THEMATIC UNIT N ${ }^{\circ} 15$
OIL PAINTING AND ITS VARIETIES.
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### 15.1. DEFINITION.

The oil comes from the Latin word oleum, meaning oil.
Oil painting involves using oil as a binder (generally linseed oil), allowing the paint to provide flexibility and variety of qualities ranging from matte to light at a thin, transparent layer. One of the great advantages of oil and no doubt it has been what has made the technique so popular is its slow drying. The fact that the paint can stay fresh for longer, to modify and refine the finish so you can touch up the daily work (which did not occur in the tempera and fresco).

Another advantage over other techniques is that when dry, the color does not change, which occurs in other techniques like acrylic.

The technique of oil accepts applications on diverse surfaces such as fabric, wood and even walls. The basis on which the oil is applied are diverse, what varies is the technique of preparation of these supports because it is very different painting on canvas, board, cool or copper.

There are basically two types of oil: painting for "study" consumed by amateur painters and paint "artists" or "extra fine" higher quality for professional artists.

### 15.2. A BRIEF HISTORY.

The use of oil has been known since antiquity and was already widespread among the artists of the Middle Ages especially when combined with egg tempera and fresco. With this mixture retouched the works in plaster or chalk. The more oil that was used was that used linseed oil mixed with mineral pigments, but he was not alone and every artist secretly kept with their particular formulas. The oil, which at first was quite complex to use, was simplified from the nineteenth century, when it appeared the paintings produced and industrial media, which massified use.

Giorgio Vasari writes in the middle of S. XVI:
The discovery of oil color was a beautiful invention and a great comfort to the art of painting ... This way of painting light colors over and requires only diligence and love, because the oil itself becomes the morbid color, more sweet and delicate and easier

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> connections and hazy and the other forms, and while working, the colors blend and bind to each other more easily ${ }^{1}$.

We can not say forcefully that Jan van Eyck (1390-1441) was the inventor of oil painting in the early fifteenth century, because its use was known in antiquity and also had mentioned the monk Theophilus wrote in his Treatise probably in the first half of twelfth century, and Cennini Cennino late fourteenth century, whose recipes, experiences and tips, many followed.

In any case it is true that in fifteenth century's Flanders, the influence Aristotelian forced developments in the treatment of fatty techniques already known, which derive to a formally aesthetic more "detailistic". The Flemish realist painters known for centuries the use of oil paints, but with the new needs began to strive in testing various procedures treating and adapting oils in its debugging.

Thus, soon Flemish painters were distinguished by the systematic use of colored fillings that were based on an oil and resins, the colors were ground with linseed oil or walnut oil, were added hot hard resins (amber or copal) and according different quantities and qualities of the plant essences regulated the rate of drying. Jan van Eyck investigated with the technique of oil within the linear conventions of tempera, making a detailed drawing at a table covered with plaster and applying successive layers of transparent oil glazes. But the use of hard resins required to maintain the wooden table as the primary support for the oil. But we must recognize the importance of Van Eycks as key artists in the development of this technique. Selecting refined oils by bleaching and purification. Removing impurities and accelerating the drying achieved a partial polymerization. As diluents, A.P. Laurie already accepts the theories of professor Eibner on "the use of turpentine or similar volatile vehicle, whose use requires prior knowledge of the art of distillation" ${ }^{2}$.

The incorporation in the pictorial process of varnishes oily type and and resinous oil based thickened or mastic, with the use of layers of tempera and oil was a crucial technical discovery and procedural progress that revolutionized the methods of application in the painting. Max Doerner and other studious agree to present the painting process of the Van Eyck brothers, as precursors of the mixed technique developed later. To the applications with resinous egg tempera in the first layers, follows

[^0]pigmented glazes oleo-resinous type. These glazes soon acquire a status of "mordant" that lets the successive application of thin layers of tempera. This methodological process allows consecutive interventions to complete the work. The Sicilian painter Antonello da Messina (ca. 1430-1479) popularized this technique in Italy, which was then used by Renaissance painters. In that sense Antonello da Messina absorbed technical aspects of Flemish painting but with compositional concepts of pre-Renaissance by artists such as Piero della Francesca.

The more flexibility that the use of oil gains in the paint allows for greater technical freedom in the layered method which facilitates the development of the personality of each author.

But that greater flexibility of the paint layer must logically also have support materials. Thus, the Venetians painters among XV and XVI centuries extended the use of linen and hemp linen mounted on racks as supports for oil painting. These canvases were woven in a herringbone way, which accentuated the granularity and surface texture. Primers also evolve; they are increasing elasticity, ensuring flexible bases that allow wind works without danger of deterioration. Another result in the use of new supports was the possibility of working much larger surfaces and easier to transport.

We must understand the technological evolution in painting during this period as a result of a process of technical adaptation to new needs. The crisis in the monopoly of the church sets up a substantial change in demand. Moreover, the development of major trade routes in the Mediterranean between European states themselves, and enhancing trade with the East, made more urgent technological adaptations that allow the movement of a considerable amount of artistic production.

Serve these philosophical, social and commercial keys as snapshots to understand the technological development in the exempt paint. Initially in Flanders and later in Italy, we generalize the use of methods and materials that allow for greater flexibility, from the support to the paint layer.

In the Baroque painters like Rembrandt (1606-1669), Frans Hals (15851666) Peter Paul Rubens (1577-1640) and the Spanish painter Diego Velázquez (1599-1660) made tests with the application of fillings.

For Rembrandt, first define with strong the lighted parts with large fillings and then, with thin strokes and glazes, finishes the work integrating these first lights with the rest.

Rubens Moreover, look for a more refined technological solution, according to Maria Bazzi: "linked the Venetian method with that of Flemish" ${ }^{3}$. On a new absorbing fund with a half-chalk with a gray tone or pink, He traced the formal scheme, based on lean tempera applied in thin layers. But both lean interventions, oil-resinous or opaque are determined in this author for the intelligent use of resinous balsams, Venetian turpentine and thickened oils which allow the aesthetic quality, unique characteristic of his famous precept: "Shadows transparent and lights pasted " ${ }^{4}$.

The number of pigments used at that time was very small and in the case of of Velázquez is no exception. Velazquez for the mixture of pigments, used a binder of oleaginous origin, whose amount determines the transparency of the strata, to more binder, more transparency. The oils used by the genius of Seville were very well prepared and purified, as despite the time passsed, have no ostensibly yellowed or darkened. Moreover, the high transparency and color of his work has much to do with mixtures of calcite (calcium carbonate and enamel). Thus, to the oilresinous binder, enamel gaves faster drying. Moreover calcite greatly increased the transparency of the color and consistency and fluidicity control. Similarly the mixture of colors with calcite allowed to reduce the quantities of white lead in the mixtures. The development of this technique enabled him in 1630 consolidate its quick way to work and the combination of different brushstrokes.

List of pigments used by Velazquez:

- White, white lead compound and calcium carbonate.
- Yellow: yellow iron oxide, lead-tin yellow and exceptionally Naples yellow.
- Orange: orange iron oxide and vermilion of mercury.
- Red: red iron oxide, mercury vermilion and organic red lacquer.
- Blue: Azurite, lapis lazuli and enamel.
- Brown: brown iron oxide and manganese oxide.
- Black: black organic vegetable or animal.
- Mixtures:
- Green: azurite, iron oxide, yellow lead and tin.
- Purple: organic lacquer red and azurite.

[^1]The more orthodox artists of the eighteenth and nineteenth centuries painted the underlying paint with black oil and then repainted with gray color. However, the color range was limited and many have vanished. All work was carried out in the workshop.

During the nineteenth century, there was the great chromatic renewal, constituting much of the current palette. With the discovery of chromium began to develop a range of colors far more extensive. The appearance of cobalt blue, synthetic ultramarine, cadmiums, zinc white, mauve and purple, the color scale significantly modified, used perfectly by the PreRaphaelites. Advances in chemistry provided new and bright pigments in the nineteenth century. The invention of collapsible tubes, which came to replace ram gut bags where pigments were kept until then, allowed the artists to work outdoors copying directly from nature. Chemical additives, which kept paint fresh, made it possible to make greater use of fillings. Gradually disappeared specialists on preparing colors, and during the second half of XIX century, commercially generalize oil tubes, brackets and various accessories. Also abandon the methods of preparation of the painting by layers, imposing direct painting alla prima. So the French impressionist painters applied directly onto the canvas, a lot of small strokes of bright colors.

With the avantgardes is prioritized distinctive personality attitude and emphasis. With the development of non-figurative painting in the twentieth century, artists have experimented with new techniques, increasing the textures with sand, ashes or plaster, staining the canvas and working with commercial paints and aerosols; also have combined painting with photographs and printed material to form collages. The versatility of oil painting has made her the best means of expression for artists of the twentieth century, but since the 1960's many are the artists who feel that the acrylic paint is best suited to their needs.

The common feature of European painting in the eighties ${ }^{5}$, is the one pure pictorial specificity, which adds value with this new legitimacy the artistic object. Then begins a widespread interest (all levels) to regain and/or updating the artistic techniques ${ }^{6}$, whether traditional or new and looking for more expressive performance. This broadening horizon includes, from the possible integration-combination with other mechanical

[^2]or technological resources, until the join to the painting of new extrapictorial elements considered, mainly from the development of pictorial material itself. We say own in two ways. Own as it researches with the matter itself, and own as self-produce their suitable materials. so we can start from raw materials or the reprocessing of commercial products with dyes, fillers, binders..., to get other variables in the pictorial action (density, flexibility, roughness, texture, quick drying ...) agreing with a more expressive register directly emerged from the matter.

So the painter of the eighties look for unique aspects, the exclusive plasticity can grant binding mediums and material. The brightness of a tempera, the transparency of watercolor, encaustic optical depth, or the unique qualities of the oil ... so even fresco is justified by use of double readings ranging from irony to his own material aesthetic characteristics. This way, traditional techniques revitalize, enrich infinitely expressive capabilities without immemorial conditioning treatments. This revival of painting, in particular traditional media and the integration with other plastic proposals becomes more urgent if possible, enhance teaching and expand the field of research on physical and aesthetic materials, binders and other fundamental components of painting.

### 15.3. PLASTIC AND AESTHETIC CHARACTERISTICS.

This technique having been used in antiquity and in the Middle Ages to retouch by slow drying is becoming widely consolidated and profusion that time mainly by allowing to perform on the support transitions and mixtures of colors and even work on the support, still fresh, the next day. The large number of paints and essences that are compatible open a wide range of technical possibilities. Originally this drying time was very useful for the retailer paintings from the fifteenth century's Flanders.

Aesthetically, the appearance that the exalted and made to stand out from the so far had dominated the world of painting was the finish of the work was brilliant oil, provided it is applied directly "Alla Prima" or an appropriate varnish "Veils" Getting at will from the opacity to the more subtle glaze. When we begin to dilute it with scents or solvents in general, they tend to break down the molecules that form it, giving a matte finish. Precisely because of the destruction of their plastic qualities. Not result we refer to item 15.7. this same T.U. where we can see clearly not only the different types of oils which can be prepared with but also, solvents, coatings, etc. which in turn will give us used many finishes and drying times.


#### Abstract

Another plastic qualities of it is worth noting that oil is to preserve the trace of the stroke, that is, the imprint of the bristles of the brush to apply the color. This feature does not occur with other procedures such as might be the acrylic tempera, which applied on the support primed with the same viscosity oil, obliterating bounces back above this mark. Therefore we can conclude that if the pigment is the same as the proportion with the binder in both procedures, while using the same support, the only element that we will vary is the nature of the binder. And that will determine the surface tension of either as a procedure that allows the retention of the footprint of the brush.


### 15.4. TOOLS FOR OIL.

## BRUSHES

The hair of the brush is removed from the skin of some animals.The hard hairs are called "bristles" and come from pigs or boars. These animals have their hair cut once a year the same way as is done with the sheep. The best bristle brushes for oil comes from China, is the variety Chungking. Brushes are also made of soft hair, as for example the mongoose or badger. Finally very soft hair brushes are manufactured type Kolinsky red sable. There are now synthetic fiber brushes that mimic natural ones. Distinguish the following types of fibers: soft as Toray and Takatsu, intermediate as Tadami and Teijin; hard Tekady like. With respect to the brushes it is best to start acquiring flat and round bristle brushes and smooth synthetic intermediate brushes, the latter can hold lots of paint without losing its shape. This quality makes them more indicated that the natural hair soft brushes when extending oil painting.

The cleaning of the brushes is also essential after each work session. The first is to remove all loose paint with a cloth, then dip the brush in the solvent and dry it again with the cloth. Finally it must be washed under running water with soap.

In the soft hair brush is important to form, for it may be left with soap scum, because if they are distorted, in the next use, cost a lot to recover the original shape.

## PALLET

At all times we recommend pallets that are easy to clean and which hinder the drying of the colors. It is now considered better to work with a surface of white melanin than on a classical timber pallet. This is because it is usual that we face a white primed canvas. When used to work with an
ocher primer, it makes sense a walnut or cherry colored base, since we allow "preview" in the palette the color contrast effect before applying it to the pictorial support. But even then we may find melanin that mimics this color. It seems silly, but the placement of the colors is of some importance. The important is that whenever we place the color we always place it in the same place. That way the hand will get used to automatically go to that site booked. If every time we put the color in a different place, we lose time in seeking further that we run out of space for mixtures. As for the color standard provision is to put the globs of paint near the top and from the hand to the elbow in the following order: white, yellow, ocher, red, crimson, blue, green, earth tones and black. Another possible order easy to remember is to place the colors from light to dark and from warm to cold.

It is important that is dropped to the palette only the amount of color that will be spent in a work session. Therefore, cleaning the palette as the fact of working always with the fresh color is essential to achieve the desired results. Therefore, when the session is over should clean both brushes and palette.

### 15.5. CONSERVATION OF OIL.

Oil paint dries from the outside, ie when the surface is dry, the interior is semi thick and in big impastos the interior remains fresh for many months. The first thing to take into account is that everything that will help accelerate the natural drying process of oil painting is a premature aging.

Ideally, to preserve an oil painting is hanging on the wall. The room will have normal ventilation without drafts and trying to remain in stable conditions of temperature and humidity. The direct sunlight is not recommended but it is recommended indirect light that does not exceed maximum parameters of 150-200 lux.

The painting should be able to breathe, so it is never good to have them a long time covered with plastic, cloth or paper, because oxygen is not renewed. We must also take care to stack the painting because they can get stuck, this is more common with acrylics, but also about oil painting. As for its transport, it should move as little as possible and very carefully, because what more often than damage the paintings are accidents. Every time you manipulate a picture we are exposed to dents, cracks and scratches on the corners. To clean a picture, the best thing is a feather duster or dry cloth, better not to use general cleaning products since their chemical compositions can damage and accelerate aging of the painting.

When at least one year has passed and is dry, oil painting can be varnished in order to seal the surface of the painting and stop the oxidation process. A painting unvarnished becomes stiff and just splitting, which are known to crack. If varnishing the process of hardening is delayed and longer remains flexible. I personally recommend spray varnishing, because it adds a middle layer thinner and more uniform than when the varnish is applied with a brush. To do this we must place the picture horizontally and spray about 30 cm . away from the surface. It is desirable to leave the table in horizontal position at least half a day so that no drippings or spills made.

### 15.6. ELABORATION OF OIL.

The recipe consists of the manufacture of a medium or binder that allows mixing and kneading the oil pigments. The oils so produced can be stored in empty paint tubes (usually of lead, zinc, aluminum) to be closed by the bottom. Make the own production of oil paint is a great effort that may not be profitable given the variety and quality of oil paints today are sold commercially. If not used quality pigments, not worth the development of painting as bad pigments are altered rapidly (eg. white yellows in no time).

In any case, despite the difficulties involved in the process, we consider positive for the students try to make their own oil colors to know the materials involved in its composition.

## GENERIC FORMULA FOR OIL BINDER

- 120 cc . or ml. of linseed oil.
- Dilute bleached virgin bee wax up to 135 cc . or ml. Need to dilute the wax warming by water bath this mixture. (The wax acts as a stabilizer and increases the thickness and absorption of oil).
- Add to the mixture between 360 and 480 cc . or ml. of pure linseed oil.
- Add pigment until a thick paste. In the composition of the paint must be the least possible amount of oil: their excess is detrimental. This mixing step is very important, because if oil is loose or slightly mixed pigment paint can go faulty.

This medium is suitable for general use as a binder for oil. The function of the wax is to prevent the pigment is separated from the oil. If we make a painting without adding wax, dry spots appear a few months of oil. The excess wax is also a problem, because when drying the oil layer produces a matt appearance and gloss.

## FORMULA FOR BINDING AND VISCOUS OIL SLIGHTLY FASTER DRYING THE COMMERCIAL OIL.

- 85\% of raw linseed oil.
- $7 \%$ of linseed oil prepolymerized of 30 poises.
- 5\% of Dammar Varnish (previously dissolved $1 / 3$ with respect turpentine).
- $2.65 \%$ bleached virgin bee wax (previously dissolved $1 / 4$ in respect of turpentine).
- $0.20 \%$ of siccative multimetals.
- 0.15\% Anti-Fur siccative.


## REQUIRED PERCENTAGE OF BINDING FOR OIL (OIL FLAX) AS PIGMENTS.

- Zinc White: 30\%
- Cadmium Yellow: 40\%
- Yellow Ochre: 60\%
- Naples Yellow: 15\%
- Iron Oxides: 40\%
- Natural Sienna Earth: 200\%
- Ultramarine Blue: $40 \%$
- Cobalt Blue: 100\%
- Burnt Sienna Earth: 180\%
- Black Ivory: 100\%

Until the test the paint is dry, you can not conclude whether the development has been a success or not. Handmade oil painting will not be as commercial paint, is a paste usually something softer and smoother. The drying of handmade oil paint is slower than the commercial; however into the pot has a faster drying so in 1 or 2 months should spend it all. If the result is dull, it indicates an excess of wax, and if the traces of brush strokes are smoothed over, we may have abused oil relative to the pigment.

When doing clear colors and mostly whites, it is better to use safflower or poppy, as the white with this oil does not yellow as much as when using linssed oil. In any case, as when we use linseed oil, it is also necessary to add to the poppy oil a small percentage of bleached virgin bee wax.

Use good finely ground pigments. To dissolve pigments visible as coarse sand when sliding with the muller.

## OILS, ESSENCES, BALSAMS, VARNISH AND DRYING TO OIL PAINT.

BASIC BINDING: DRYING OILS. Dry by oxidation and its strengths lie in maintaining a while the paint thickly. This quality justifies the rise and expansion of oil painting.

## Linseed oil:

It is the most used, is obtained from the pressing of linen seed and is more drying and durable, but darker. For this reason it is more frequently used in dark pigments. There are two types Raw (cold and sun clarified) or Thickened (hot, polymerized by cooking "Stan oil" industrial use with a more dense and dark aspect).

## Poppy oil:

It is the clearest of all but the slowest in drying. Is extracted from a seed from a variety of poppy. Its use is more common with very light pigment.

## Nut oil:

It is clear that the linen and yellows less but is slower to dry, if the filling is too thick can be quartered.

All the oils mentioned are used in the manufacture of oil, and the quality of this varies according to the qualities of the pigments but oils with time yellows, so interest to delay the process to start with the less fat possible primer.

SICCATIVES: Oily solutions of certain metal salts: lead, manganese, cobalt accelerate drying (oxidation). But contributes to the oil age. The oils used in the oil paint are inherently drying, but on occasion and depending on the pigments, such as ivory black and pellets, it is necessary to apply secant to compensate slow drying. The secant can cause excessive crackle and wrinkles.

## Secant of Haarlem:

dammar varnish + oil thickened. It is less dangerous than the metallic origin driers such as Cobalt Secant or the dark Courtai Secant.

ESSENCES: Diluents or solvents.
Turpentine (pure turpentine): Is most often used to favor the drying process, volatilizes easily.

Essence of lavender: It is slower to dry. Oxidizes and thickens upon contact with air.

Petroleum spirit "White Spirit" (turpentine simile): Softens the paint, valid for cleaning but not to dilute.

BALSAMS:
Secretions of certain conifers, used as "medium" either alone or in combination with oils, as a pasta for kids, bring a glaze finish, slow drying and increase the brightness, but yellows with time:

Venecian Turpentine, Estransburgo's , Canada's.
In general, the Balsams have now been replaced by paint varnishes.
RESINS:
Most are used as varnishes and also to give consistency to the mixture, unlike gums which dissolve in water, the resins are dissolved in alcohol or turpentine. In contact with fire, they melt.

- Dammar resin proceed from a tree in Indonesia. Varnish and additive for oil.
- Mastic resin is used as a final varnish for oil.


## VARNISHES:

Three types, Fatty, resinous and synthetics.

- Fatty: oil derivatives cooked or sun-thickened.
- Resinous: Coming from the resins.
- Synthetics or Alkydics: Synthetic enamel more typical, industrial paints.

Varnish for Oil Painting: The finish can be Glossy, Satin or Matt. The more matte includes more beeswax. White bee wax melts before in turpentine. Wax 1 part 3 of turpentine.

## BRIGHT

- Dammar 25\%
- Turpentine75\%


## MATE

- Dammar 25\%
- Turpentine $75 \%$
- Virgin wax $2 \%$

Painting Varnish "medium" (1 part dammar varnish + another thickened linseed oil + 1, 2, 3 parts of turpentine).

Retouch varnish: to paint on and let dry areas and paint as if it were fresh. (1 part putty +3 parts of white spirit or faux). To evaporate more slowly softens the paint prior + .

Final varnish: Protects the paint and prevents rechupados. Better to apply two thin coats than one thick, or spraying. (1 part mastic or dammar dissolved in 3 parts turpentine).

## VARNISH FOR GLAZING

Proportions can be applied paint varnish, but adding small amounts of cobalt drying when the drying process begins to slow.

## 1 st Recipe.

- 4 parts dammar varnish ( 25 oz . Of resin in 75 cc . Of turpentine).
- 2 parts of linseed oil thickened.
- 4 parts of turpentine.
- 1 part Venice turpentine.


## 2 nd Recipe.

- 100 cc . Dammar varnish.
- 50 cc . boiled linseed oil.
- 10 cc . of turpentine.
- 5 cc . Venice turpentine.

As a medium of glazes will be diluted with turpentine.
3 rd Recipe.

- 28.4 cc. Polymerized oil.
- 28.4 cc. Dammar varnish.
- 142 cc. Turpentine.
- 15 drops of cobalt drier.

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4 th Recipe. (more common in America).

- 9 p . Dammar varnish.
- 9 p. Turpentine.
- 4 p. Polymerized oil.
- 2 p . Venice turpentine.


## Dutch Varnish.

- 250 gr. Mastic.
- 700 ml . Turpentine.
- Venice turpentine, 60 gr. (diluted in hot with turpentine 50\%).
- 1 gr . Of beeswax dissolved in 3 cc . of turpentine.


### 15.7. APPLICATION OF OIL. PAINTING THROUGH LAYERS, HISTORICAL MIXED TECHNIQUE (GRISAILLE-GLAZE) AND DIRECT PAINTING OR ALLA PRIMA.

We can distinguish two ways to do:

## DIRECT PAINTING (FASTER)

- TONE PAINT (Look for harmonies based on a fundamental tone)
- ALLA PRIMA PAINTING. Rapid techniques in the manner of the Impressionists. Everything is done in the same session.


## PAINTING BY LAYERS (SLOW PROCEDURE)

- MIXED TECHNIQUE: Two or more procedures. Example Tempera and oil. Wet over mordant.
- GRISAILLE AND VEILING: Both can unite to achieve a particular finish. It is applied wet on dry using thin medium layers + solvent.

In daily practice when students are considering working with the oil in a direct way, or alla prima, either tone paint, what most often meet are paintings that in a few moments begin to show color blends dirty. This is a big problem that doesn't allow students move into the full chromatic possibilities offered by the painting. In general when working with oil technique this effect of dirty mixtures become quite sharper than when working with other quick-drying techniques. This defect often leads to two fundamental questions. On one hand the lack of cleanliness in the various phases of work consisting of:

- Do not leave space for new mixtures on the palette.
- Do not clean or change brushes when we need clear and saturated colors.
- Do not renew turpentine periodically, and so on.

Moreover, there is the question of considering systematically that should be clarified with white and darken to black. This rule works in drawing, in practice when working with color does not give desirable results, because both whites and blacks desaturate in a radical way any color blended with. In practice, this mode of action is particularly troublesome in light areas where desaturation systematically obtained by mixing white just separates of that light feeling that is only possible with clear color, pure and saturated. The student must understand that the color has many more dimensions that enrich it and pass not only by obscuring or clarifying with white and black, but must also play with color temperature, degree of transparency and opacity, its purity and saturation. The judicious combination of all these color dimensions will allow him to achieve a work rich in nuances. By contrast the systematic and mechanical of rinsing and darking with white and black wet on wet substantially poorer work wich is precisely limited because it disregards the potential of color.

In tone painting, we can find works chromatically limited by using monotonous mixtures where the student moves from one color to another, not including intermediate tones. For example changes from light yellow to dark green melting tones, but do not include among them a medium yellow and yellowish green. If only two colors melt is a mixture monotonous, if he merges the four tones is a richer mixture.

## PAINTING BY LAYERS (SLOW PROCEDURE)

## FOUNDATIONS

The mixed technique consists of physical and optical binding of two or more lean and fat painting techniques and that alternate in mordant. Traditionally the Historic Mixed Technique is considered as a combination of tempera and the oil, taking profit of the best qualities of both. In the case of lean temperas, the great vibration of color and speed of drying, in the case of oils, drying slower and the wide range of his pictorial layers, from the most diaphanous and transparent to the most concrete and Thick ones.

PROCEDIMIENTOS Y TÉCNICAS PICTÓRICAS

## HISTORY

The Historic Mixed evolves with use of two basic techniques, tempera and oil. As we already saw in the history of the temperas, and is reflected in the Treaty of Cennino Cennini, primitive known drying oils and catalysts. They rarely used, especially reinforced with oil that executed in tempera excessively dryness and outright, giving these juiciness and transparency. In this pictorial game develops a technical process that evolves into the methodological use of layers' system, alternating tempera and oil. In turn, this system encourages a process that strengthens the sum of optical colors, taking its exponent in the Venetian school, and his head the painter Titian, which change the painting concepts, methods and construction. From the Flemish, Spanish or Italian primitive paintings were painted with a partial view from the top down, finishing the painting as they descended on him, so it was very expensive to maintain the sense of globality. Since the Renaissance, as it generalizes the exclusive use of the oil technique and methodology of layers, the paint is flexible and becomes vaporous, radically changing their design concept to an atmospheric color. The Flemish school was the initiator of this system, combining the two techniques, using the best qualities of each, and maximizing light with the tempera and the plasticity of color with the oil. The Venetian school, just using the technique of oil, takes advantage and improves construction, optical and conceptual system leaving it as a legacy to other subsequent trends, especially to the Baroque. Without the Venetian system had not been possible, for example, the painting of our great Velazquez.

## PRACTICE

The 1st step is to select the support and the most appropriate primer to this procedure in layers.

As discussed in the section, "Media and primers", they have a correlation. The mixed technique needs of some absorption to facilitate the final drying of the last layers of glazes, moreover, that need to absorb those forces us to reject most unstable media, such as cotton cloth. Recommended, is to work with rigid Supports DM or plywood, and in case of using fabrics, the most suitable are the linen ones, and these rigid supports can be entrapped, in the case we are interested in the combination of a rigid support with the advantages offered by the fabric of canvas. As for the primer, It should be low oil content, as we will dispense with the abuse of dryers when we start to use layers of glazes. Personally for this type of work where many layers are applied, we recommend applying a primer of Crete.

The $2^{\text {nd }}$ step will be drawing the project on the basis of the primer with a material that does not muddle the surface, the ideal is to use tempera directly with the brush. If you use pencil or rubber to rectify it may begin unnecessary to grease the surface, which can cause lack of grip and repellencies of the pictorial material.

The 3rd step is to give the first spot with tempera. The dilution will be done with the same binder. The second spot, also with tempera, try to redesign the project and will be enhancing and exaggerating the lights. Remember that the higher elevation of the light, as many glazes are required to lower and then adjust the brightness, with the aim of creating greater plasticity in the painting. In the second spot and/or third are raised levels pictorial paste, creating the minimum and maximum of the picture. At this moment the process also arise temperatures creating in the lights the grisailles, so that these layers enhance color transforming cold to hot. The cold areas of the project are addressed directly with the tempera. Hot areas will be resolved later with the oil. And particularly given the few working sessions we recommend performing the grisaille with egg tempera or mixed lean. As recommended in the gray scale from the deepest black to medium gray, have the reference of an intermediate tonality between the two. Thus, we guarantee the possibility of glazes refine by dark tones, this will give more wealth to the final result of the work. Moreover, it is advisable not to use more than 4 or 5 tones of gray, and have some contrast with each other, staying with a more clear that the benchmark since the glaze will color subsequent differences in tone. The glazes are mixed with transparent mediums and colors, which are applied over oils or tempera already dried. The color of the bottom layer is combined with the transparent glaze, for that reason it is desirable that the gray is slightly lighter than expect the final result as applying the glaze will be 2 or 3 tones darker.

In $4^{\text {th }}$ step start applying the first layer of oil through transparent or semitransparent glazes, and also the tempera in a state of semi-dry to dry. As a rule, in applying the glaze, there is a darkening of the intervened area resulting in an increase of one to two tones of the previous gray. The glazes adjust to the depth of the ink or stain. The second phase of the tempera (the first was in the third step); it will be when the oil is in a mordant state to produce the embrace between the two techniques. The tempera will adjust the concrete form of the stain and light. In terms of color temperature, it will refresh areas, but the level of coldness will be less than at first and adjusted to the final situation. Is then carried out the second phase of oil, which works more particular towards its end. No need to be neither transparent nor as hot. The glazing layers will be towed, rubbed, etc., with less thinner and denser.

From this moment, which were interspersed the two techniques the mixed technique has been produced, and from here you can repeat these steps indefinitely. This will be a progressive approach between the two techniques, being able to reverse their plastic qualities such as density and plasticity. In this sense, the tempering temperature is not as cold or the oil as hot. At the time required is encouraged finish the picture, which usually relies on oil zones with the incursion of the densification of the same, with the option of giving light strokes opaque, concrete and fillings. At present, the paint layers, may not be as common as direct painting, we must not underestimate the expressive possibilities of this particular way to do offer us.

### 15.8. SUGGESTED EXERCISES WITH OIL.

The exercises to be performed in class and at home are provided for a period between the 11th and 14th week, with a total of 5 sessions and 7, 5 contact hours (indicatively between $5^{\text {th }}$ and $20^{\text {th }}$ December) Naturally these dates are subject to some minor variations depending on the school year.

## Objectives

- Experience the technical and aesthetic possibilities of oil glazes applied on a basis of a grisaille tempera.
- Understand the role that in the chromatic mixture has the grisalla depending on its intensity.
- Learn to adjust the proportions of color and medium to obtain different degrees of color intensity.
- Experience the special color overlay that offers an alternative mode of hardening layers, with layers of oil glazes.


## EXERCISES TO DO DURING THE CLASSES OF DECEMBER.

A) Model Exercise grisaille done in egg tempera and finished with glazes of oil. (POSSIBILITY OF APPLYING THE HISTORICAL MIXED TECHNIQUE) Minimum 1.
B) Free work to do with grisaille and glazing in or out of class time. (POSSIBILITY OF APPLYING THE HISTORICAL MIXED TECHNIQUE) Minimum 1.

SUPPORT: Rigid, Tablex type, DM, Plywood.
PRIMER: Crete.

PROCEDIMIENTOS Y TÉCNICAS PICTÓRICAS

FORMAT: Minimum $70 \times 50 \mathrm{~cm}$.
MEDIUM FOR GLAZING:

- 50 cc . or 1 Vol. of Varnish Dammar Vol.
- 25 cc. or $1 / 2$ Vol. Linsed Oil.
- 50 cc . or 1 Vol. of turpentine. (NOTE TO WAIVE SIMILAR AND WHITE SPIRIT, OR FROM ANY HYDROCARBONS DERIVED)

FROM THE 2 nd OR 3 rd LAYER ADD GRADUALLY DRYING OF COBALT. Approximately 7 to 8 drops per 125 cc.

You can also use more turpentine, so that the brush slide more easily but we have to always work horizontally.

OTHER FORMULA IS USING A BRIGHT FINISHING VARNISH or HIGH QUALITY ALKYD (as transparent as possible). Ensure well diluted with turpentine. (Currently most alkyd synthetic enamel in market can be diluted into water, others still dilute with strong solvents, none of them we might as well).

- 1 PART OF SYNTHETIC.
- 1 PART OF TURPENTINE. (The amount of turpentine will be determined whether the glaze is made horizontally or vertically, as the case we can remove or add to the proportion indicated.)

IT IS RECOMMENDED OVERLAYS GLAZES IN PRIMARY OR SECONDARY COLORS. Best to start with red than blue or yellow as the yellow over the gray diverts the color to green, and will be harder to steer the resulting to orange and other colors.

FOR EXAMPLE:
Red: Carmine Garanza, Cadmium Red.
Yellow: Clear Cadmium.
Blue: Ultramarine.

## Recommendations before starting exercise.

These exercises are based on the tempera with grisaille made in the T.U. 13. If the gray scale is correct and raised three or four variations of intensity differences and well structured, the glazing that have to be overlapped will guarantee to have enough success, but if not done
properly the gray scale the next phase of work would become very complicated. We recommend beginning to apply the glaze at the same time in both the free and on the model and be more comfortable when doing overlays, maintain minimum drying times between layers of glazes.

To develop the works with a free theme properly during course will need a continued teacher-student dialogue through tutorials, and keep up to date portfolio-book alternative, where we can assess in advance the chances of success of the various proposals for thematic free.

In class there will be showed examples of exercises performed by students from previous courses.
(It is essential timeliness and presence at all meetings to lose the track of work).

## Valuation criteria

- Housekeeping in the painting process always affecting the proper conduct of the work. (10\%)
- Support stable relationship, the primer, the paint layer and the final treatment. (10\%)
- Adaptation of the primer to the painting process. (10\%)
- Proper handling and processing of the painting: Hydrated and bonded pigments. (10\%)
- Expressiveness of support, materials and textures of the work. (10\%)
- Creativity, originality, and suitability between the aesthetic and the technique developed. (20\%)
- Composition. (10\%)
- Correct use of color in wealth and diversity of hues, saturation and desaturation, scales light to dark, and the relative transparency and opacity. (20\%)


### 15.9. BIBLIOGRAPHY AND WEB LINKS.

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## WEB LINKS

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[^0]:    ${ }^{1}$ VASARI, Giorgio, citado en MALTESE, Corrado (Coor). Las técnicas artísticas. Madrid, Ediciones Cátedra, 1980. Pág. 309.
    ${ }^{2}$ LAURIE, A.P.: La práctica de la pintura: métodos y materiales empleados por los pintores. Trad. de M. López y Atocha. Madrid, Ed. Hernando S.A., 1935, p. 38.

[^1]:    ${ }^{3}$ En BAZZI, María. Enciclopedia de las técnicas pictóricas. Barcelona, ed. Noguer, 1965, p. 212.
    ${ }^{4}$ Ibidem

[^2]:    ${ }^{5}$ In addition to the known sites (Germany, Austria, Spain, Italy, Switzerland, etc..). Americans painters also find these features with some technical differences, such as in: M. MORLLEY, J. Borofsky or D. SALLE.
    ${ }^{6}$ During this decade, an extraordinary number of new editions and new publications on painting techniques is produced.

