

THE *HATCHING METER* AS A TOOL FOR COLLABORATIVE WORK IN THE CHROMATIC REINTEGRATION PROCESSES

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ABSTRACT

In order to achieve a reintegration that manifests a consonance and general homogeneity in all the losses present in a pictorial surface, it is important that the adjustment of the *vertical streaked lines* is made in an invariable way to achieve the procedural analogy. This is relatively simple when the work is carried out by a single operator, with a particular and uniform *modus operandi* that is defined by the quality of its stroke. However, the procedure is more complex when the interventions require the collaborative work of several restorers, especially in large-format artworks or where the size of the losses determines this circumstance.

For that purpose, it is proposed a work tool that we have named “hatching meter”, which is useful to determine the calligraphy and measurement of the lines to be used in the discernible processes of chromatic reintegration by each one of the restorers involved in the intervention. This referential measurement tool is composed of a total of sixteen cells, ordered from left to right and from top to bottom, from lowest to highest tonal value or luminosity. This gradation is achieved with the modulation of what we have called LCTD variables, referring to the various parameters with which the line is constructed and which depend on its length, contour, translucency and dispersion.

Keywords

Chromatic reintegration; *Vertical streaks lines*; *Hatching meter*; Collaborative work; LCTD variables.

1. INTRODUCTION

The chromatic reintegration processes that are established under the criteria of discernment or recognition of the new integrative addition require analogy patterns that guarantee the uniformity of the patterns established in the chromatic losses. The disposition of an optical texture based on differentiating lines, together with the pointillism technique, are the most used methods in this type of action, which are aimed at recovering the legibility of the image. These techniques offer a certain scale of graphic contrast between the original painting and the addition that appears as a consequence of the restorative act.

The layout of a discernible pattern through a graphic-optical texture that offers homogeneity in the stroke is essential to achieve, under conditions based on regularity, homogeneity and equality in its execution, a balanced graphic arrangement. However, what may be relatively simple for the sensitivity of a single operator, always with a constant mode or character in the line, may involve greater complexity when the process of chromatic reintegration is carried out by a diverse group of restorers on a large-scale work (figure 1).

In these cases, it is necessary to establish guidelines for group action in accordance with a normalized graphic standard that helps to specify a reintegration process under an adjustment in the variables of proportion, size and eurhythmy.

Cooperation becomes necessary in order to agree on the characteristics that the reintegration stroke should have, according to a graphic reference tool. This element, which we present as a standardised instrument, will serve to attend to the process of chromatic reintegration, considering the variables of length, contour, translucency and dispersion of the graphic line.

At the same time, the decision-making that results from group work will enhance interpersonal development and socialisation at work [1]. In this way, an environment will be created in which restorers will assimilate values, competences and social and organisational norms that are very necessary in the business context.

2. THE *HATCHING METER* AS A REGULATORY TOOL

2.1 The use of norms and styles in group work

Teamwork in a pleasant and productive working environment encourages collaborative action planning, where individualism and competitive action are replaced by group participation. Therefore, the working team should aspire to reach convergent solutions that provide common ground or common positions on the problem of the treatment of the pictorial losses.

The working team goes beyond the sum of its parts; it is defined as a structure that functions as a single, integral organism, where its members work toward a common goal through interaction.

According to the definition of group sociology by the German sociologist Bernhard Schäfers [2], this collective purpose and motivation is achieved to the extent that constant communicative interaction takes place. In this process, other psychosocial realities are also developed, such as a deep sense of belonging to the group which, in the end, favours the manifestation of solidarity actions for the benefit of all, and which are sustained, especially, by a system of norms.

It is important to recognise the significance of positive interdependence in working groups and to implement consensus through constructive discussions of controversy. Acting as a group means, basically, establishing rules that, in addition to reinforcing this

awareness of group identity and generating affective bonds [3], mark out the lines of action and trajectory that the team must follow as a modular unit.



Figure 1 – Group process of chromatic reintegration. Paintings by Gaspar de la Huerta in the Golden Gallery of the Ducal Palace of Gandia (Valencia).

2.2 The *hatching meter* as a referential and collaborative tool

Taking into consideration the psychosocial benefits of group work and justifying the need for a normative tool to unify criteria in the processes of chromatic reintegration, we propose at this point the design of a graphic reference standard which we have called the "*hatching meter*". In this way, individual practice is subordinated to the instructions derived from a standardised working model for behavioural homogenisation and group cohesion. This instrument will serve as a standardised canon of measurement to carry out group retouching work, where the

calligraphy and calibre of the vertical streaked lines must have a generic correspondence.

We believe that, in order for the meter to become a device intimately linked to the working group, it should not appear spontaneously, nor should it be imposed externally as a reference model. On the contrary, it would be more powerful if it were designed and created by the team members themselves, who would initially use it as a test bench to try out strokes, while at the same time this action would reinforce group cohesion.

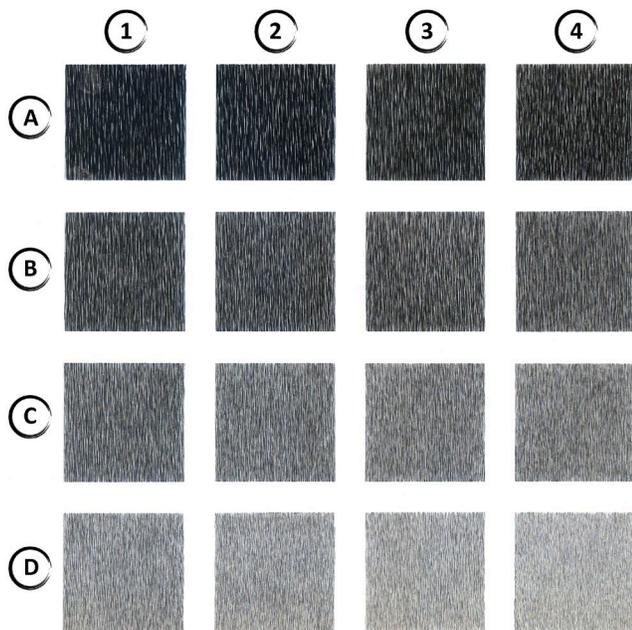


Figure 2 – The *Hatching meter*, consisting of sixteen cells arranged in order from the lowest to the highest brightness.

With the adoption of some basic initial rules, the group will create a graphic pattern that will serve to delimit the characteristics of the final graphic design to be adopted by the work team for the treatment of colour losses. It should be noted that, in this whole process, any kind of individualism and competitiveness is ruled out, so that each professional perceives that he or she can achieve his or her goals as long as his or her colleagues in the group do so as well [4][5]. However, this does not mean that the design and creation of the meter cannot be done through the distribution of roles, each of them related to the different peculiarities that will define the vertical hatching lines (length, contour,

translucency and dispersion), or through the assignment of a team coordinator.

2.3 The LCTD variables in the design of the *hatching meter*

A series of simple instructions are established for the development of the *hatching meter*: the device, in the form of a graphic table (figure 2), will be a free representation of colour that exclusively follows a grey scale gradation; with a reading from left to right and from top to bottom, the different fields or cells will be ordered from the lowest to the highest tonal value or luminosity [6].

This gradation in tone will be achieved by modulating the main factors that make up a graphic pattern of lines for chromatic reintegration using the vertically streaked or hatched lines technique. In this way, the following graphical parameters will be considered, which we have called "LCTD variables" [7]:

- Length: indicates the longitudinal dimension of the line, preferably between 5 and 15 mm. Outside this dimensional range, too short or excessively long lines are generated, which are not very effective in creating a homogeneous texture.

- Contour: stipulates the thickness or width of the profile which, in any case, shall correspond to a fusiform and clearly defined line in relation to the established length.

- Translucency: this is the level of transparency or opacity of the graphics and is determined to a large extent by the amount of solvent contained in the painting technique used for the chromatic reintegration, usually watercolour, gouache or pigments agglutinated with varnish.

- Dispersion: refers to the density, concentration and spacing of graphic elements in the spatial support. The separation between the strokes will make it necessary to obtain more open or closed patterns and, consequently, with greater or lesser luminosity.

Within the working group, each individual or sub-group can be in charge of defining the characteristics that each of the cells of the *hatching meter* should have according to these LCTD variables, so that each



Figure 3 – Tests to determine the characteristics that each LCTD variable must have in each of the cells that make up the *hatching meter*.

member of the team will end up taking on a specific role. In other words, each member will take an LCTD variable and decide on the characteristics that this parameter should have in each of the cells that make up the meter, always bearing in mind that a downward progression of brightness is pursued (figure 3).

Ultimately, the procedural rules will end up being established internally by the members of the group themselves, although preferably, the final pattern of each of the cells should be agreed with the whole working team with the intention of detecting possible graphic inconsistencies. Similarly, this pooling will also adjust any anomalies in tonal values that may occur, since, according to the laws of visual perception, the gradation in the grey scale is conditioned by the visual acuity and sensitivity of each individual [8].

Participation, especially active participation, when generating a common mechanism, is also an integrating, cooperative and interdisciplinary act. Once the meter has been generated, as an indicative graphic system for the group and cooperative processes of chromatic reintegration, it will be sufficient to jointly determine the cell that will serve as a reference, simply by using the Cartesian coordinate system that accompanies the tool.

3. OTHER GROUP MODALITIES TO REINFORCE FORMAL CO-OPERATIVE WORK

It is clear that, as opposed to competitive and individualistic work, in cooperative actions the achievements obtained by each member are

interrelated with the objectives and performance achieved by the team as a unit. This reality ends up having repercussions on the productivity of the company, organisation or institution, as the human component, user of this action, ends up facing approaches that favour the development of reasoning at a high cognitive level that obliges the generation of creative and decisive proposals.

In addition, from the point of view of psychological health, teamwork increases self-esteem and the individual's confidence in his or her possibilities and those of the group [5]. It also favours the development of social skills and personal relationships, thus having a positive impact on socialisation at work and overcoming conflicts [9], while encouraging the acceptance of diversity and the inclusion of people who are the most vulnerable.

In order to enhance these benefits derived indirectly from the design and development of the *hatching meter*, it is proposed at this point to complement this task with other group modalities that favour positive interpersonal relationships and strengthen psychological adjustment in a supportive work environment.

For this reason, taking as a pretext the work meetings to attend to the elaboration of the meter and to determine the characteristics of the layout to be used in the chromatic reintegration processes, some moments of these conversations will be dedicated to strengthening interpersonal ties.

These moments of informal meeting will be used to discuss functional aspects of the group, with the intention of identifying possible risks that could destabilise the correct exercise of the restorative activity. By becoming a real basic group [5], issues relating to the professional progress of each member, unpunctuality, the different pace or involvement of each professional in their work, the resolution of interpersonal conflicts or individual situations that could influence the correct development of the collective activity would be dealt with.

Ultimately, the purpose of these meetings will be to achieve equal participation by all members of the team and to avoid general states of social laziness that could be very detrimental to collective progress.

4. CONCLUSIONS

As a result, in the processes of chromatic reintegration in works with significant gaps in form and colour, it is necessary to establish common working guidelines. The tool shown here, called the "*hatching meter*", is a standardisation tool for determining the characteristics of the vertically streaked lines to be agreed upon and adopted by all the technicians who jointly undertake this task. The graphic parameters considered correspond to the main factors that define the line pattern and which we have called LCTD variables, such as length, contour, translucency and dispersion.

The group elaboration of this calligraphy and calibre tool to reach a consensus on common graphic typologies, at the same time, aims to create cooperative work habits in the professional. This will suit working environments of conformity, acquiescence and unanimous consensus, where decisions and practical applications will be refined through integrative agreements, underpinned by an interpersonal vision of tolerance and mutual growth.

Social interconnections and positive interdependence will favour professional motivation and provide favourable stimuli for the achievement of a common good or goal, only attainable with the sum of individual achievements.

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