (1674-1749) and his disciple, Philippe Le Bas (1707-1783). The latter would run one of the most important workshops in Paris, where Cochin would be trained. See: Courboin, 1974, pp.13 and following.

[26] Since the foundation of the school of reproducers of the Gobelins at the end of the seventeenth century, apart from the etchers led by Gérard Audran (1640-1703), a more "conservative" trend appeared, which was represented by burin engravers who specialized in portrait painting. Prominent figures among them were Pierre Devret (1663-1738), Jean Daullé (1711-1765), his disciple Jean-George Wille (1715-1808) and Bervic, disciple of this.

This ample knowledge of engraving together with the good relationship that he maintained with the Court throughout his life and his active participation in the artistic management of the academy in the mid-eighteenth century[27], more than justifies the enhancement of technical and stylistic contents of the first treatise by Abraham Bosse in its 1745 reissue to such an extent that it became completely different form the original. Both in theory and practice, Cochin became one of the major exponents of engraving theory under the reign of Louis XV, and the treatise that we have analyzed proves this.

The majority of translations of the French treatise were based on the 1745 edition and not on the original. Likewise, many of the quotations attributed to Bosse found in old and modern technical and historical texts are owed to Cochin. We have tried to show the main differences between both versions and justify as to why they can be considered different and, in certain respects, ideologically opposite treatises. In the historiography of engraving, when making reference to Abraham Bosse's treatise, it would be highly advisable to point out what version is referred to and to mention, if necessary, the name of Charles-Nicolas Cochin, as responsible for the enhancement of the contents and the change in ideological direction of the first treatise on French chalcography.

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[27] Cochin is designated drawer of *Menus-Plaisirs* in 1739, senior lecturer of the Royal Academy in 1741, and academician in 1751. In 1752, after Coypel's death, he succeeded him as Guardian of the King's drawings. In 1755, he is appointed Secretary and Historiographer of the Academy, and two years later, he receives a patent of nobility and becomes the counsellor, protector and leader of aesthetic taste. See Rocheblave, 1983, pp.77 and following.

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