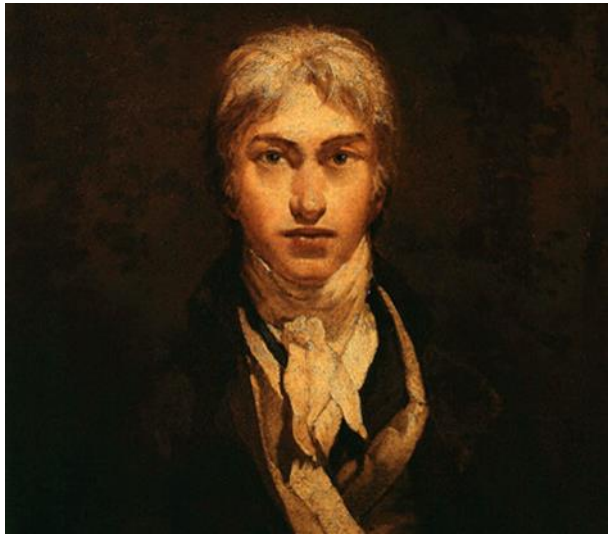
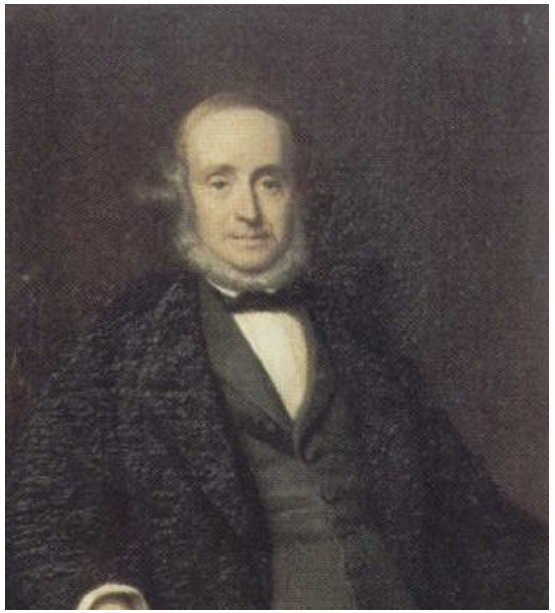

WINSOR
&
NEWTON™
Heroes and granulation

WINSOR & NEWTON™





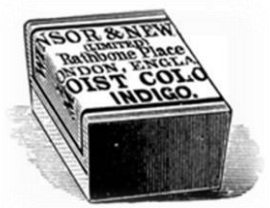
Winsor and newton came together in 1832 as an artist and scientist to make paint as accessible to artists as possible.

They worked closely with the JMW Turner to develop a palette that was as lightfast and permanent as possible they have since they began always tested all of their pigments since they began.

Winsor & Newton Watercolour

1832

William Winsor (chemist) & Henry Newton (artist) to bring chemistry and art together to make materials as accessible as possible to artists



1835

They created moist watercolour and invented Chinese white

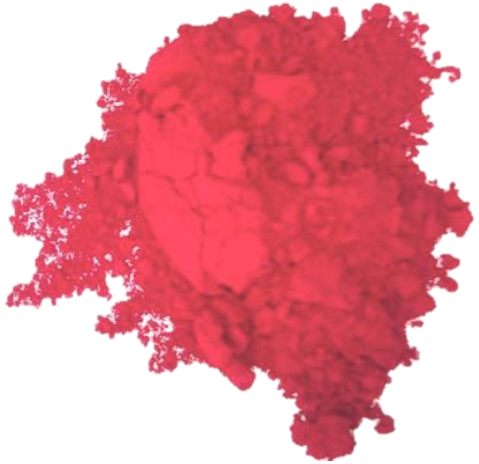
1892

The Composition & Permanence of Artists' Colours first published

Winsor & Newton watercolours are composed of:

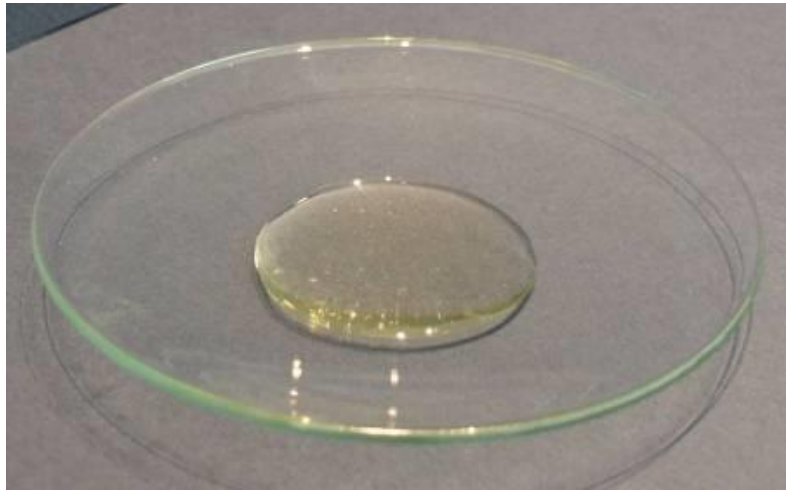
- Pigment
- Gum Arabic (binder)
- Glycerin – was introduced by Winsor and Newton

First major development :
glycerine with watercolour



+

+



Why glycerine rather than honey?
Because glycerin is a pure component, easy to produce, and dependable in performance and soluble over a long period.
Honey, on the other hand, is a highly complex mixture, comprised of a wide variety of compounds, any number of which can break down into undesirable components that remain within your paint film.

The HISTORY of the ARTISTS' COLOUR TUBE.

use
40
losed
k.

WILLM. WINSOR'S
First Patent Tube
1840
PATENT Nº 8394.

Early makes
OF
Metal Tubes
ABOUT 1841.

A B C

Specimens of Tubes manufactured by
MESSRS. WINSOR & NEWTON, LTD
UP TO PRESENT TIME.

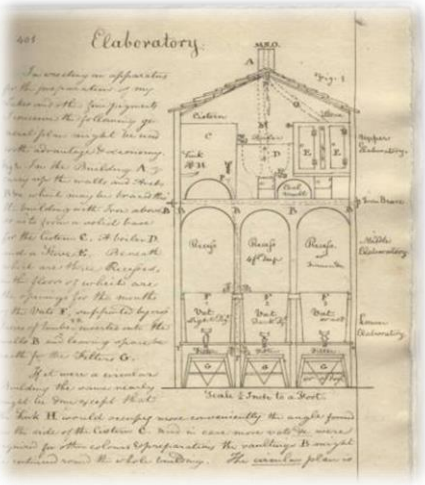
A. PATENT SPRING CLIP 1897. Nº 7402.
B. " SLOW DRYING CLIP 1905. " 10522.
C. " TUBE CAP 1904. " 28031.
" " " 1905. " 11435.

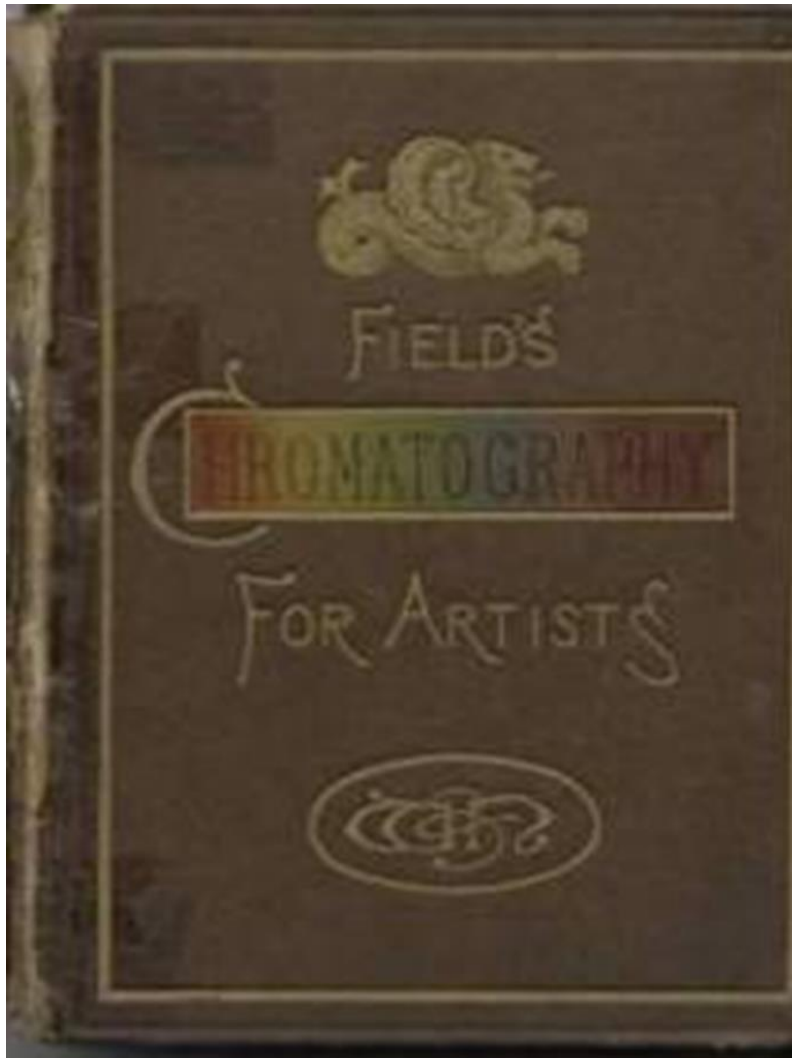
1ST August 1911.

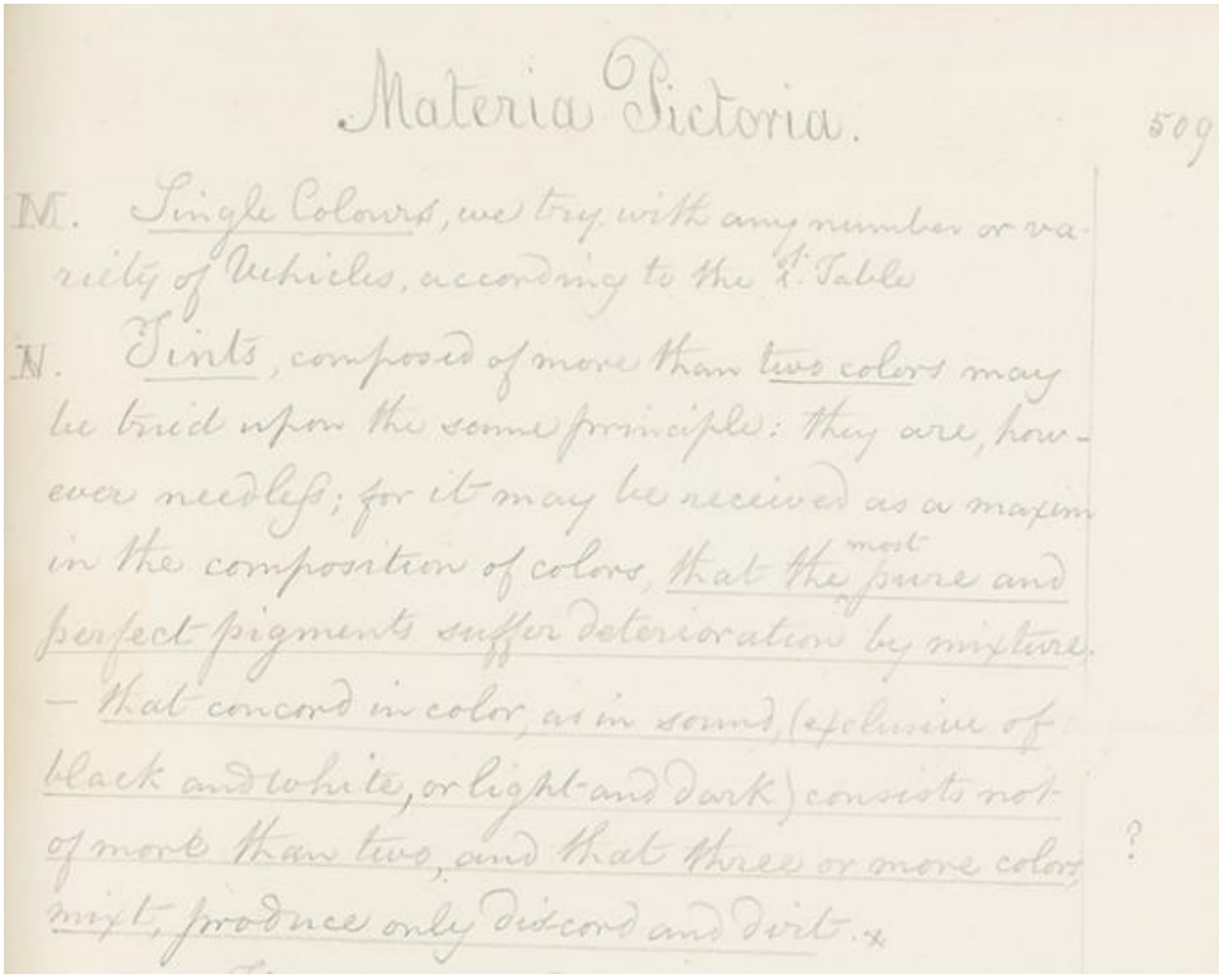
George Field

Outstanding colour maker

1777 - 1854







Materia Pictoria. 509

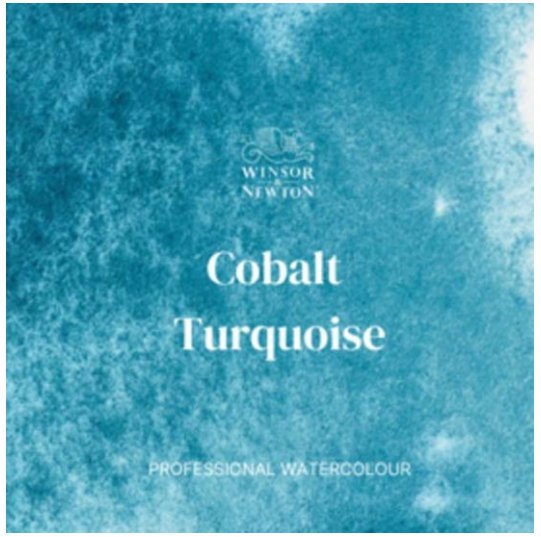
M. Single Colours, we try, with any number or variety of Vehicles, according to the 1st Table

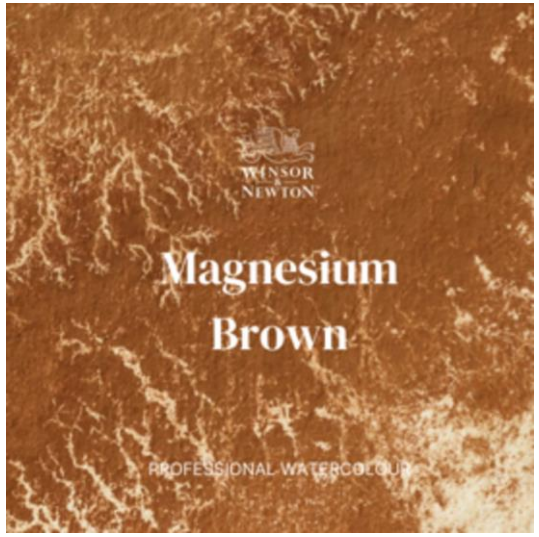
N. Tints, composed of more than two colors may be tried upon the same principle: they are, however needless; for it may be received as a maxim in the composition of colors, that the most pure and perfect pigments suffer deterioration by mixture. — That concord in color, as in sound, (exclusive of black and white, or light and dark) consists not of more than two, and that three or more colors mixt, produce only discord and dirt. ?

They acquired all of his notebooks
which contain all of his samples and research

Hero colours

Watercolour Campaign 2024





Venetian red PR101 a red earth very fine grain staining colour. An intense warm earth red favoured by Titian and located at the time by quarries near Venice, now a Synthetic Iron Oxide Red providing greater consistency of colour and texture

It was used as an ingredient in cinabrese, a tone, described by Cennini in his craftsmans handbook.

By 1809 George Field already refers to its artificial preparation from suphate of iron, redder and deeper than light red which was a calcining yellow ochre by burning yellow ochre.

In 1932 Winsor and Newton catalogues describe it as artificially prepared sesquioxide of Iron and patent literature of the late 18th C manufactured pigments were sold under traditional names including venetian red, as a manufactured iron oxide.

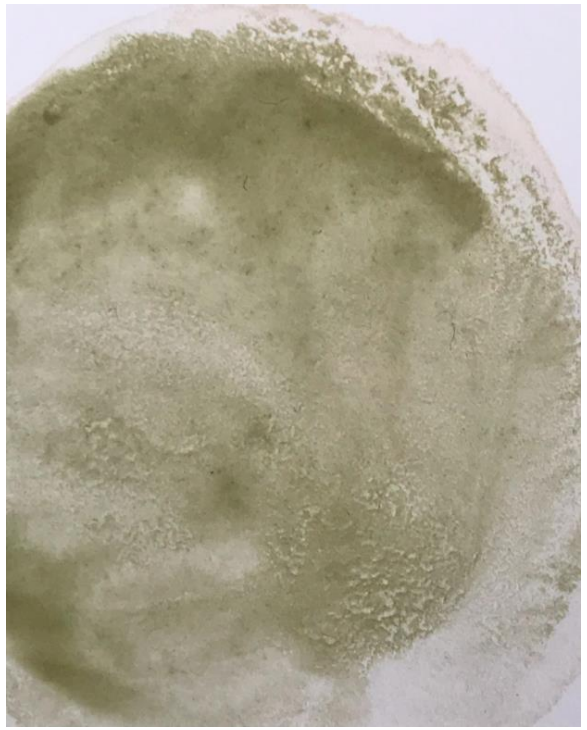
Titian on completion of the unfinished Entombment which was completeed by Palma Giovane who describes his technique (p414)

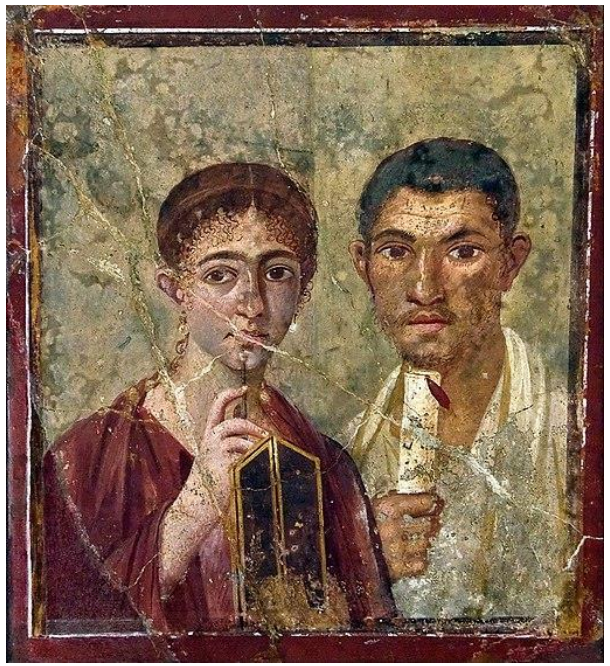
“He laid in his pictures with a mass of colour which served as a groundwork for what he wanted to express. I myself have seen such vigorous underpainting in plain red earth (terr rossa, probably ventian red) for the half tones, or in white lead. With the same brush dipped in red, black, or yellow he worked up the light parts and in four strokes he could create a remarkably fine figure...

Painters on painting Protter 1997 p414

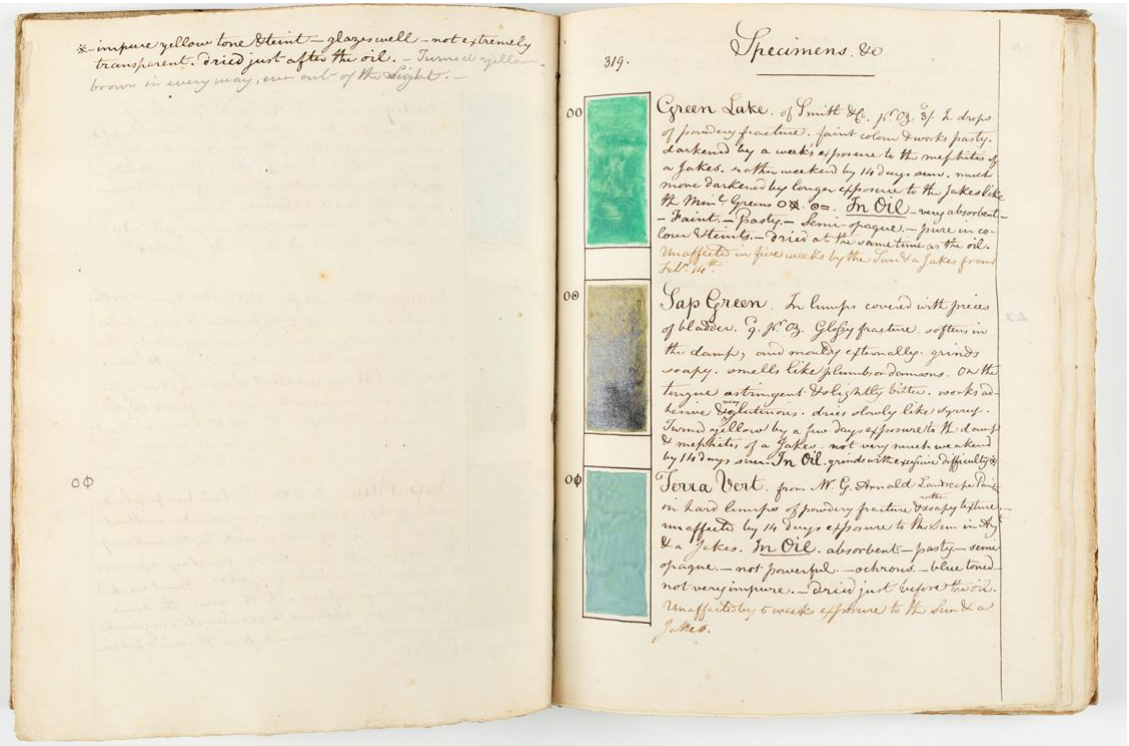
Terre Verte

Amongst the oldest known colours it has been used in painting since the Romans. Once a native earth, a green ochre, a bluish grey green, it has been used frequently in medieval painting . A beautiful delicate transparent green seen in frescoes and early Italian painting. When layered and used in underpainting, it offers subtle cool tones and beautiful greys can be achieved when using with its complimentary red.
Today its combination of pigments maintain consistency in colour where it was prone to lightening when drying and darkening with age.





Examples of its use in Pompeii



Specimens by George Field 1809

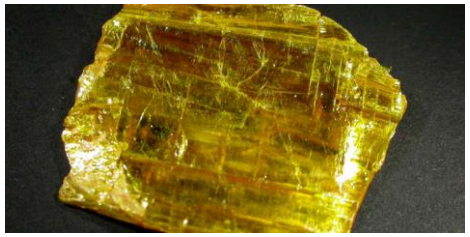
Terre Verte

“ Marden has returned to the monochrome, and to the expansive possibilities of terre verte (green earth), an iron silicate/clay pigment. Terre verte came into use during the Renaissance, its greenish hue and innate transparency serving as a base to balance flesh tones; Marden first used it in connection with the *Grove Group* paintings of the 1970s (exhibited at Gagosian New York in 1991).” Gagosian gallery

“I kept putting the same color on—the same color, the same color—but every time I put it on it was different. Each time it was this whole new light/color experience. It was not a revelation, but a whole wonderful new experience. . . . To me, it involves harnessing some of the powers of the earth. Harnessing and communicating.”
—Brice Marden

Lemon Yellow Deep - PY159

George Field introduced Lemon yellow as a colour name carrying out extensive research into creating yellow alternatives to the arsenic based yellows
Like orpiment.



238. Lemon Yellow, which takes its appellation, like orange, from the colour of the fruit of that name, is afforded by the metals of Platina, Lead, Zinc, Cadmium Arsenic and Chrome; of which the latter metal supplies the purest in relation to White and light.

239 The Lemon Yellow pigments of Chrome are in relation to their bases precisely analogous to those of the white pigments of the preceding chapter; – those of the Chromates of Lead having most body and least durability, – those of Barytes most purity and permanence, – while those of Zinc and Tin are intermediate in these respects; but as opaque body is less requi-

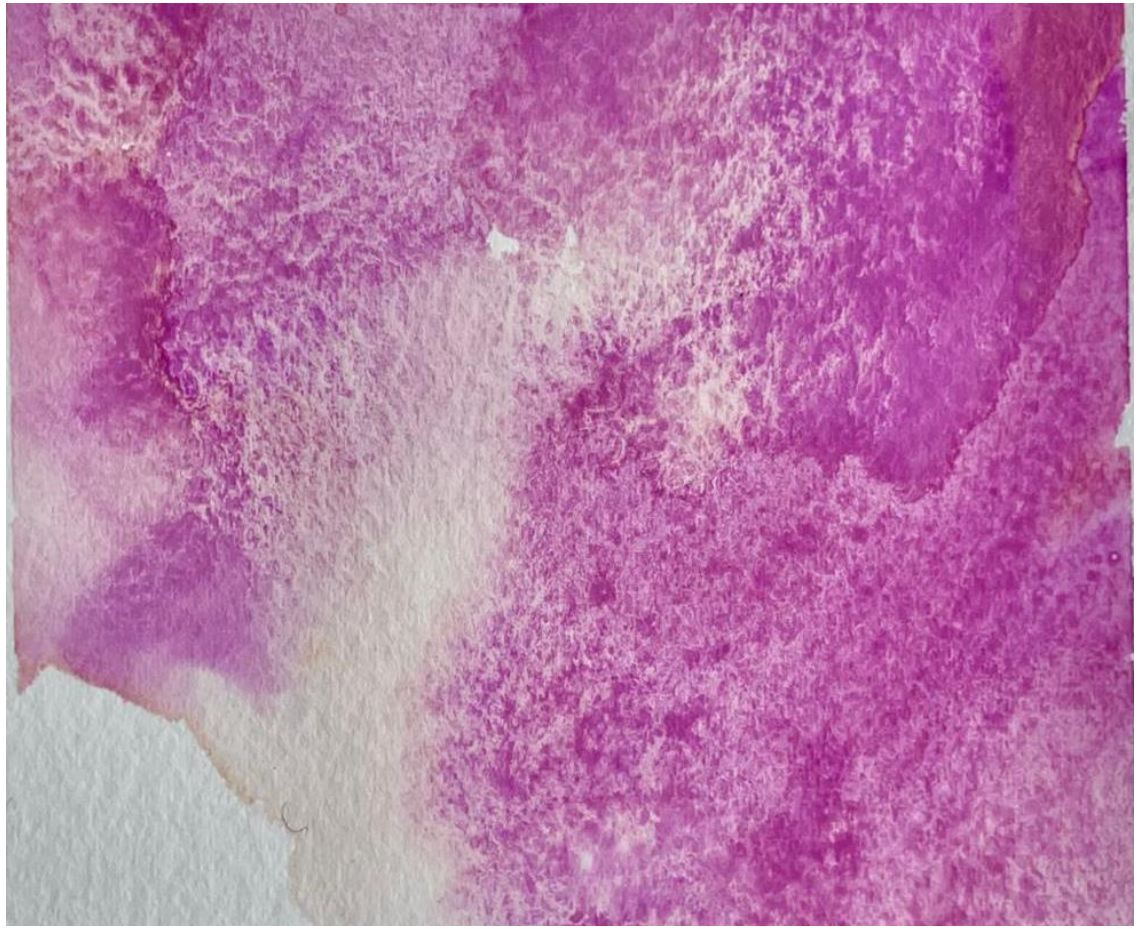
Lemon Yellow deep PY159

a deep shade of lemon yellow that provides subtlety in tone also adding texture, this pigment considered to be unusual in watercolour. Its natural granular character offers texture when added to other colours. This single pigment lemon yellow deep

provides beautiful extensions to the palette here mixed with

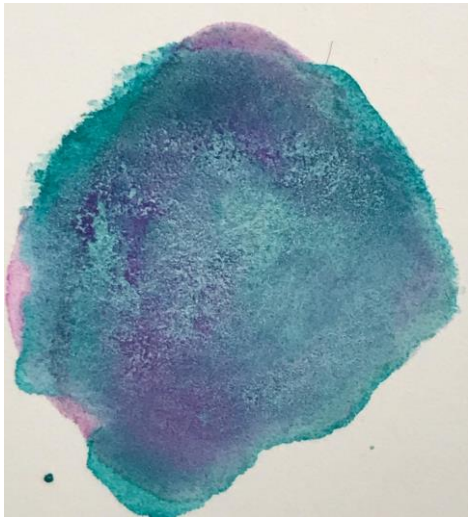
Manganese blue and cobalt violet, both colours have natural granular textures which are increased by the addition of the lemon yellow

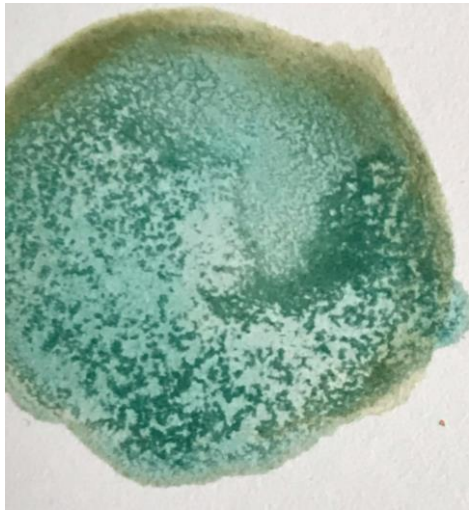
Cobalt Violet PV14 is a single pigment of this naturally super granular, beautiful colour first prepared in 1859 is an extremely permanent pigment possessing a delicate rose tinting strength



In Monet's waterlilies 1916, we know as the National Gallery explains; that his palette altered and included cobalt violet seen in this piece.

Like many artists at that time, he was concerned about lightfastness and discolouration that can occur by the combined use of some colours. He carefully selected his palette to avoid this, choosing also single pigments knowing the extensive control and expansion of the palette an artist has when working with single pigment colours.





Cobalts are loved for their 'natural' tones.

Cobalt Turquoise PB28 • PB36 is a blend of blue pigments. The name stems from the French 'Turquoise' for the semi-precious stone that was exported to Europe from Persia via Turkey.

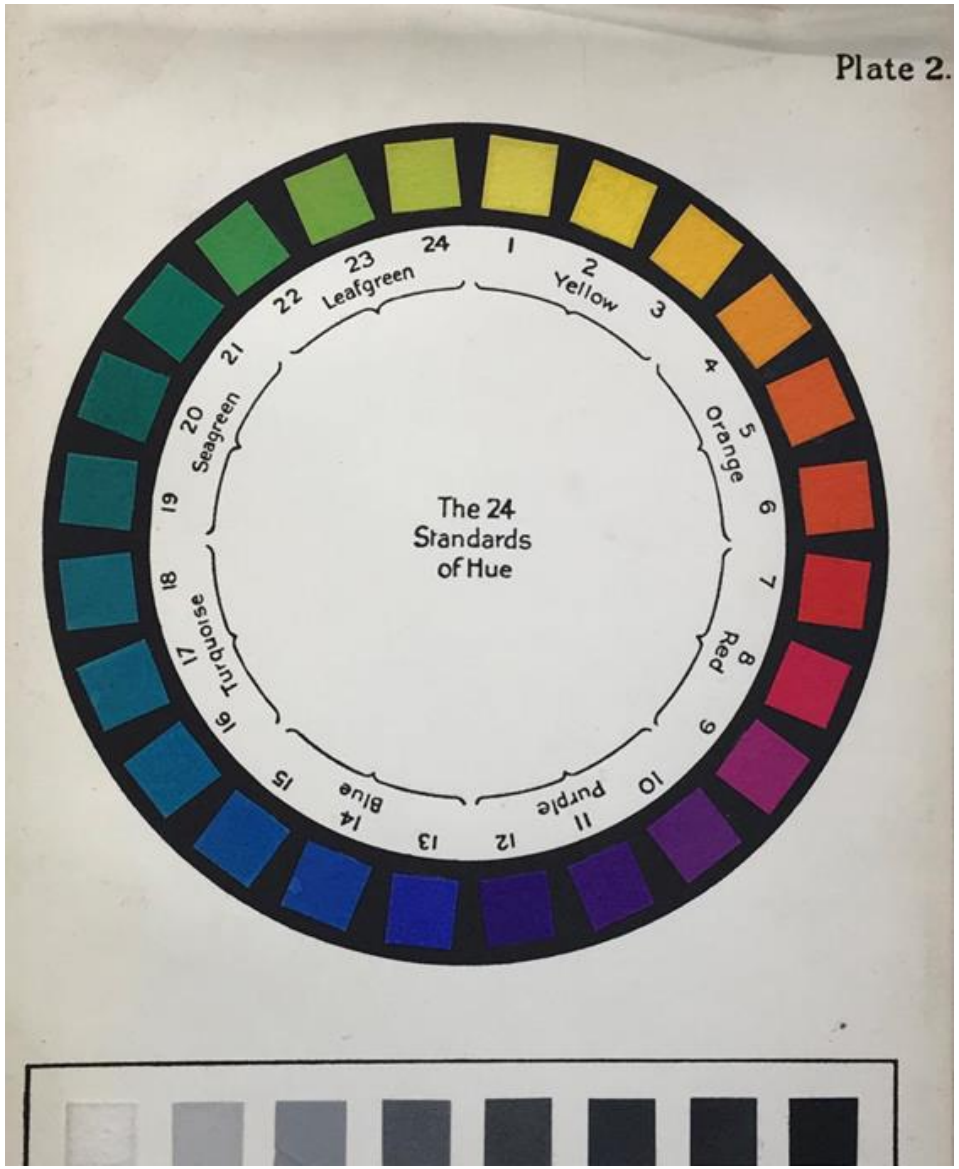
When mixed with other granular colours like cobalt violet to make beautiful deep textured violet tones and with finely granular colours like terre verte provides beautiful textured tints

In the same family, Cobalt turquoise Light PG50 is a bright and opaque turquoise with moderate tinting strength, giving coverage without overpowering mixtures or underpainting

The importance of turquoise is shown in Ostwalds colour theory. He identified that all of the colour groups in his colour sphere had at their core four basic hues: yellow, red, blue and sea green. Four further hues – when placed in between the core hues – created orange (between yellow and red), purple (between red and blue), turquoise (between blue and sea green), and leaf green (between sea green and yellow).

Ostwald recognised that the colours turquoise and sea green may be perceived as being too close, he puts this down to the fact we see very little of these colours in nature compared to the others, we see them in a kingfisher or types of butterfly but not in the same abundance as the other colours.

Winsor and Newton published both volumes of his colour and science.

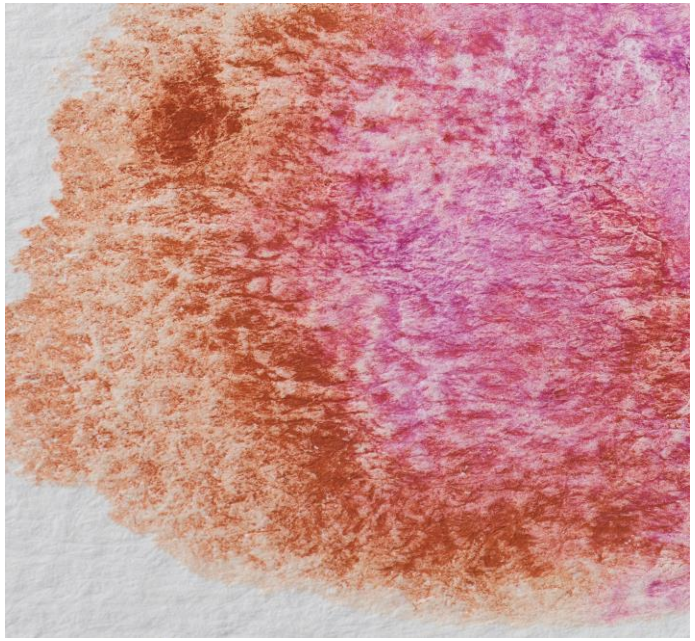


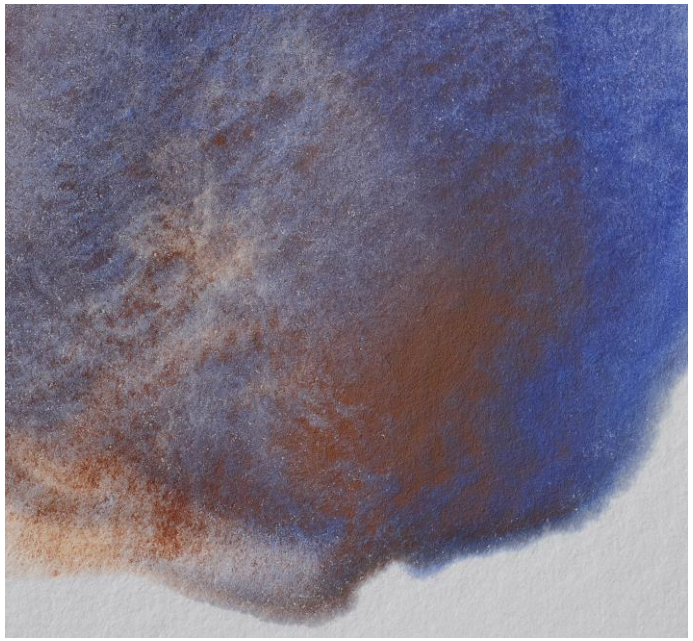
Hero colour 2024

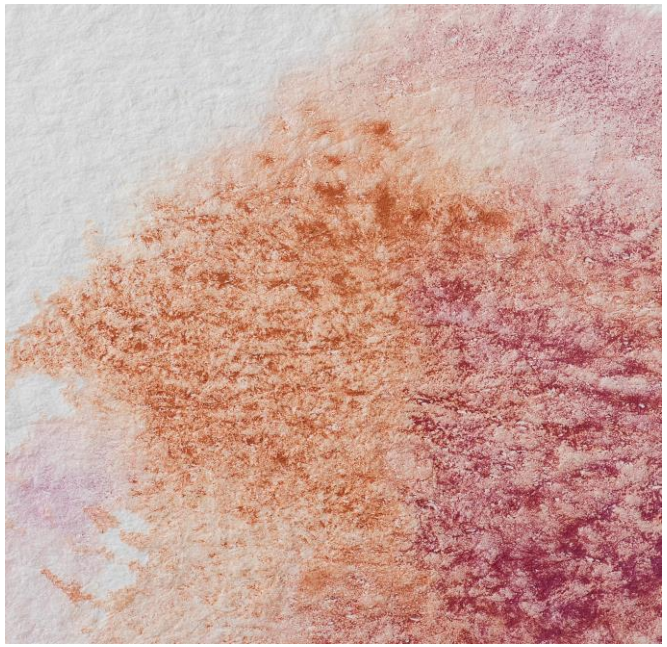
Magnesium brown PY119 a highly granulating colour, an iron zinc oxide with a yellow bias that provides beautiful warm, *super* granulation to other colours.

A fine deep opaque pigment useful in tone. Used here with cobalt turquoise it is distinct in its texture and shows the beauty of pigments when mixed and how you can enhance the granulation of both colours. Both naturally super granular and you can add granulation to non granular colours as well as providing stronger texture to granular colours.

Magnesium brown offers a strong super granulation when mixed with other granular colours, combined cobalt violet, lemon yellow, cobalt blue deep and permanent mauve



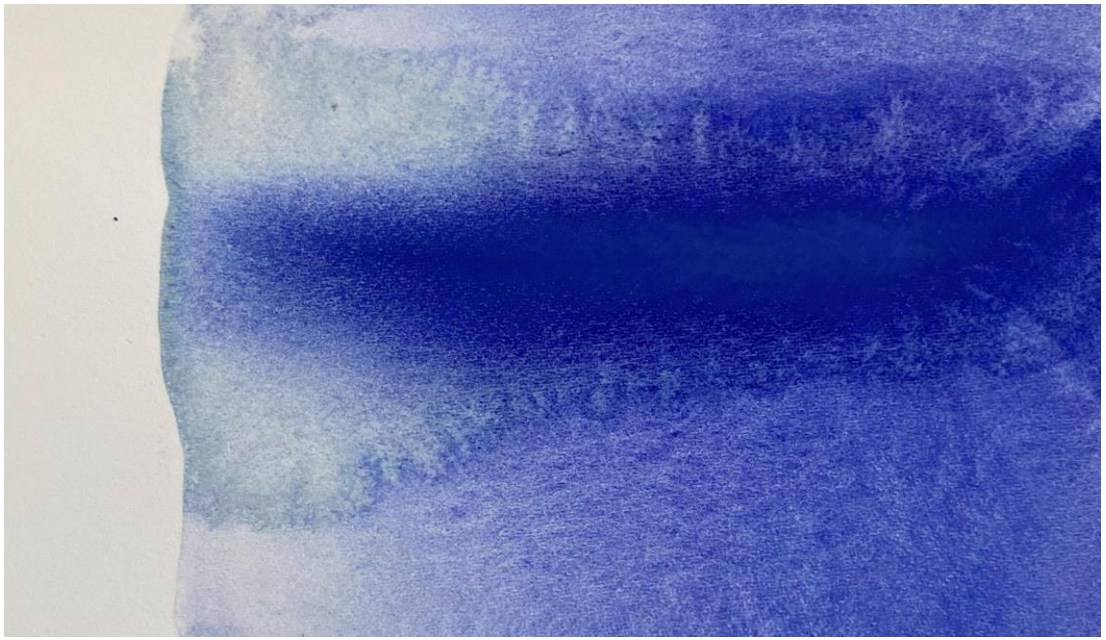




Granulation

When we talk about granulation we are talking about the fact that traditional natural pigments, such as azurite and lapis lazuli tend to have very large irregular crystals, whereas synthetic ultramarine has smaller more uniform crystals.

The granulation of some colours is prized by watercolourists to achieve texture on the paper. The more colours are mixed together the larger the quantity of water, the more granulation occurs.

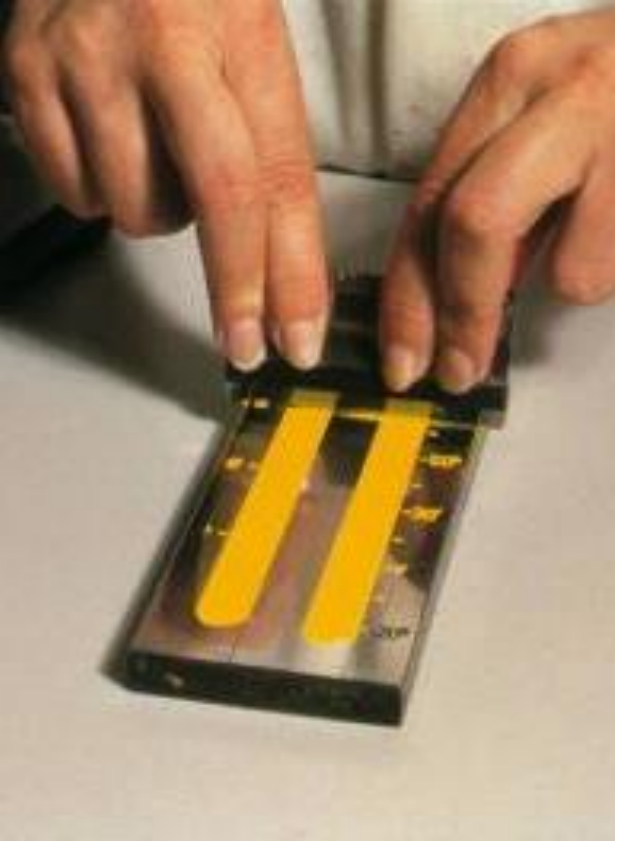


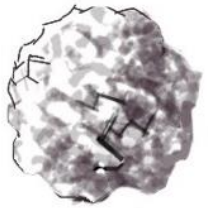
Wilton Diptych: Virgin and Child with Angels

Ultramarine

For centuries ultramarine made from Lapis Lazuli was highly prized a mineral from the sodalite group, the word ultramarine comes from the Latin ultra, meaning beyond, and mare, meaning sea. The French chemist Jean-Baptiste Guimet in 1828 created a synthetic alternative.

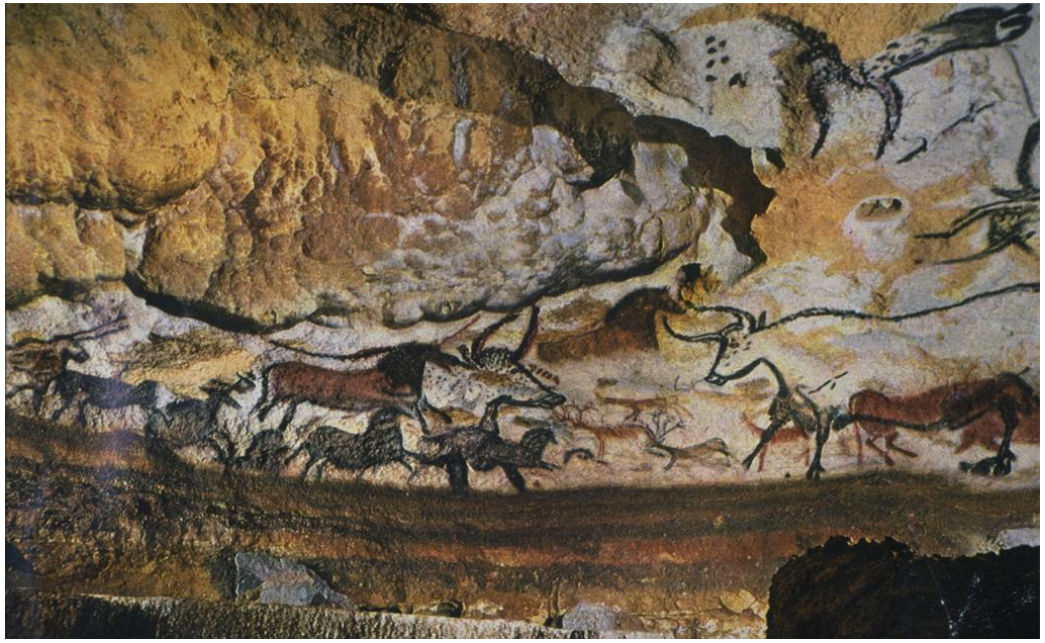
Like the **blue ultramarine**, there are different shades of ultramarine and the bias in original lapis, sometimes is described as a purple cast. A beautiful granulating pigment like its blue counterpart.





Size and texture of colour

Pigments need to be different sizes and textures in order to optimise their colour and beauty, therefore some colours will have greater granulation than others



Lascaux caves, 20,000 BC

Found throughout the world, in many shades,

from yellow to brown also know as a mineral yellow being a natural mineral – silica and clayOriginally made from natural iron oxides found in earth, it is one of the oldest pigments used by mankind. A synthetic version became available in the 1920s.

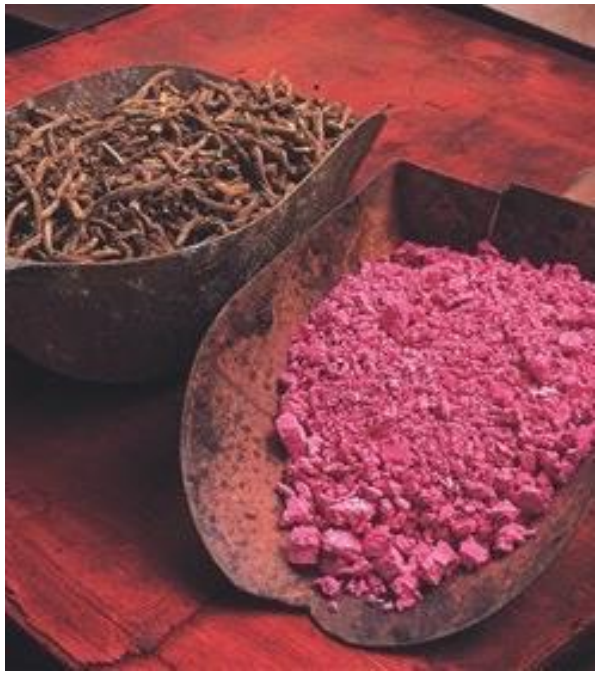
1st Century Fresco

Yellow ochre PY43

There are many other names for ochres and yellow hydrated iron oxides, usually based on color hue, production location, mining site, or manufacturing method, followed or prefixed by other properties such as raw, burnt or transparent etc. There are also many different traditional spellings of the word Ochre, Ocher, Ocre, Oker, Oaker, etc. There are also variances on the words oxide (Oxyde, oxid, etc.), Iron (di ferro, de fer, mars, Ferric, ferrous, etc.) and yellow (amarillo, juane, geel, gelb, lemon, citron, mustard, etc.). The yellow iron oxide pigments have an ancient history and because pigments often still use the traditional name, a multitude of languages have intermixed becoming an almost impossible list of varied phrases.

Caput Mortem Violet PR101 meaning dead an iron oxide also known as a red hematite, a word derived from Greek to mean blood. This warm violet brown with its purple cast, provides translucent shadows with its oxide violet nuance.
Used with chalk and ochre as a ground by painters of the late Baroque period this single pigment, it offers many toning possibilties when added to other colours

ROSE MADDER



22 Winsor & Newton Ltd.

Note on the

MADDER AND ALIZARIN COLOURS

Messrs. Winsor & Newton regret to find that the questionable practice of labelling Lakes prepared from Artificial Alizarin (a coal tar derivative used in dyeing, and assumed to be the principle of the Madder Root) as "Madders" is becoming increasingly prevalent among Artists' Colourmen.

They desire therefore to emphasise the fact that the undermentioned colours manufactured at their works are *Genuine Madders, made from the Madder Root by the old traditional processes* :—

Brown Madder
Burnt Lake
Crimson Madder
Crimson Madder, No. 2
Madder Carmine
Extra Madder Carmine
Madder Lake
Pink Madder
Pink Madder, No. 2
Purple Madder
Extra Purple Madder
Rose Madder
Rose Madder, No. 2
Rose Madder, Pink Shade
Scarlet Madder

There appears, however, to be no objection to the use of the term "Madder" as a designation for Lakes of artificial origin *provided that this fact is distinctively indicated on the label*. The painter is then in no danger of being deluded into the belief that he is employing the same pigments as those used by the old masters, a belief which the use of an old term of well-understood significance is otherwise calculated to foster.

Messrs. Winsor & Newton have therefore introduced the following colours to meet the demands of their customers for the cheaper form of Lake now commonly sold under the name of Madder :—

Brown Madder (Alizarin)
Rose Madder (Alizarin)
Crimson Madder (Alizarin)
Purple Madder (Alizarin)
Scarlet Madder (Alizarin)
Ruby Madder (Alizarin)
Madder Carmine (Alizarin)

Messrs. Winsor & Newton also wish to point out that the following permanent Alizarin colours—Alizarin Carmine, Alizarin Crimson, and Alizarin Purple—are sometimes sold as "Carmine," "Crimson Lake," and "Purple Lake" respectively, names which have, by the established usage of more than a century, been applied to certain pigments prepared from Cochineal. These Cochineal Lakes, however, although fugitive, possess certain qualities of colour which may be sought for in vain among the Alizarins, and there is consequently still a demand for them for use in certain classes of work where lack of durability is no drawback. While this is the case, Messrs. Winsor & Newton Ltd. propose to continue supplying them, and to maintain that it is not a legitimate practice to supply new preparations, however superior in permanence, under these old names, without notifying the altered composition.

Artists, if they hear it stated that Messrs. Winsor & Newton's Carmine, Crimson Lake, and Purple Lake are fugitive, while those of some other makers are permanent, will do well to be on their guard against mere juggles of nomenclature. All they have to do, if they require permanent Alizarin Colours is to order these Alizarin Colours under their proper names.

Winsor and Newton have been the first makers of colour to lightfast test all their paint since they began.

They provide all information of the pigment and its behaviour on their colour charts and they worked with George Field and acquired all of his notebooks and research on colours, most notably his work on Rose madder they adopted

In the madder root, there are two colouring agents. One is the permanent alizarin and the other rapidly fading purpurin.

With the introduction of synthetic alizarin a synthetic lake pigment from the Madder plant, Alizarin Crimson was the first natural dye to be synthesised in 1868.


343.

Frankfort Black (English) Of
Mr Bond — in powdery lumps — inferior
to .10 — darkened by light of the Sun &
unaffected by mephitis

.14

Smalt very Fine, Of Mr. Newman
In powder, gritty — cuts slab & muller
— of coarse body — poor in glazing — but
very transparent & rich in body — See
xx. — Perfectly unaffected by light of the
Sun and mephitis. — has turned the paper, in which it (the Powder) laid, Brown — In Oil. not much body of color.
Dried pure & in tint some hours before the Oil —
not affected by 14 days Sun & Mephitis

.10

Another. Common. Of Mr. Howard
Chobham — Coarser & paler than the above
and not so transparent, but delicate in
tone. Unaffected by light and mephitis
In Oil, little body — Dried pure and in tint
some hours before the oil — not affected by
14 days Sun & Mephitis —

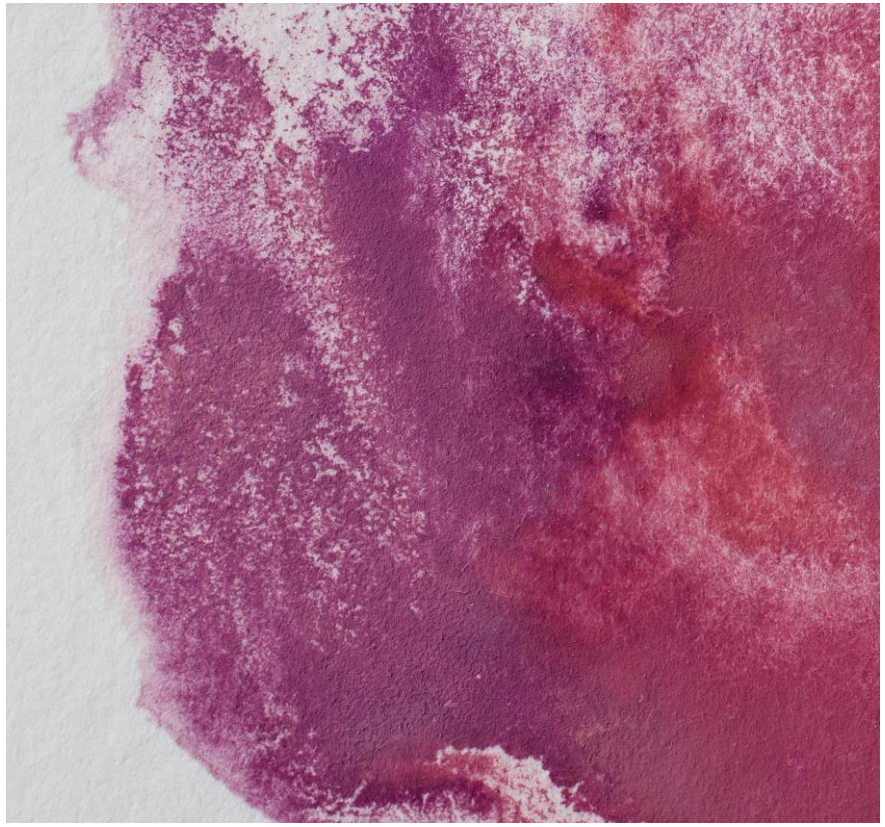
.1

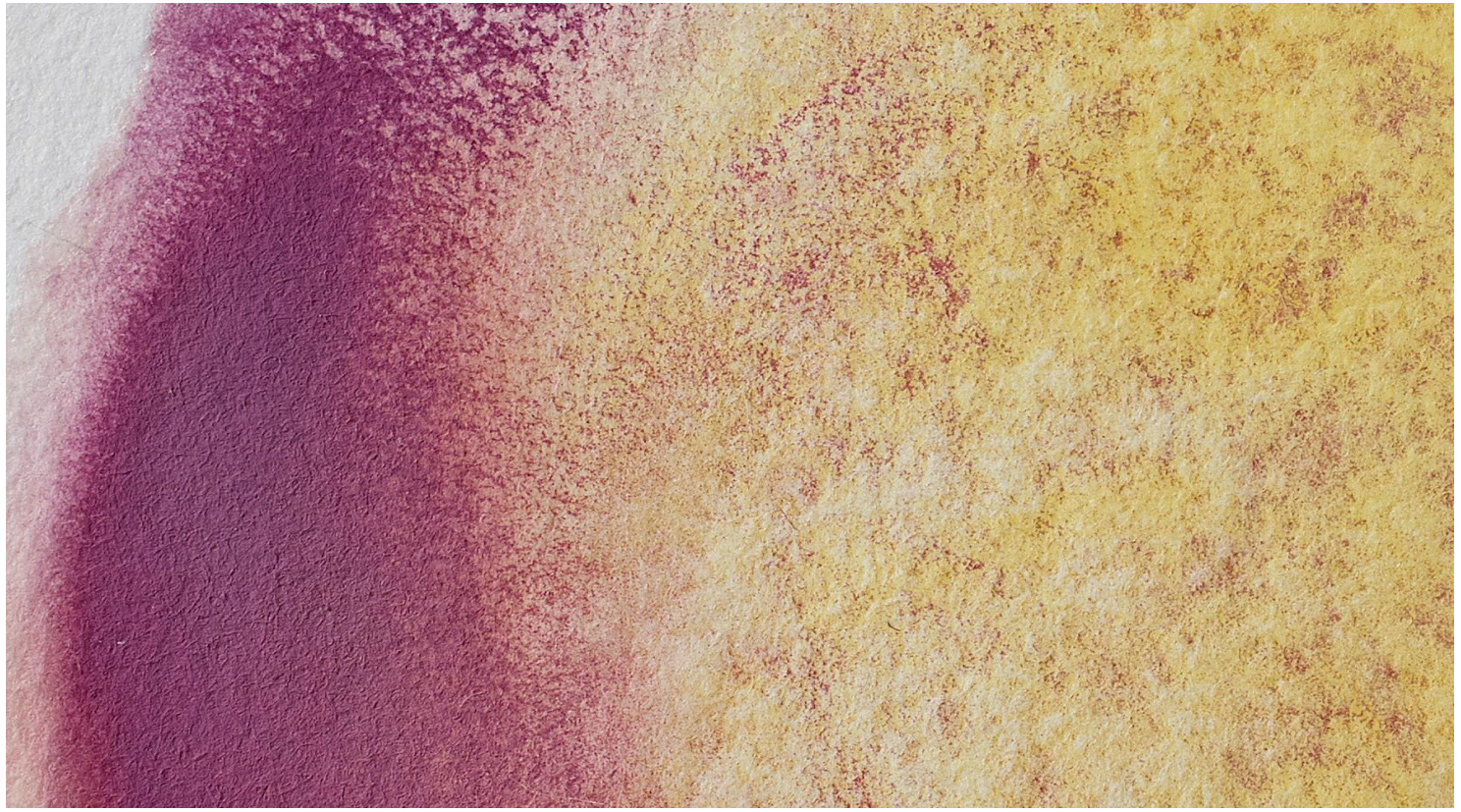
In 1890 J Scott Taylor, Winsor & Newton's Scientific Director, labelled up a small jar 'best quality Smalt', in 2006, Peter Waldron, Winsor & Newton's Senior Research Chemist opened the jar and formulated the closest modern alternative to the 1890 colour. In 2007 Winsor & Newton celebrated 175 years of colour making and to mark the occasion,
Smalt, was re-introduced as a limited edition colour. Then in 2019 a more permanent lightfast single pigment version was been developed

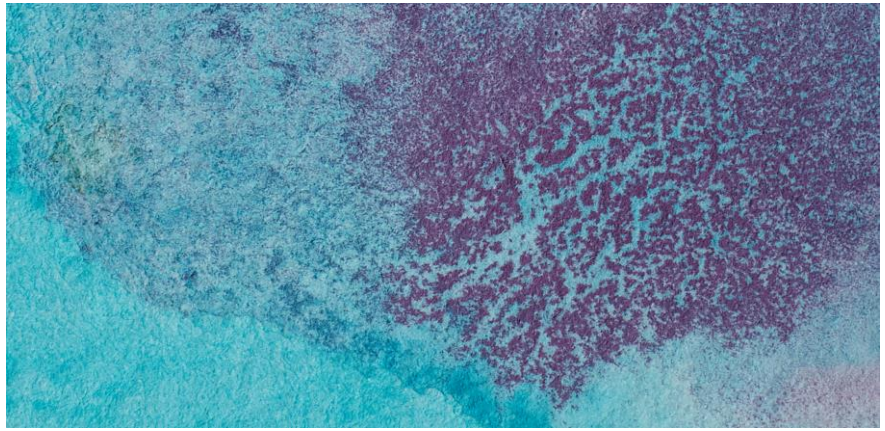
Cobalt blue PB28 first produced as a pigment in 1807, Cobalt means evil house spirit where medieval miners believed that cobalt ores made it difficult to extract the silver from silver ore

Cobalt blue deep, PB74 naturally granulating is sometimes described as sapphire blue is a deep dark mid-shade warm reddish blue.
Cobalt Blue Deep was introduced by Winsor & Newton as a unique colour in 1996

Winsor & Newton cobalt blue is quite a bit more textured wet in wet and lighter valued, but it is the only completely transparent and also the least staining cobalt I've tried; the hue is the greenest and least saturated of any brand, which makes an effective contrast with ultramarine blue







Permanent Mauve PV16

The accidental discovery of mauve was made by William Perkin in 1856 . This delicate colour is powerfully granular colour with its red shade to blue offering a beautiful deep purple. When mixed with its complimentary yellow creates subtle greys, try with Lemon and lemon yellow deep to create a really super granular soft grey or add to blues and reds to create tones

Cobalt Green and Cobalt green Deep creates a deep set of undertones created in 1780, by a Swedish chemist

and mineralogist Sven Rinman but not commercially possible until much later, a zinc green ,a rare pigment described

by chemist Church as artistically and chemically perfect. As a deep cobalt it is unique and offers and addition

That is hard to find in any palette

Winsor & Newton cerulean blue, gives beautifully flocculating, satiny wash textures, though at the expense of color intensity; its relatively subdued texture also makes it a better mixer with other paints

The first recorded use of *cerulean* as a colour name in English was in 1590. The word is from Latin *caeruleus*, "dark blue, blue, or blue-green", derives from *caerulum*, diminutive of *caelum*, "heaven, sky".

Cerulean blue PB35 is a cobalt stannate
The pigment was first synthesized in the late eighteenth century by Albrecht Höpfner, a Swiss chemist, and it was known as Höpfner. It was not widely used by artists until the 1860s

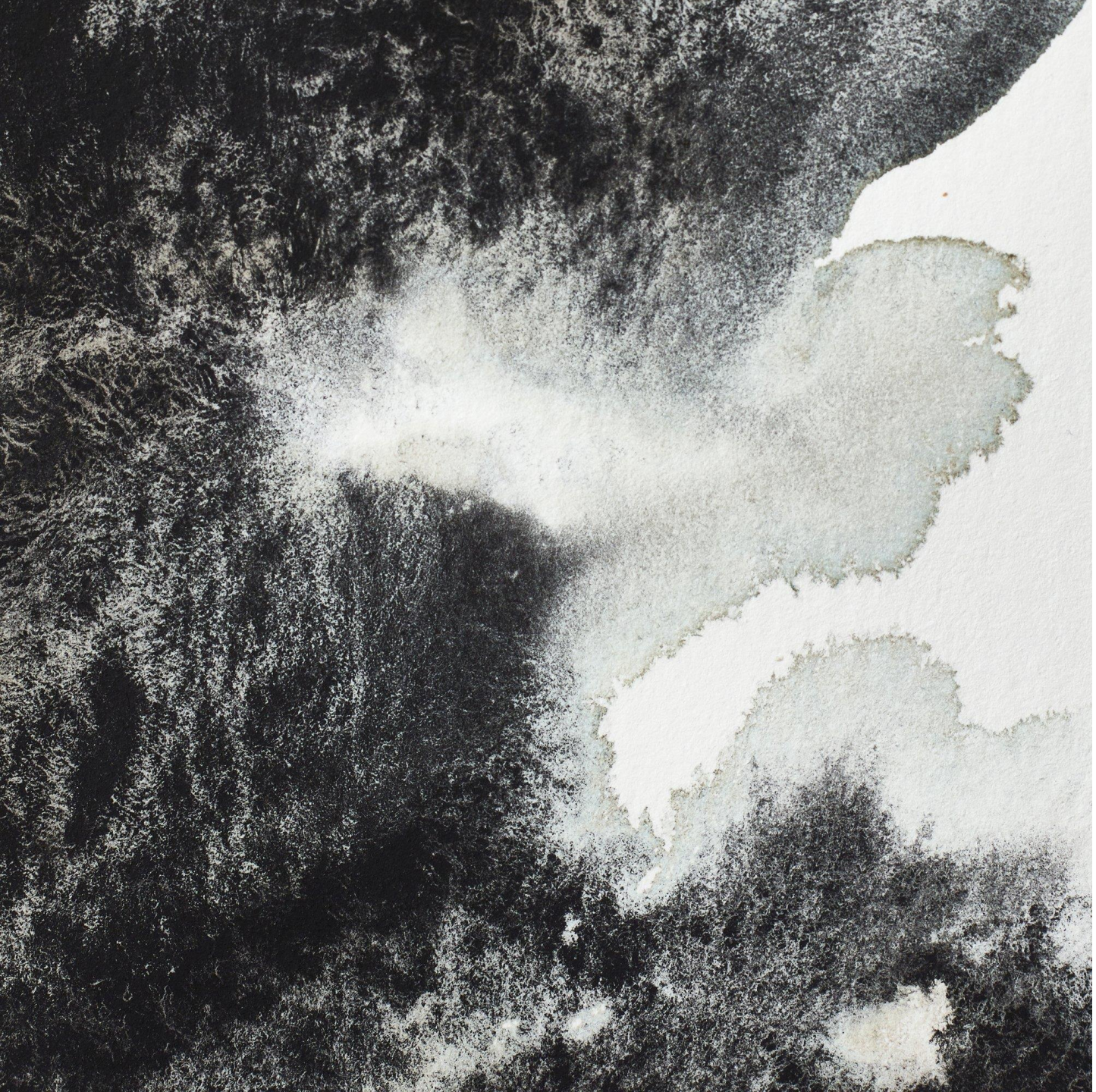
The red shade version is deeper and more opaque than its semi opaque counterpart

Manganese blue Hue

Manganese Blue Hue is a clear greenish azure blue colour. It is based on the now obsolete Manganese Blue made of Barium Manganateirst discovered in 1907 but not patented until 1935;
Pigment Blue 33, often considered by artists' as a near "perfect" blue, is now extinct. It was manufactured from 1935 to the 1990's

This crystalline synthetic inorganic pigment, a near perfect cyan hue, imparts a lyrically coarse texture even after extensive milling. when used in diluted mixtures that put its granulation on display.

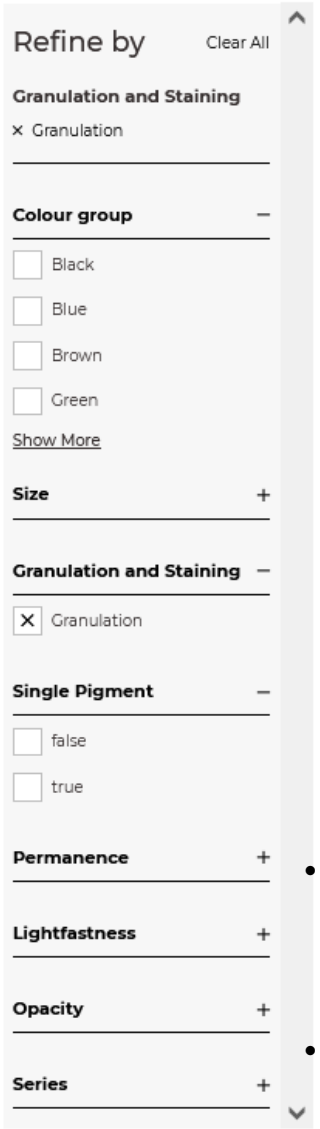
Potters pink PR233 this chrome tin pink is a particularly soft subtle pink version of this pigment. It is unique in its beautifully even granulating dispersion, offering a delicate light red tint when mixed with other colours and beautiful greys when mixed with complimentaries like cobalt green and cobalt turquoise.

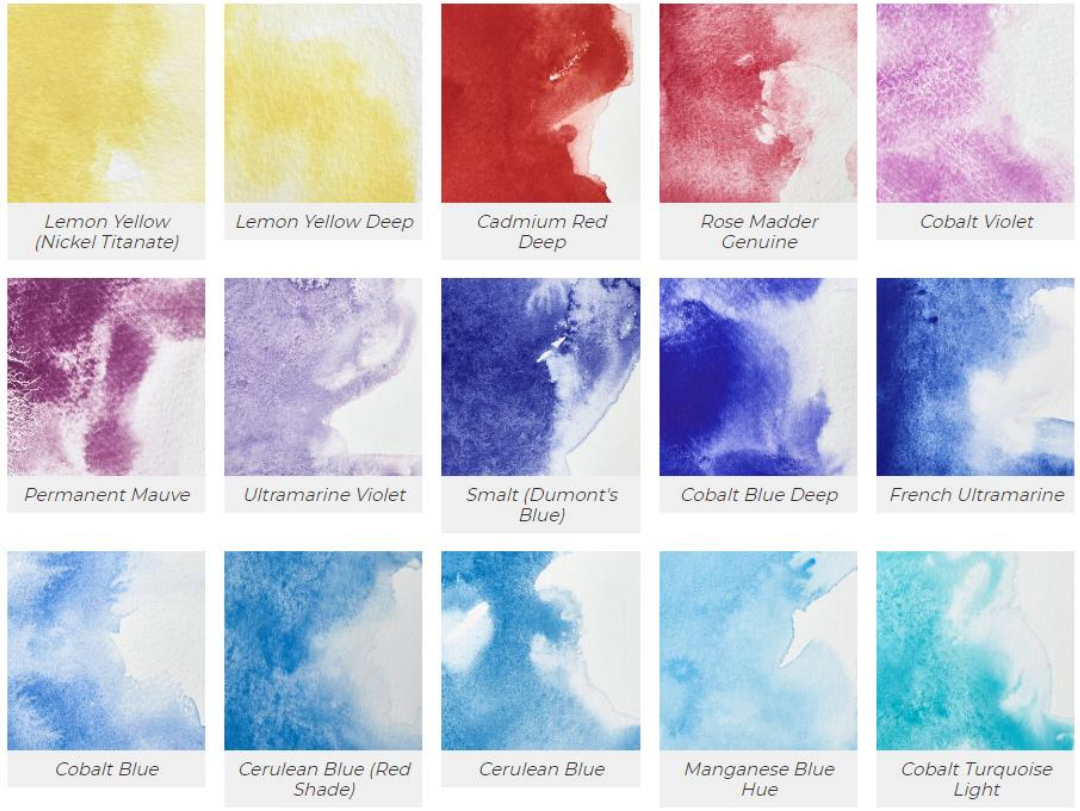


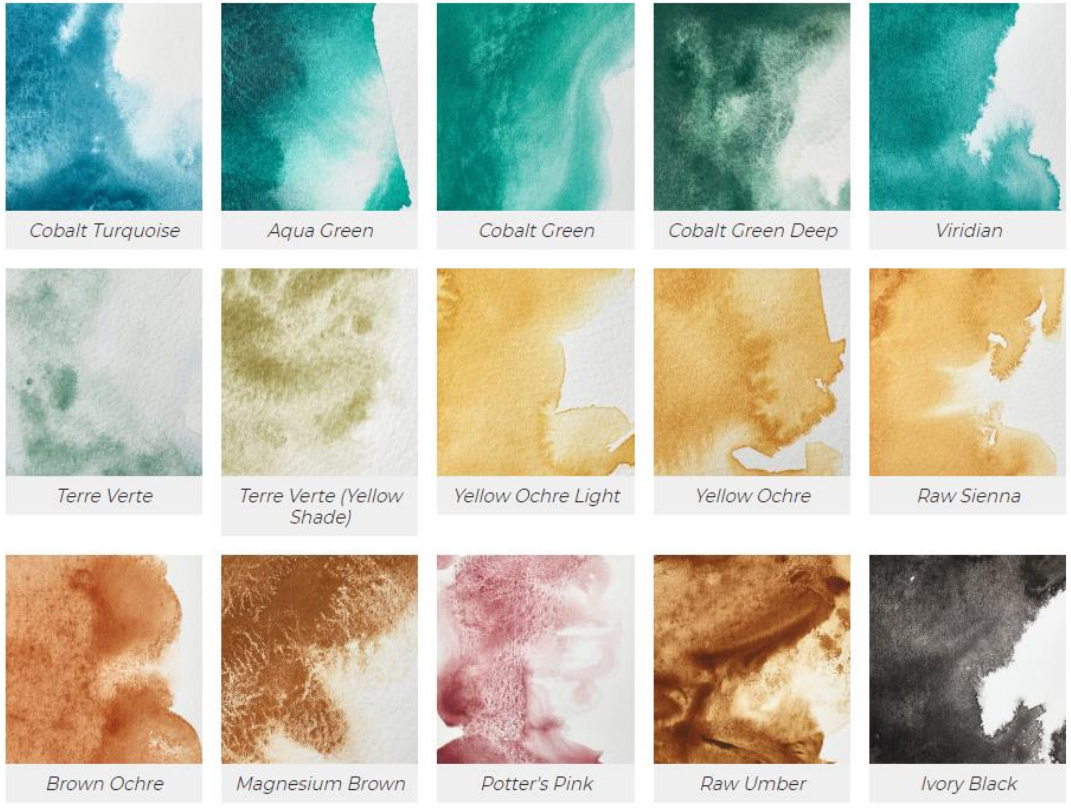
Mars Black PBk11
The most granular pigment
of the blacks and also known as

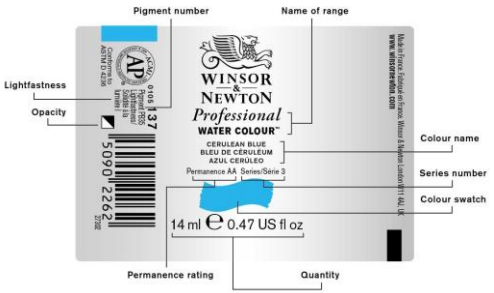
Anthracite Black
Ash Black;
Black Iron Oxide
Ferrite Black;
German Earth
Heavy Metal
Intense Black
Iron Black;
Italian Black
Lunar Black
Roman Earth

All the granulating colours can be seen using the drop-down feature on the Winsor and Newton website





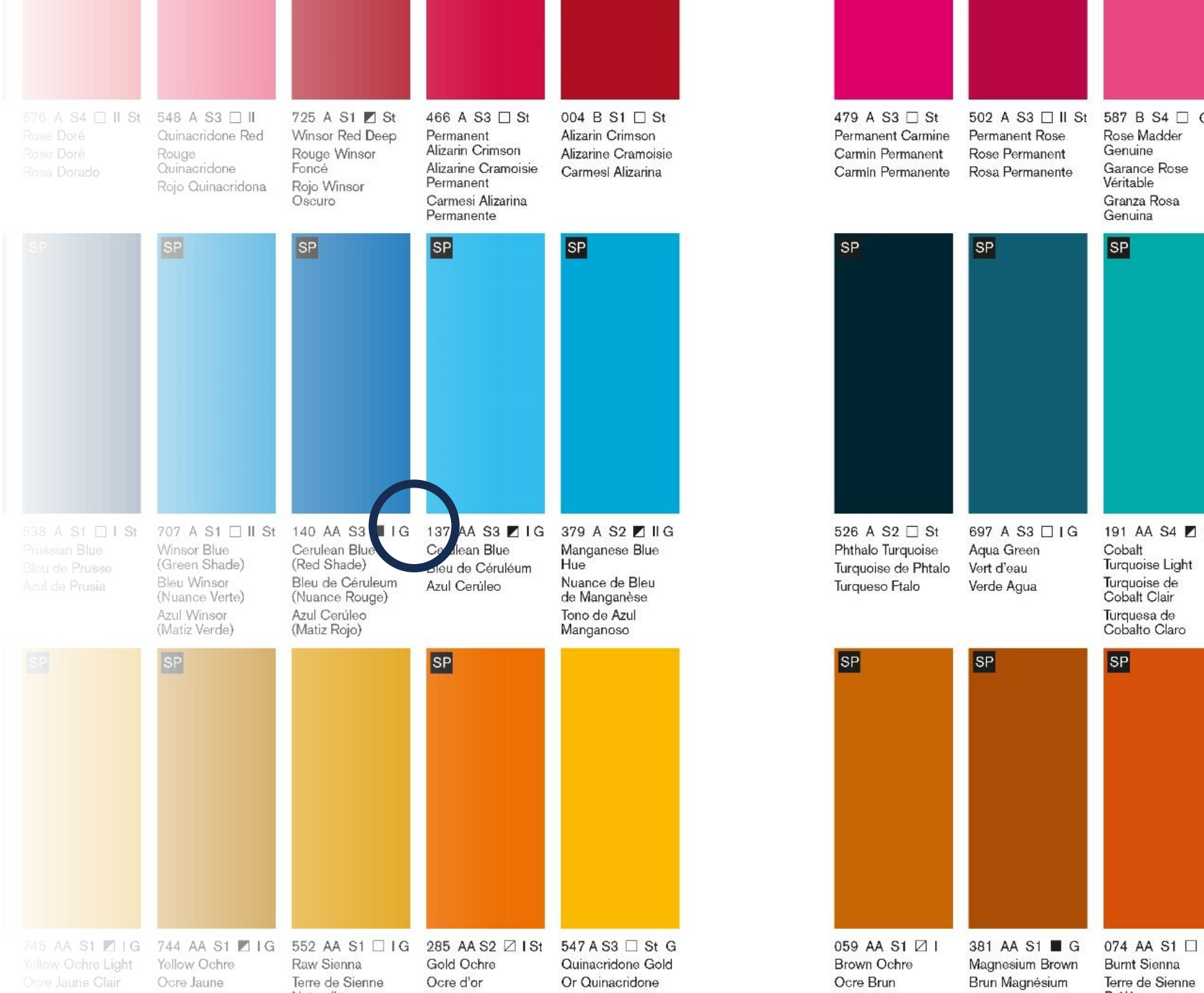




- With 77 single pigment colours, Winsor & Newton offers the most extensive range of signature and single pigment watercolours
- 105 of 108 Professional Watercolours are classed as “permanent for artists’ use”, rated AA or A.

https://www.winsornewton.com/row/paint/watercolour/professional-watercolour/#product-info-colours

Granulating colours are marked on hand painted and printed colour charts with a “G” beneath the colour chip.



And the arrival of metallics adds to the palette of granulations

Giotto, Piero Della Francesco

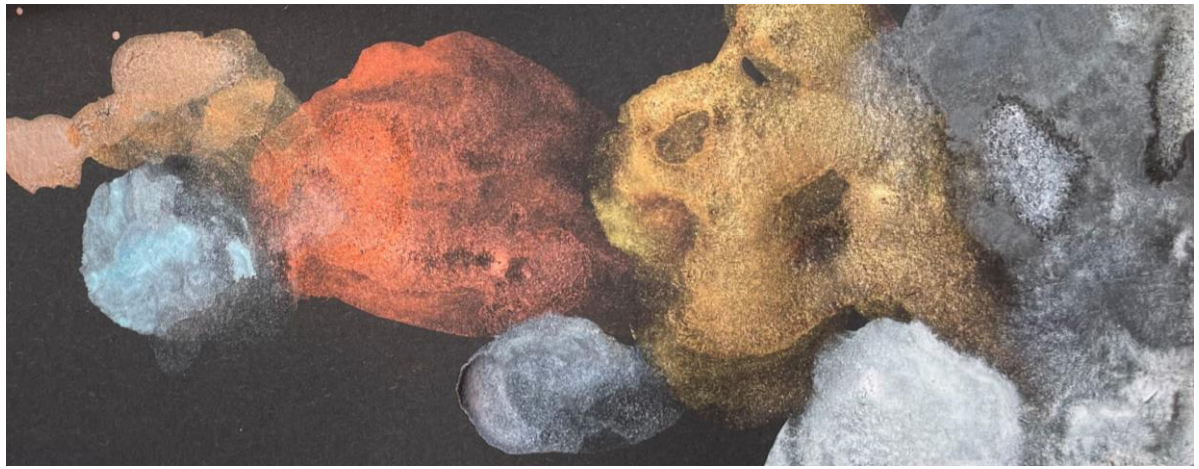
Metallic colour has been used throughout history

In the sixteenth and seventeenth centuries orpiment, from the arsenic family, was used as an imitation gold and in watercolour real gold was actually used in romanesque art.

Silver was a finely ground leaf in gum preserved in a shell used to make whites

Copper was also used to create blues and greens featuring in the mural paintings during the Romanesque period

Romanesque detail , artist unknown



Iridescents and metallics have continued to be used throughout history

Sara Shakeel

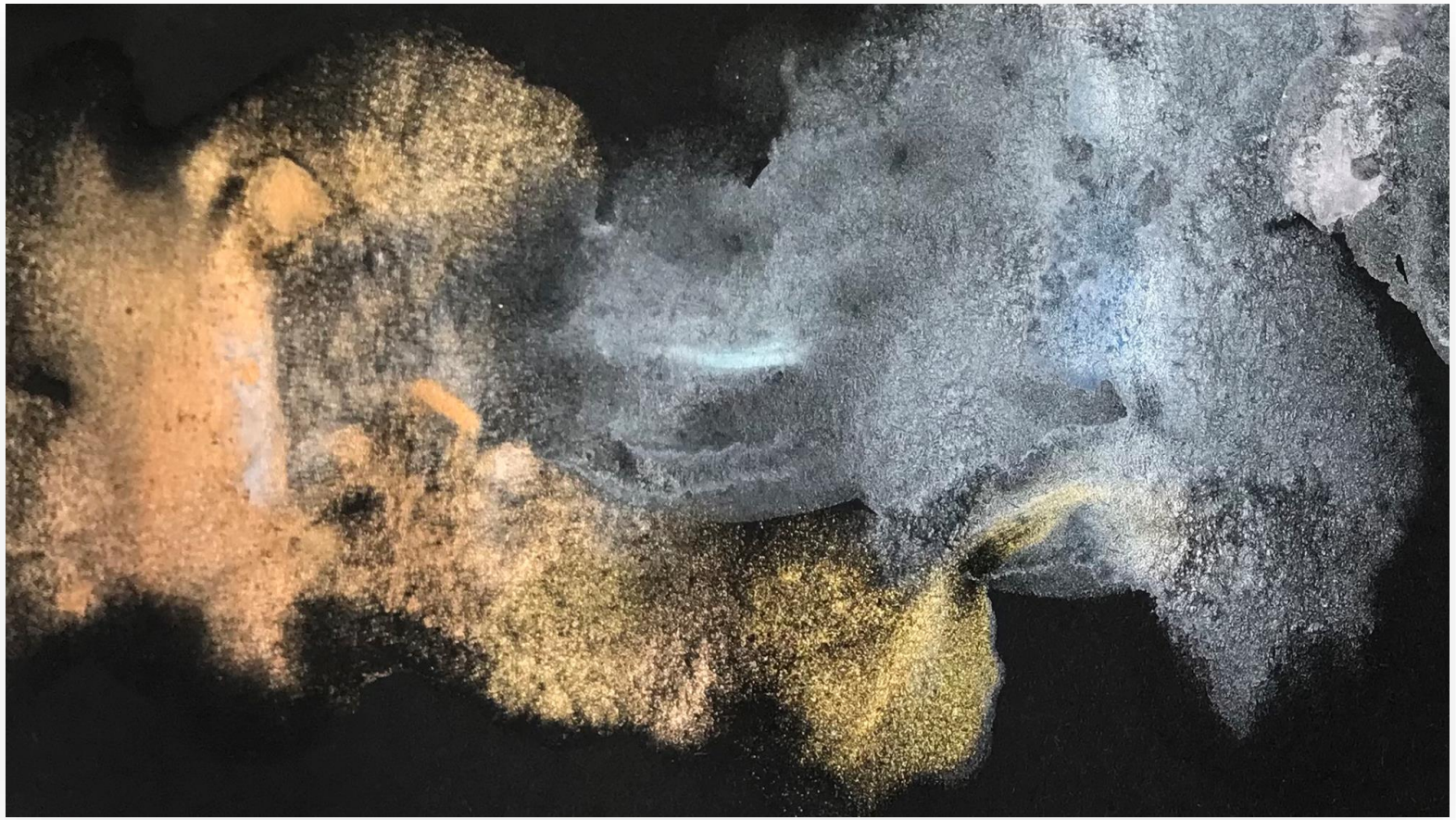
Anselm Kiefer

Chris Offili

Gustave Klimt

Iridescent watercolour Eggshells,
oyster shells and pearls
Graphite , crystalline carbons were
used to make beautiful iridescent
tones but these were problematic in
painting, bleeding
through over painted layers

www.winsornewton.com



WINSOR & NEWTON™