Remaining true to the infinite exceptions Art offers us in confirmation of the rule, a daring synthesis can be postulated that defines the physical material of a painting as generally consisting of: a support, a preparatory layer and one or more layers of paint film; the paint film in turn is formed from pigments (powdered colours that give it its hue) and a binder (a viscous, transparent fluid that when mixed with the pigments makes them spreadable, giving form to that which we properly call paint). Whilst all of these components act together in determining the final look of the painting, it is the binder more than anything else that influences the preeminent characteristics of the painting’s surface.

In addition, seeing that binders act upon the adhesive and cohesive properties of the paint substance and as such play an essential role in its constitution and unification, they are often the focus of conservation concerns that arise in paintings.

Fondazione Giorgio e Isa de Chirico’s initiative to publish in unabridged form the Maestro’s manuscripts containing his formulas and technical annotations, constitutes a unique event in the world of modern art where attention is more often focused on the semantic and iconographic contents of artwork rather that the means through which these are expressed.

Through these writings, one is given the chance to delve specifically into the medium (intended in the literal meaning of the word), guided by the author on a fascinating voyage into the very materials that constituted his daily and incessant technical research, carried out in parallel to the vast artistic and philosophical discussion that characterised the status of Pictor Optimus embodied by Giorgio de Chirico.

The disarming and indubitable wealth of information contained in these writings, clearly destined for the most part (as is easily understood by their form), to a contingent and personal usage, offers vivid testimony to the artistic nature of the Maestro, who is revealed to the world as a voracious researcher; whilst his return to figurative and classical iconography had caused him to be considered a revolutionary. These writings constitute an unparalleled instrument for furthering study into the material realm of de Chirico’s painting, studies that, prior to the revelations contained in these “recipes”, seemed to lack fundamental data which until now could only be hypothesized or intuitively grasped.

In parallel to the first-ever publishing of this corpus of documents, samples of the formulas were produced following the precise indications of the “ingredients” and the “dosages” of the binders used.
by de Chirico for an extensive group of works executed during the late 1950s and early 1960s. These samples will have to undergo an apposite artificial aging process, after which they will be put through stratigraphical chemical testing aimed at identifying the number of functional groups present in the complex mix of organic substances that compose the variegated family of these paint mediums. The results obtained through the testing of samples whose composition is known ab origine, will constitute an indispensable source of reference, which can be applied to the analytical comparison of binders and the identification of the organic substances contained in the paint layers of works put under examination.

This knowledge, which could not be acquired without the comparative data that the reproduction of these formulas is capable of providing, will constitute a fundamental tool for both historians and conservators. Although the latter recognize the exceptional complexity of the Maestro’s work, until now they have not had the necessary instruments to further knowledge on the substance mixtures present on the canvases. Consequentially, it has not been possible to formulate the correct diagnosis and appropriate “cure” for the various kinds of deterioration paintings are subject to over the years.
Technical Note

For the publication, it was important to maintain and transmit the spontaneity of these notes, which were often jotted down on the first piece of paper available while the Maestro was busy at work and which he conserved in his studio without feeling the need to organize or classify them. With the simple aim of facilitating the reader, they have been transcribed as faithfully as possible, and subdivided in four large groups:

Preparation and Primers: formulas used to prepare the raw canvas for paint application or to adapt commercially prepared canvas with a layer acting as an interface (primer) for special painting requirements.

Mediums: mixtures of binding and additive substances for diluting and amalgamating pigments often used in alternative or in addition to ready-to-use paints sold on the market.

Complete Recipes: notes in which the Maestro indicated the complete procedure with which a painting was to be carried out, from preparation to the final varnishing, through the layering of multiple stratum of paint.

Works on Paper: notes dealing with methods for drawing and painting on paper.

The binders used in the production of preparations, primers and mediums, vary from those of a polysaccharide-protein nature (based for example on egg-milk-casein-glue and/or gum) and hydraulic emulsions to which lipid components are added (oil and natural resins), to formulas of a “fat” nature, containing siccative oils, wax and resins (including varnishes).

The freedom with which de Chirico mixed and layered these ingredients makes it impossible to examine the formulas according to previously established categories without being aware, at least for a good part of them, of the risk of making improper or imprecise definitions. It is for this reason that no further classification was made, in the hope that sufficient information has been provided to allow the reader to autonomously orient themselves in the intricate, fascinating labyrinth of Giorgio de Chirico’s technique.

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1 The transcription of the formulas was carried out by Lycia Giola Pavia and Alessandro Pavia.
Sur les ombres, frotte du ton de vermilion, bleu de Prusse et blanc.

- Cadmium, terre de Canel et blanc.

Vermilion, bleu, vert émeraude, jaune de Naples, frotte avec laque jaune et laque rouge.

- Terre de Canel, bleu foncé et vermilion

- Vert émeraude et jaune de Naples.

- Frotte avec Terre Vert.

- Ton de chair : vermilion, bleu, jaune de chrome foncé, vert émeraude, jaune de Naples.

- Reflets du côté du côté du ciel. Frotte avec bleu de Prusse.

- Vermilion, blanc.

- Sur au ciel à base de Jaune de Naples, gris avec blanc avec Terre de Canel et blanc.

- Cobalt, vermilion et laque.

- Ton d’ombre : terre de Sienna nat. et laque jaune.

- Ton de montagne, oui frotte du noir bleu et bleu de Prusse, quelques tons de vert émeraude et blanc.

- Ton de chair : Terre d’Habé, bleu, vert émeraude, Terre de Sienna, frotte mat. et Terre de Canel

- Jaune pâle, Ocre jaune, Terre de Canel, bleu.

Terre d’ombre mat, jaune de Naples, jaune de jaspe, vert émeraude, bleu-vert rouge et blanc.

- Ton de mes : Terre d’ombre naturelle, bleu de Prusse un peu de chrome, éclair...
Sur les ombres frotter le ton de vermillon, bleu de Prusse et Blanc.
- Cadmium, Terre de Cassel et Blanc
- Vermillion, blanc, vert emeraude - jaune de Naples
  frotter avec laque jaune et laque rouge.
- Terre de Cassel, blanc foncé et vermillon
- Vert emeraude et jaune de Naples
  Frotter avec Terre Verte

Ton de chair: vermillon, blanc, jaune de chrome foncé avec vert emeraude, jaune de Naples
Reflets du côté du ciel très franc avec bleu de Prusse, vermillon, blanc.
Sur un ciel à base de jaune de Naples gris revenir avec terre de Cassel et Blanc.
- Cobalt, vermilion et laque
- Ton d’ombre: Terre de Sienne nat. et laque jaune.
- Ton de montagnes: sur frotter de noir blanc et bleu de Prusse quelques ton de vert emeraude et
  blanc.
- Ton de chair: terre d’Italie brulée, blanc, vert emeraude, Terre de Sienne brulée nat. et T. de S.
  brulée.
Jaune paille, ocre jaune, Terre de Cassel, Blanc
Terre d’ombre nat., jaune de Naples, jaune de Zinc, vert emeraude avec brun rouge et blanc.
Ton de mer: Terre d’ombre naturelle, bleu de Prusse un peu de chrome clair

Translation
On the shadows rub tones of vermillion, Prussian blue and white.
- Cadmium, Cassel brown and white
- Vermillion, white, emerald green, Naples yellow
  Rub with yellow and red lacquer.
- Cassel brown, dark white and vermilion
- Emerald green and Naples yellow
  Rub with green earth.
Flesh colours: vermilion, white, dark chrome yellow with emerald green, Naples yellow.
Reflections in the area of the sky with pure tones of Prussian blue, vermilion, white.
On the sky with a base of Naples yellow-grey pass a second time with Cassel and white.
- Cobalt, vermilion and lacquer
- Tone for shadow: raw Italian earth and yellow lacquer
- Tone for mountains: lightly rub black, white and Prussian blue, some emerald green and white
- Tone for flesh: burnt sienna, white, emerald green, burnt raw Italian earth and burnt sienna.
Straw yellow, ochre yellow, Cassel brown, white
Raw umber, Naples yellow, zinc yellow, emerald green with red brown and white.
Tone for sea: raw umber, Prussian blue, a bit of light chrome
Impremitura: Gomma d'albero, aceto, male

6 gennaio 1963

1 parte gomma d'albero
5 parti acqua

(Scioltà a bagni Marè)

1 parte aceto
1 parte male

Con questa miscela si può diluire la pasta di polvere (pura o con polvere di carbone) a dare tanto su una tela preparata a tempera, quanto su una tela a olio, e anche coperta con superficie di colore a olio.

Le questi superimprimitura la tempera si cessa molto bene.
1. Primer: gumtree, vinegar, honey

1 part gumtree
5 parts water (melted in bain-Marie)
1 part vinegar
1 part honey

With this mix you can dilute white lead powder (pure or with charcoal powder) and use it on canvases prepared for tempera and for oil painting, or even on a canvas that already has a coating of oil paint.

On this super primer you can work with tempera very well.
You can work with oil paint or varnish on canvases prepared for oil painting on which a coat of white lead powder thinned in the solution described above has been applied.

6 January 1963
2. On canvas board

I casein and white lead
II casein and Ven. turp.
III pure dammar

3. Canvas preparation (Renoir)

First of all: a layer of fish glue and water (half and half)

Then:
2 soupspoons of zinc white
2 " of white of Spain
1 " Calcium Carbonate
2 " raw milk
4 " raw linseed oil
1 " dammar varnish
12-15 " glue (glue water)
1 teaspoon glycerine
1 " of honey

Let it boil slowly
Apply one or two coats
Then apply two coats of raw milk on the preparation, before painting.
4. Formula Rape of Lysippus' daughter

On canvas prepared for oil paint or with paint already on it, coat with:
2 parts of Venetian turpentine - thinned in:
3 parts of methylated spirit
Add:
3 parts of gumtree diluted in water

Stir well with a hard brush
Add:
1 part white lead powder and a bit of black
Stir well and then leave the mix to rest for 2 hours. Then apply on the canvas. If the first layers break up and form drops, insist until the surface is smooth.

1 November December 1962

5.

Little casserole almost full
Two sheets of glue
15 teaspoons gesso
1 “ glycerine
6. Technique Rape of Lysippus’ daughter

Oil canvas.
A layer with casein glue and white powder (1+1)
1 coat of Ven. turp. melted in alcohol
1 coat of Ven. turp. in alcohol + gumtree melted in water (1+1)
1 layer of Lefranc Vernis à Tableaux

27 Nov. 1962

7. 19 January 1962

In a cup:
1 teaspoon gum arabic and 2 teaspoons water - stir fast -
Then add, stirring, 1 teaspoon honey and 2 teaspoons milk

Canvas prepared with gesso.
Quantity of tempera as above, add 5 teaspoons of white lead and dissolve well
Prime the canvas.
8. 1-23-1962

1 teaspoon egg
4 " gum arabic (1 gum - 2 water)
+ half honey

On canvas prepared with gesso
white lead with tempera as above
1 white lead + 1 tempera
9

1 gum
5 water
1 vinegar
1 honey

16 January 1963
On oil canvas (or already painted) apply
1 part white lead
3 parts emulsion see above

10. 18 February 1961
Tempera

1 yolk
1 little [spoon ed.] vinegar
2 little oil
2 little milk
1 little turpentine
1 little water
1 little honey

On canvas prepared with gesso, before working
2 coats of this emulsion, with water
1 emulsion + 2 water
11. Rubens technique

1° Duco
2° casein - white lead -
3° varnish - charcoal

12. Duco - varnish - carbonate
Ven. turp. and rosin
Vernis
good recipe

Rubens material
1° Duco
2° rosin spirit and white lead powder
2° rosin spirit
3° Lefranc varnish

13. Rubens formula

1° Duco
2° Vernis (?)
3° white lead powder with rosin spirit
4° Varnish with powdered charcoal
14.

1 little water lime
½ “ “ honey
2 little milk
1 little olive oil
Mix well with a hard brush
Add a lot of calcium carbonate until it becomes an easy paste to spread with the brush

23 January 1961

15.

Paint with tempera like this:
1 egg
1 teaspoon vinegar
1 “ honey
2 “ gum arabic

16. On bare canvas or wood panel

1° casein glue (1 casein - 10 water - ½ ammonia) with white lead powder
2° casein glue with Venetian turpentine. Ratio 1:1. - Paint with powdered charcoal or another colour
Let dry in the sun
See Cortina d’Ampezzo 39-61-28
17. Canvas formula A (20-30)

1° oil canvas
2° white lead and powdered raw umber thinned in rosin spirit + ess. turp.
1 yolk
1 medium spoon vinegar
2 big spoons of gum arabic (1 gum 3 water) – 1 medium spoon of honey (2 coats)
4° pure emulsion with powdered charcoal

18.

1 coat of glue
2 layers tempera primer
(2 parts clay
2 parts zinc white
7 glue
½ part glycerine)
1 coat boiled oil

Apply on half of the canvas: 1 coat titanium white with boiled oil and a little bit of siccative
19. Last formula

1° Duco on canvas prepared for oil
2° Lefranc varnish
3° A layer of white lead powder thinned in tempera emulsion:
   1 yolk – 1 medium vinegar – 5 big gum arabic
   (2 gum 3 water)
   – 1 medium honey)
4° one coat with tempera emulsion as above –

Paint with powdered paint thinned in the above emulsion

N.B. avoid pasty brushstrokes of white on areas not yet dry.

28 January 1959
Formula 64
20. Rubens Primer

On canvas coated with Paciosi gesso with a palette knife:
- powdered white lead with a bit of black thinned in emulsion:
  - 1 yolk
  - 1 little vinegar
  - 2 little linseed oil
  - 1 little turpentine
  - 2 little milk
  - 1 little water
- Ratio of 1 part white lead to 2 parts emulsion
- Varnished with 1 big gum arabic
  - 1 big milk
  - 1 little honey

29 Nov. 1959

21. Rubens Primer

Canvas prepared for oil on cardboard or wood:
- I white lead powder ground with casein
  - glue (8 water – 1 casein – ½ ammonia)
- II dammar varnish emulsified in a small bottle with casein glue (one layer)
- III pure dammar varnish
22. Isa formula

This formula is very similar to the Rubens’ one.
On canvas prepared with gesso coat twice with this emulsion diluted with water in this ratio
1 part emulsion and 2 parts water.
1 yolk – 1 teaspoon vinegar – 2 teaspoons linseed oil – 1 teaspoon turpentine
1 teaspoon water and 1 teaspoon honey.

Separately prepare gum arabic – 1 teaspoon gum and 3 teaspoons water – add a teaspoon honey.
Add the gum arabic prepared in this way to the emulsion above: egg – vinegar – etc.

2 eggs
2 teaspoons vinegar
4 “ oil
2 “ turpentine
2 “ water

2 “ gum
6 “ water
2 “ honey
23. Emulsion - 2 January 1962

In a small empty Fat Oil bottle put turpentine (fill bottle) add a little piece of French wax - an eighth of a wax disc (2 grams of wax).
Melt the wax in the turpentine in bain-Marie. Once dissolved pour the turpentine in a big empty Maimeri turpentine bottle. Add an entire small bottle of Fat Oil. Close and shake well.

24. Emulsion - 2 January 1962

1 egg
1 teaspoon vinegar
1 teaspoon honey
2 teaspoons gum arabic (1 gum 2 water)
25. Formula I

In a small stand oil bottle [empty ed.] put one part stand oil and one linseed oil fill the bottle ¾ ca. In the small bottle filled to above the label 3 little spoons dammar dissolved in the same mix. In a big spoon of linseed oil melt a little piece of wax the size of a bean -
Pour the melted wax over a cold surface and spread it with the palette knife – dilute it by pouring a bit of the mix in the bottle. Put everything in the bottle – shake well.

26. Formula Zu

A small disc of French wax, melted in bain-Marie in two small bottles of turpentine (little bottle Fat Oil) + the same quantity of Fat Oil
27. Formula – 5 August 1960

1 little oil
Add, stirring, gum arabic -
1 little gum - 2 little water.
and: two little milk
“ ” honey

28.

50 grams wax
3 big spoons turpentine
2 big spoons stand oil
Once dissolved
2 small spoons raw oil
“ ” turpentine

January 1, 1962

29. Formula

III 1 big gum arabic
IV 1 “ gumtree
(1 part gum - 2 parts water)
I 1 yolk
II little vinegar
V little honey
30. Tempera formula
1 January 1961

2 big arabic
1 little honey
1 big milk.
(Add a little bit of phenyl acid (?) dissolved in water)

To draw
Scrub powdered charcoal on the paper with a cloth.
- Draw with a pencil create the lights with a rubber
- For a chiaroscuro effect use Negro or Conté charcoal powder thinned with tempera as above.

31.

14 big spoons petroleum
7 " " Ven. turp.
melted in bain-Marie
wax (the littlest weight on the scale)
rosin = 1 big spoon
32.

1 small bottle oil
Lefranc linen
Put near heat but not directly on until it becomes very soft and viscous to the touch - (a little piece of wax at the end) -
Turn off heat
add 7 teaspoons raw oil

33.

1 small bottle Lefranc oil (big)
II drops terebine
1 little piece of wax cooked in a pan (not directly on the heat) for 40 minutes at least

34.

1 small bottle Fat Oil of turp.
with 1 eighth of a small disc of French wax
- melt in bain-Marie
- once dissolved
add a little bottle of Fat Oil.

2 January 1962
35.

1 yolk
1 medium vinegar
2 big gum (1 gum
3 water)
1 medium honey

36. Formula P.P.

To P. tempera,
mixed in a bowl, add
(pouring slow and
stirring with hard brush)
an equal part - 10 teaspoons -
of varnish (1 rosin spirit
- 1 turpentine) then, stirring
constantly, 7 teaspoons water
37.

Contents of a small Fat Oil bottle full of Maimeri linseed oil – cook for one hour.
Contents of a small Fat Oil bottle full of turpentine with an eighth of a little disc of French wax (2 grams of Wax) – bain-Marie.
Stir the turpentine with boiled oil wax.

4 January 1962

38. New Medium

1 = varnish – rosin
Spirit – ess. turp.

2 = tempera emulsion like “Triton and Nereid” painting formula

5 February 1959
39.

2 gum arabic (big)
3 water (big)
1 medium Fat Oil = poured drop-by-drop into the gum as above
3 milk (big)
1 little honey

2°
1 arabic (big)
1 ½ water (big)
1 little - Fat Oil
1 big milk
1 little honey

40. Triton Tempera

1 yolk
1 medium spoon vinegar
2 big spoon gum
arabic (1 gum - 3 water)
1 medium spoon honey
41.  
2 big wax  
2 big turpentine  
2 big stand oil  
2 big turpentine  
1 little turp. and terebine

42. Paint with tempera like this  
1 yolk  
1 teaspoon vinegar  
1 " honey  
2 " gum arabic

43. Formula 8  
1 rosin  
1 Ven. turp.  
2 ess. turp.  
Little piece wax  
Once dissolved add 2 turp.
Formula for emplastic oil

7 parts oil
1 part finely ground litharge
a little piece of wax

On a very low heat stir constantly with a little stick; try to pour a drop on a cold surface, if it congeals and has a good thickness when touched, take it off the heat; but be careful the drop is not too solid. Put the little piece of wax in the oil while cooking. When you have finished boiling it, take it off the heat, keep stirring the oil with the stick or a hard brush until it becomes dense.

It must prove difficult to stir.

24 August 1961
45. May 28, 1961

Poppy oil
4 big spoons in a terracotta pot.
On a slow heat for 60 minutes; put in
3 cloves of garlic. Let it boil for 30 minutes more.

46.

1 big wax grated
1 " turpentine
1 " Fat Oil
1 " raw oil

- Bain-Marie -
After cooling:
1 little raw oil
1 " turpentine
47.

7 little spoons linseed oil
1 " " litharge

On a very slow heat stir often - a little piece of wax - with teaspoons
The cooking lasts about 20 minutes -

Separately:
3 parts linseed oil
1 " dammar powder
- dissolve on low heat
- with varnish oil - dissolve dammar, before using it, with the litharge varnish

48. Last

1 big wax
1 big turpentine
1 big stand oil
bain-Marie
49. Formula (mixed)

With tempera: “Apollo’s Daughter”
1 egg
1 little vinegar
3 little gum arabic
(1 gum 2 water)
1 little honey
Dissolve oil paint in tubes - with a hard brush, insistently - put drops of tempera on the oil paint

14 August 1961

50. Ricetta A

Formula A
10 teaspoons linseed oil
½ " litharge

Cook it on indirect heat until it becomes almost solid to the touch
When done add oil with Mastic (1 medium bottle oil 3 teaspoons mastic) until it becomes greasily smooth - a little piece of Wax.
51. Formula: Women hugging and Knight (from Rubens)

To paint
1 (Fat Oil - wax - turpentine)
1 gumtree
1 linseed oil

You can dilute powdered paint, especially white lead, with Fat Oil emulsion - wax and turpentine, mixed with gumtree (1+1)

Formula of 3 February 1962

52.

1 bottle Maimeri oil
½ hour directly on the heat (when it’s almost done) 1 teaspoon grated wax
Before completely cooled a little raw oil
53. Formula A - formula tempera

1 yolk
1 medium spoon vinegar
2 big spoons gum arabic
(1 gum 2 water)
1 medium spoon honey
N.B. For the primer and for painting
dilute with:
2 parts (tempera as above)
2 parts and ½ water

The pure emulsion is only used to
thin white lead (conserve in a
tube) and for other touch-ups of white.

16 January 1959

54.

1 yolk
1 little vinegar
2 little oil
1 little turp.
1 “ honey
2 “ gum arabic
(1 gum 2 water)

Formula P
55. Tempera C

22 March 1959

1° Separately thin 3 parts linseed oil in 2 parts of powdered quartz -

2° Mix with a hard brush in a cup: 1 part gum arabic - 1 part water.

In one part (big spoons) gum arabic solution C.S. add 1 spoon little vinegar,

idem honey

3° in one part (a little spoon) oil and quartz, stirring small quantities add two

big spoons solution 2

At the end add a teaspoon water
56. Tempera B
18 March 59

1° formula A –
2° in equal parts, and in small quantities, stirring constantly, add the formula A to linseed oil and resin dammar in equal parts.
3° of 8 teaspoons of emulsion as above, add 2 water
4° At the end add 5 water
Thin the colours with tempera B, and paint with the same; while working you can dip the brush in water.
57. [Luigi] Zuccheri formula

Formula I

Gum arabic (1 gum
2 water) - salicylic acid
Honey 1 teaspoon
water - half shell
Salicylic acid - 1 pinch
Beat the yolk
While beating continuously
add half shell gum
prepared as above
At the end half shell
water

Formula II

One egg white -
Beating hard add raw linseed
oil (half shell) and half shell
water.

58.

1 casein
4 water
1 ammonia
2 ½ boiled oil
1 mastic
½ glycerine
2 casein
1 water
On canvas prepared with gesso coat with white lead thinned with:
1 yolk
1 little vinegar
4 little gum arabic
(1 gum 2 water)
Paint with the same tempera. Varnish with Vernis à tableaux.
Finish with oil paint diluted in rosin, spirit and turpentine

1-17-1962
60. Formula – Rubens
18 June 1962

Oil Canvas – a coat of calcium carbonate mixed with Lefranc dammar varnish (1+1)
After drying apply a layer of fish glue dissolved in water.

Paint with:
1 Venetian turpentine
1 dammar powder
1 ess. turp.

Bain-Marie
Once dissolved add 6 Essence of turpentine
61. Formula Rubens horse  
(Battle of the Amazons)

On canvas prepared with gesso apply 5 coats (old emulsion - 1 yolk - 1 little vinegar - 2 little oil - 1 little turpentine - 1 little water) these five coats with old emulsion and water - 2 parts water - 1 part emulsion - a sixth coat with pure old emulsion.

Colours diluted and painted with the follow emulsion:
1 yolk
1 little vinegar
2 little oil
1 little turpentine
1 little honey
2 little gum arabic
(1 gum – 3 water)

10 June 1961
62. Apollo’s daughter

1 Duco

2° one coat ground white lead with Tempera (egg - gum arabic - honey)
One coat pure emulsion tempera

Painted with powdered colours mixed in tempera as above

Emulsion made on the 14 June 1961
1 egg
1 little vinegar
3 “ gum arabic
(1 gum 2 water)
1 little honey

63. Primer

Tube paint dissolved in turpentine - Terebine - then varnished with dammar
Lefranc surfin

Painted with:
Ven. turp. 1 + dammar powder 1
+ ess. turp. 2 (bain-Marie)
After solution added turp. 2
On a bare canvas coated with palette knife powdered paint thinned with tempera: 1 yolk – 1 vinegar – 2 linen – 1 turpentine – 1 water – This tempera then varnished with gum arabic and honey – Painted with tube paints dissolved in Venetian turpentine diluted with cold Essence of turpentine

12 November 1959

65. Fragonard drawing-style painting

1° Primer: Duco + varnish
2° Solvent – Ven. turp. + essence of turpentine 1+1
66. Tempera

Bare canvas
Apply 2 coats white lead thinned in
1 yolk - 1 little vinegar - 2 oil
- 1 turpentine - 1 water
(1 white lead - 1 emulsion)
Varnish with gum arabic,
honey - 1 big gum arabic -
2 big water - 1 little honey.

Paint with:
1 big milk
1 big gum arabic
1 little honey

For canvas 40x50
2 big white lead
2 " old emulsion
Complete A

Canvas prepared for oil = coat with titanium oxide, silver white, with turpentine and Terebine
Then apply two coats powdered white lead thinned in:
1 big spoon gum arabic
(1 gum 2 water)
1 teaspoon honey (dissolved in gum)
1 big spoon milk

Varnished with dammar
Painted with oil paint dissolved in:
1 part Venetian turpentine
1 " dammar powder
1 " essence of turpentine
(bain – Marie)
Once dissolved add 6 parts Ess. turp.
68. Rubens technique

On oil canvas: 1° casein and white lead (1 casein 8 water ½ ammonia) – one coat –
2° two layers with emulsioned casein with Vernis à tableaux (1 casein 1 varnish)
3° a layer with Venetian turpentine dissolved in spirit
4° a layer with gumtree mixed with rosin dissolved in spirit (1+1)
5° a layer with Vernis à tableaux
(you can also do without the emulsion: casein - varnish)

Solvent:
turp. 2
Ven. turp. 1
+wax + mastic in drops
69. “Hope” technique

Bare canvas: coat with the palette after thinning in a pot with hard brush:
1 big spoon white with a little bit of black, together with 1 big spoon old emulsion
For a canvas 40x50 you need 2 big spoons emulsion
Let it dry in the sun or on the heater
Coat with a soft brush gum arabic and honey -
(1 big spoon gum - 2 big spoons warm water, stir immediately with a hard brush - add, while stirring, one teaspoon honey) -
Coat with brush, and at the end spread lightly with fingers.
Paint with: (thin and paint)
1 big spoon milk
1 " gum arabic
1 little honey (as above)
70. Formula 4 January 1959

On an oil canvas primed with Duco and Vernis (on the priming thin the emulsion with 50% water):

Powdered white lead thinned in a tempera emulsion: 1 white lead 2 tempera emulsion: 1 yolk - 1 medium spoon vinegar - 2 big spoons gum arabic: (1 gum, 2 water) 1 medium spoon honey

Paint with powdered paint ground with emulsion as above

Varnish with dammar and Vernis à Tableaux

Finish with oil paint dissolved in 1 part essence of turpentine and 1 part rosin dissolved in spirit.

(See formula A) corrected on 16 January 59
71. Monochrome print technique made from Rubens’ S. John’s head

Oil canvas = coat with oil paint in a tube with turpentine and terebine
Varnished with Lefranc dammar varnish
Painted with oil paint dissolved in the following varnish:
  1 part Venetian turp.
  1 “ dammar powder
  2 parts ess. turp.

  - Bain-Marie solution -
  Made the solution added 2 parts ess. turpentine

5 June 1961
Canvas prepared with gesso - 2 coats:
1 egg, 1 teaspoon vinegar - 2 teaspoons oil,
1 turpentine - 1 water - then 8 teaspoons
water.
2 coats with the same emulsion with white lead:
1 white lead - 2 emulsion
2 coats with the same emulsion
Then:
1 layer white lead with emulsion (2°). 1 egg,
1 teaspoon vinegar - 1 teaspoon honey -
2 teaspoons gum arabic (1 white lead
2 emulsion)
Sketch with paint thinned in 2°
emulsion - dissolved in the same one - Varnish
with gum arabic and Vernis à retoucher;
or a bit of one or the other -
Retouch with oil paint and varnish

Oil canvas -
Prime with oil paint
and emulsion: boiled oil - dammar
varnish - water glue.
Coat three or four times with pure dammar

To paint
Colours diluted in:
3 big spoons Ven. turp. and ess.
terp. 1+1
3 big spoons raw linseed oil
1 green cap of grounded wax
(put oil and wax in a pot on a
moderate heat - when the wax is
melted add the Ven. turp. + ess. turp.
(circumference of the green cap)
74. Formula P

Primer
1° gesso on canvas
2° two coats with emulsion (as below) and water 1 emulsion + 1 water
3° coat twice with white lead powder with emulsion - water 1+1

Emulsion medium
1 yolk
1 teaspoon vinegar
2 teaspoons linseed oil
1 teaspoon turpentine
1 teaspoon honey
2 teaspoons gum arabic
(1 gum - 2 water)

75. Tempera formula

14 Dec. 1960

Oil canvas
1 coat with oil paint with turp. and Terebine, 1 coat with (without varnish)
white lead powder thinned in:
1 big milk, 1 little honey, add
1 little raw linseed oil
emulsioned with 1 little limewater

(Paint with paints thinned with the same emulsion)
(Tempera primer ratio 1 white powder - 1 emulsion)
76. Nereids Painting

Preparation:
Canvas prepared with gesso = 2 layers (1 tempera, 1 water) old tempera: 1 yolk, 1 little vinegar, 2 little linseed oil, 1 little turpentine, 1 little water
2 layers with white lead with tempera: 1 white lead – 2 tempera and water (1+1)
2 layers old tempera and water (1+1)

To paint
Tempera = 1 yolk – 1 medium vinegar – 2 medium gum arabic (1 gum 2 water) – 1 medium honey

15 August 1962
Tried and found very good.
77. Old Tempera

1 egg/ 1 little vinegar/ 2 little oil/ 1 little turpentine / 1 little water –
Coat twice with half tempera and half water on canvas prepared with gesso –
Then apply two layers with half tempera and half water and white lead powder (1 white lead and 2 water tempera)

To paint
1 yolk
1 medium vinegar
2 medium gum arabic (1 gum 2 water)
1 medium honey
Good formula Nereids (Rubens) painted in August 1962
78. Technique of two women hugging and knight – 3 February 1962

Very smooth oil canvas –
Coated with:
1° one layer casein with white lead (1 casein 1 white lead) 1 part casein – 8 parts water – ½ part ammonia –
2° Venetian turpentine thinned in spirit –
3° Venetian turpentine and spirit with gumtree (1 part Ven. turp. and spirit and 1 part gumtree)
4° Vernis à tableaux (Lefranc)

Painted with 1 part Fat Oil mixed with
1 part essence of turpentine with
1 eighth (2 grams) of a small disk of French wax
Emulsion mixed with 1 part gumtree.
Part of white made with white lead thinned with emulsion
Fat Oil – turpentine – wax – and gumtree
79. Formula painting 30-40 Knights on the attack.

Canvas prepared with gesso - coated with white lead thinned in emulsion:

- 1 yolk
- 1 teaspoon vinegar
- 8 " gum arabic (1 gum 7 water)
- 1 " honey

Coated the canvas with white lead = 1 white lead 2 tempera

Started varnished tempera, then oil, with touches of tempera in white and light parts.

80. On canvas prepared with gesso

White lead (black) thinned with:

- 1 yolk
- 6 parts gum arabic
- 1 part honey
- 1 part vinegar

Paint with powdered paint thinned with emulsion as above.

Before painting with oil coat with varnish dammar.
81. Exact painting formula for the copy from Rubens

2 Nereids - very good result.
Canvas prepared with gesso. Coat twice with tempera and water 1+1
Tempera: 1 yolk – 1 vinegar – 2 teaspoons linseed oil – 1 teaspoon turpentine – 1 water.
2 coats of tempera as above and water 1+1 with white lead powder with water tempera as above
White lead 1 – water tempera 2.
2 coats water tempera as above
Coat with pure tempera as above – or 1 coat with pure tempera as below.
Medium
1 yolk
1 teaspoon vinegar
2 " linseed oil
1 " turpentine
1 " honey
2 " gum arabic (1 gum - 2 water)
Ricetta I. 22 febbraio 1959

82. Rubens Material

Canvas prepared with gesso
white lead with tempera (egg - gum arab. - honey)
Sketch with oil paint dissolved in turpentine.

Coat with tempera as above with hard brush, and a little bit of charcoal powder
Retouch with tempera and even oil and varnish (rosin – spirit – ess. turp.)
83. Formula used to paint the two Nereids by Rubens
2 October 1959

Canvas prepared with gesso: make 2 emulsions:
1°: 1 egg - 1 teaspoon vinegar - 2 teaspoons linseed oil - 1 teaspoon turpentine
1 teaspoon water - once the emulsion is made add 8 teaspoons water.
2°: 1 egg - 1 teaspoon vinegar - 2 teaspoons linseed oil - 1 teaspoon turpentine
1 teaspoon honey - 2 teaspoons gum arabic (1 gum - 2 water)
On canvas prepared with gesso coat twice with the emulsion and twice with white lead thinned in the same emulsion (1 white lead - 2 emulsion)
Then coat twice the 1° emulsion (and one layer of the second one)

Paint with colours thinned with the 2° emulsion
Sketch and varnish with Lefranc dammar
Put the finishing touches on with oil colours and with tempera colours (2° emulsion)
84. Two good ways of painting

Primer: Duco, Lefranc Vernis, terebine – turpentine (1+1)
Paint with this medium:
1 turpentine – incense
1 alcohol – incense
Finish with this medium:
Venetian turpentine
Essence of turpentine (1-1)

Priming:
White lead powder = 3
Raw S. powder = 2
thinned in 3 parts oil – 3 parts terebine
let it dry well
Paint with:
Venetian turpentine
Essence of turpentine (1-1)
85. 8 March 1961

1° oil canvas nailed on backwards.

2° coat with the palette knife calcium carbonate thinned with

- 1 yolk
- 1 little vinegar
- 2 little oil
- 1 little turpentine
- 1 little water
- 1 little honey

3° varnished with Lefranc dammar

4° Painted with oil paint dissolved in:

- 1 dammar powder
- 1 Ven. turp.
- 1 essence of turpentine
- Bain-Marie -

After adding 14 essence of turp.
1° prepare Nereids by Rubens like this (preparation)
Canvas prepared with gesso = two coats with old tempera and water (1 tempera + 1 water)
2 coats with old tempera and water (1+1) / 1 white lead 2 tempera and water
2 coats old tempera and water

Canvas prepared with gesso = (tempera) 1 red – 1 medium vinegar – 3 arabic (1 water 3 arabic)
2° 1 medium honey – on the canvas prime coat white lead with tempera (1 white lead – 2 tempera with a little black)
Paint with tempera as above and powdered colours
87. Rubens formula

Bare canvas -
With emulsion: 1 yolk, 1 teaspoon vinegar - 2 teaspoons turpentine and 1 teaspoon water; thin white lead powder with a pinch of black - Thin with a hard brush in a cup; thin well. Then with the palette knife, in small quantities, prime on the canvas pressing and coating evenly. Let it dry well.
After it has dried well (otherwise the primer will crack), coat with a soft brush: gum arabic, water and honey - in a ratio of: 1 big spoon of gum arabic, 2 big spoons water, 1 teaspoon honey. When done smooth repeatedly with your fingertips. Paint with powders thinned in
1 big spoon milk
1 " gum arabic (without honey)
1 teaspoon honey
Use this mix also as medium
22 November 1959
88. Whatman Paper

Hard brushes to coat in capricious way on the parts still fresh.
Use a lot of water for big surfaces: sky, ground, etc.
Use a brush that is less wet only for the details
- Never apply a second colour on one that is still humid.
- To lighten first dampen the area with clean water then scrub lightly with a cloth moving from the sides to the centre. Dry the paper well with blotting paper and rags; when they are dry, you can paint again on the washed surface.
- Use a sponge attached on a stick as a brush to draw long lines of colour; sketch volumes with rough outlines or soften the hard outlines.
To unify a flat colour follow this proceeding: when the colour applied is still wet, press lightly with a fine rag bunched up in a ball
**Manner of Drawing with Turpentine**

1. On a white normal paper, draw with a soft pencil (Faber or Negro) sketching the shadows too.
2. Coat quickly (with soft brush), one coat of turpentine on the entire paper.
3. Let it dry a little bit, then execute chiaroscuro with soft brushes dipped in turpentine and dissolving charcoal powder for the less dark colours and powdered black for the darkest ones.

Soften the outlines brushing with a dry brush or a light, slightly dry colour.
Paint the wide areas of colour with a hard brush.
90 Watercolour Paper Preparation

First smooth the paper well with sandpaper. Then coat once or twice with essence of turpentine.

22 October 1962

91 On paper

1° casein - white lead – (1 white lead - 2 casein)
(1 coat)
2° = casein – essence of turp. – Ven. turp.
(1+1)
1 casein 1 Ven. turp. + essence turp.
(2 coats)
3° Lefranc varnish with charcoal powder
(1 coats)

Tempera
1 yolk
1 little vinegar
1 big gum arabic
1 medium honey
(gum: 1 gum 3 water)
92. Watercolour formula
31 May 1961

Paper pasted on paperboard.
1 coat gum arabic (1 gum – 2 water) - pure or with a little bit of yellow ochre
spray a bit of Pelikan fixative.
Avoid strong fixatives or rosin
Dissolve the watercolour in equal parts of gum arabic and gumtree melted in water
Varnish (spraying) with fixative or rosin spirit.
93. Formula for coloured drawings and other works

On paper coat with:
Gum arabic (1 gum – 2 water) 4 big spoons + 1 teaspoon honey
Add a bit of white lead powder with a little yellow ochre, or black, or other colour, depending on the tint you want to use.
Thin powdered paint with a very little quantity of linseed oil
(in drops).
Paint thinned in this way should turn out opaque; you can leave them like this, also when they are dry, either on a palette or on a different surface. To paint dip the brush in the essence of turpentine and dilute the colours as you do with watercolours tablets.
1° Apply charcoal powder with a paper dipped in turpentine
2° Draw with pencil or charcoal - sketch the shadows with a smudging brush
   Touch with a wet brush, dissolving charcoal powder, or pencil, or Negro
   Draw with a well-sharpened black here and there and brush with charcoal powder or Negro.

Formulas translated by Veronica Ranucci

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1 Formula written on the pamphlet of a conference de Chirico held in Turin on 23 April 1958 at Palazzo Carignano: “Why and How Modernist Painting was Born” – “Modernist Dictatorship”. 