

Planets, Colors and Metals

by Patrice Guinard, Ph.D.

-- translation Matyas Becvarov --

This text was not originally part of my doctoral thesis. Written rapidly, it will be revised at some point in the future. To attribute colors to the planets is a procedure typical of matrix-based reason. Since 1986 my ideas on this subject have run into recurrent difficulties. It was only recently, on 26 May 2000, that I found a solution that satisfies me, given the standards I had established.

Perception and Organization of Colors

"Those who compose from coloured light the single and essentially white light, those are the true obscurantists." (Goethe, Maxims and reflections)

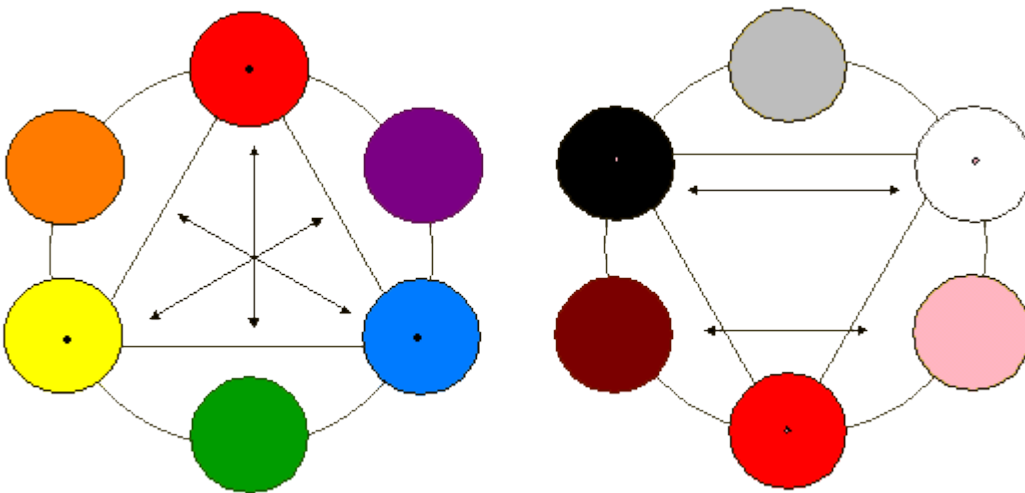
Goethe would have foregone his poetry, his novels and perhaps the rest of his *oeuvre* for the sole sake of his *Theory of Colors*. Johann Eckermann, the confidant of Goethe's later years, reports his friend's astonishing opinion: "In all the things I have written as a poet I find no cause for pride. But to have been the only person of my century to see clearly into this difficult science of colors, of that I am very proud indeed, and believe myself to be superior to many scientists." [1] For Goethe it was not so much a question of theoretical confirmation and scientific demonstration as it was a matter of understanding and *truth*. [2] Color cannot be comprehended by instrumental reason. There are certain fields of knowledge that by their very nature elude the mathematical and instrumental approach of science. For through the investigation of colors runs the thread of Goethe's questioning with regard to the modernity of his century -- the century of Enlightenment rationalism -- and those mentalities which inflect discourse and mental representations. "I revere mathematics (...) but I cannot approve the desire to use it to abuse in areas outside its domain where this noble science seems absurd. As if there existed only that which could be demonstrated mathematically!" [3] Goethe took the matter of color to heart as a personal matter certainly not because of psycho-sociological dynamics (often as vulgar as they are illusory) put forward by the young Eckermann, [4] but rather because the issue engaged his entire being, beginning with his manner of understanding the world. The reasoning set out in the *Theory of Colors*, just as in the *Metamorphosis of the Planets*, is *matrix-based*, and Goethe was without doubt one of its foremost representatives in his century.

Color should be understood in a global sense rather than an analytical one, visual rather than factual, *sensual*. The perception of colors depends on a certain equilibrium of luminosity: in darkness everything is black, and in very bright light one similarly cannot

distinguish colors. Goethe puts forward in the fourth part of his treatise two essential ideas: the origin of colors (from Blue to Yellow) as a function of darkness and light, and the constitution of the "final" color, Red, by means of the intensification of each of the two primary colors. [5] Thus Red is the final stage of a darkening of Yellow, as it is of a lightening of Blue. Three intermediary colors (Green, Purple and Orange) achieve chromatic disposition through the evolution and combination of the three principal colors. In fact, Yellow, which comes from light, and Blue, which comes from darkness, combine to give Green and intensify into Orange and Purple, then Red.

The genetic theory of colors that Goethe opposes to Newtonian experimentation, i.e. that of the spectral array of white light into seven colors (of which one, indigo, is artificial, no doubt added to satisfy the requirements of analogy between the color spectrum and the musical scale), rings true with the experience of artisan dyers and painters, Leonardo da Vinci being one example, who also identified colors of light (red and yellow) and colors of darkness (blue and green). To put it another way, Goethe opposes to the instrumental experimentation *on* light the perception and "natural" observation of objects and their coloration *in* light. It is less a question of objectivity or subjectivity -- the approach of the Weimar thinker is quite as "objective" as that of his English predecessor -- than it is of a difference in the nature of the quality of perception: one is natural and universal, the other is mediated, instrumentalized, and the product exclusively of a defined culture, a culture of instrumental reason, which has need precisely of affirming its "universality" and its "objectivity" despite contradiction with common perception. [6]

Goethe's colors can be arranged into a chromatic circle (cf. Diagram 1A), in which complementary colors stand in diametrical opposition. A triangular schema is also possible with the three primary colors at the angles and the three intermediary colors on the sides. [7]



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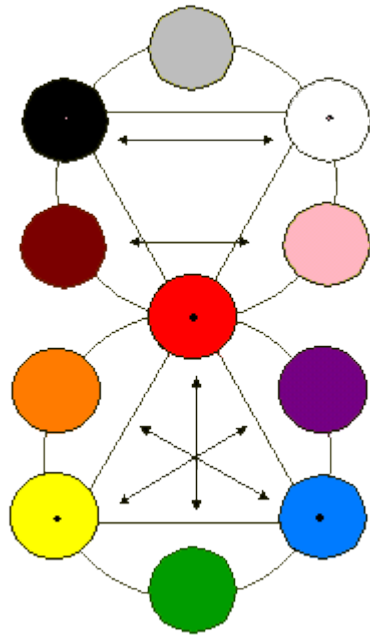
This schema does not exhaust all the possibilities of color. How should one handle Brown or Pink, or Grey, products of combining Red, Black and White? A second chromatic

circle or triangle (cf. diagram 1B) could be set up, with Red this time as the final stage of a process of *decompression* of White as well as of Black. Pink and Brown would then be the intermediate stages, and Grey the combination of White and Black.

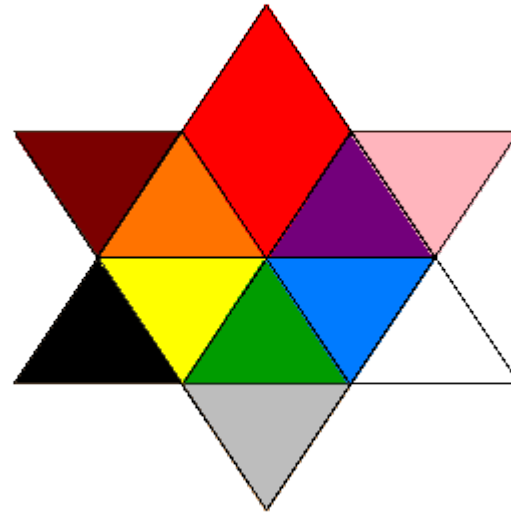
In 1969 the linguists Berlin and Kay showed that the words used by the majority of languages to designate colors can be reduced to 11 fundamental terms, for exactly those colors that define the two chromatic circles: "Although different languages encode in their vocabularies different numbers of basic color categories, a total universal inventory of exactly eleven basic color categories exists from which the eleven or fewer basic color terms of any given language are always drawn. The eleven basic color categories are white, black, red, green, yellow, blue, brown, purple, pink, orange and grey." [8]

In addition, Berlin and Kay discovered the existence of an order of priority with regard to the terms chosen in cases where a language has only a very limited number of terms for the designation of color: "All languages contain terms for white and black. If a language contains three terms, then it contains a term for red. If a language contains four terms, then it contains a term for either green or yellow (but not both). If a language contains five terms, then it contains terms for both green and yellow. If a language contains six terms, then it contains a term for blue. If a language contains seven terms, then it contains a term for brown. If a language contains eight or more terms, then it contains a term for purple, pink, orange, grey, or some combination of these." [9]

We can imagine a chromatic disposition in a double circle with Red at the center, Goethe's essential color, whose importance is reinforced by the work of the American linguists, or a star-shaped disposition as well, which groups together the two preceding diagrams and in which the eleven colors appear next to the colors to which they are most closely related (cf. Diagrams 2 and 3).



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Colors and Planets

*"There exist universally for humans eleven basic perceptual color categories, which serve as the psychological referents of the eleven or fewer basic color terms in any language."
(Berlin and Kay: Basic Color Terms)*

According to Berlin and Kay, human perception is capable of distinguishing -- and *universally so* -- eleven categories of color corresponding to the terms used to designate them. These eleven terms are found in extremely diverse languages and cultures. The results of these anthropological-linguistic studies have been rejected by the scientific establishment, which is hostile to any incursion of matrix-based reason into the domain of consciousness. For when it comes to the question of numbers, as in the case of the Chinese or the Hindus, we find ourselves before a matter having to do primarily with matrix-based thought. [\[9b\]](#)

Now the planets, as I have shown, are psychic operators that operate on the perception of reality. They are exactly ten in number (or eleven if one takes into account the asteroids and their representative Ceres). Consequently, an "analogy" is justified between planets and colors.

Pluto: BLACK, Moon: WHITE, Mars: RED, Sun: YELLOW, Uranus: BLUE, Venus: GREEN, Jupiter: ORANGE, Neptune: VIOLET, Saturn: GREY, Mercury: BROWN.

Mercury, iridescence and fount of all colors combined.
Saturn, the one little loved, and his thousand shades without color.
Neptune, beyond spectrum, with his generous intents.
Jupiter, bursting into view, seeing far in his power.
Venus, vibrant green of vegetation.
Uranus, azure of clear sky.
Sun, light.
Mars, the injured one, bleeding.
Moon, pure, with its devoted silences.
Pluto, the final arbiter, invisible and sombre.

In determining the association of Berlin and Kay's eleven colors with the ten planets of the Planetaries (or eleven, with Ceres, the representative of the asteroids), certain logical principles have been taken into account:

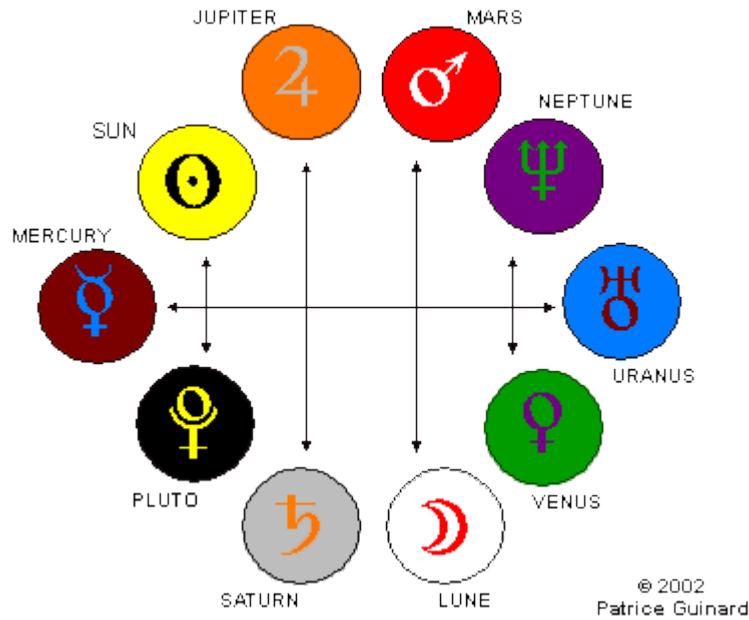
- * The organization of the planets into a continuous chromatic group, bringing together the greatest possible number of colors. In point of fact, only one color, Pink, finds no place in the scheme.
- * The attribution of the warmest colors (Yellow, Orange, Red, Brown, Purple) to the planets of stimulation or opening, and cooler colors to the planets of inhibition or closing.
- * The establishment of an axis or center of symmetry relative to the pairs of planets as set out in the organization of the Planetaries.

To put it another way, the exercise consists in attributing five colors to five planets: 120 theoretical possibilities. I have been able to find only one chromatic circle that satisfies the first condition, the one with the sequence Green, Blue, Purple, Red, Orange, Yellow, Brown, Black, Grey, White.

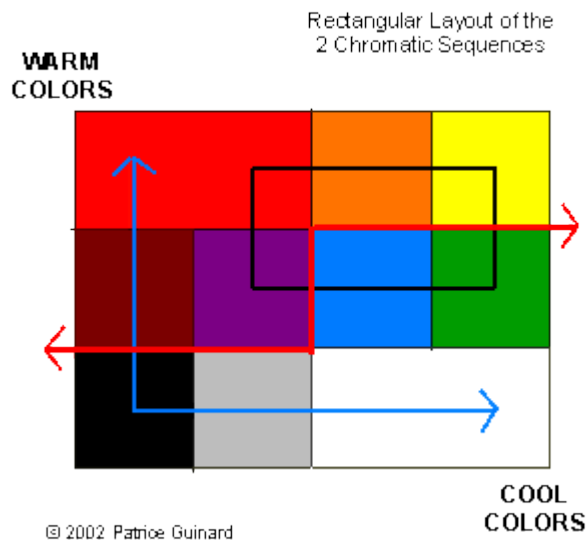
My initial intuition involved the four *primary planets* of the "T'ai Ki planetaries": the Sun, the Moon, Mars and Pluto, [10] to which are attributed the "visible" colors Yellow, White, Red and Black. These four colors, the ones designated by distinct words in a wide variety of languages according to the study by Berlin and Kay, are also those of the four humors of Greek medicine: yellow bile, phlegm, blood, and black bile. [11]

The problem of symmetry can be resolved (condition 3) since the four planets belong to two planetary pairs, which establishes an axis of symmetry Blue-Brown, but still leaves open six other possibilities. Grey seems to suit Saturn perfectly, as Orange does Jupiter. There remain Mercury and Neptune, from the perspective of the "warm" planets. Brown better suits Mercury and Purple is more appropriate for Neptune than the inverse. There follows the attribution of Green to Venus and Blue for Uranus, which, despite its historical mythological connotation (the sky god), has been the most difficult relation to establish in my view. Pink, a mixture of Red and White, despite its being excluded from the chromatic circle, perfectly suits the asteroids and their representative Ceres in this schema, as they were defined in the preceding paragraphs [12] by the formula Unity-Multiplicity, which results from the formulas attributed to Mars (Red) and to the Moon (White).

Diagram of the Chromatic Circle for the Planetaries



The colors of the two chromatic circles (cf. Diagram 1), with the exception of Pink, can be combined into a rectangular scheme, at the top of which are the "warm and dry" planets (Mars, Jupiter and Sun), and at the bottom those associated with the "cool and damp" planets (Moon, Saturn and Pluto). In the center are those associated with the planets whose status is ambiguous: neutral Mercury, Venus nocturnal and feminine for the Greeks, but very wet and moderately warm for Kepler, Uranus and Neptune of indefinite status and qualified variously according to different astrologers (cf. Diagram 5).



Finally, it must be pointed out that there is in this matter no consensus of any kind among astrologers. For example, the French astrologer Jean Mavéric proposed in 1910 the following distribution: Moon: white, Mercury: multicolored, Venus: green, Sun: yellow, Mars: red, Jupiter: blue, Saturn: black-brown, Uranus: "prismatic" colors, Neptune: mauve. [\[13\]](#)

Under the entry for "planetary colors," the dictionary of Fred Gettings gives a mixture of attributions by certain authors (William Lilly, Helena Blavatsky, C. Libra, H. L. Cornell and Manly Palmer Hall). Among the many different colors mentioned for each planet are Moon: White, Mercury: Brown, Venus: Green, Sun: Yellow, Mars: Red, Saturn: Grey, Uranus: Blue, Neptune: Mauve, Pluto: Black. [\[14\]](#) Only Jupiter, to which some authors attribute blue and violet-hued colors, diverges from the color scheme I have proposed. The same is true of the attributions made by Jean Mavéric. Curiously enough, Françoise Gauquelin has noted a certain inconsistency regarding the attribution by astrologers of character traits to Jupiter. [\[15\]](#) It is possible that there is a more general "Jupiter problem" for astrologers.

We know that the Babylonians attached great importance to the visibility and appearance of the planets, both of which are initial and necessary conditions for astrological prognostication. Rumen Kolev gives the following list, based on diverse sources: Moon: Blue, Sun: Yellow, Mars: Red, Mercury: variable, Venus: White, Jupiter: Orange, Saturn: Grey. [\[16\]](#)

The Sabeans of Harran, a community of Hellenized pagans, preserved Babylonian astrological teachings into the 10th century A.D. The city of Harran possessed seven gates and seven temples, each one dedicated to a Babylonian god, constructed according to a characteristic geometrical form and associated with a metal or a color (according to the text of Ibn Shaddad, 1216-1285:

Sîn (Moon: White), Nabû (Mercury: Brown), Ishtar (Venus: Blue), Shamash (Sun: Yellow), Nergal (Mars: Red), Marduk (Jupiter: Green), Ninurta (Saturn: Black). [\[17\]](#) The seven colors of the temples of Harran are also the first seven listed by Berlin and Kay. The comparative table below summarizes these different attributions.

	Babylonians	Harranians	Mavéric (1910)	"Gettings"	Guinard (2000)
MOON	Blue	White	White	White	White
SUN	Yellow	Yellow	Yellow	Yellow	Yellow
MARS	Red	Red	Red	Red	Red
MERCURY	variable	Brown	Multicoloured	Brown	Brown
VENUS	White	Blue	Green	Green	Green

JUPITER	Orange	Green	Blue	Blue-Purple	Orange
SATURN	Grey	Black	Black-Brown	Grey	Grey
URANUS			Various	Blue	Blue
NEPTUNE			Mauve	Mauve	Purple
PLUTO				Black	Black
Ceres					Pink

The Planetary Week and Metals

"Thus we discovered that the seven metals of the alchemical tradition, i.e. silver, mercury, gold, lead, iron, copper and tin, produced very particular variations in the DNA molecule."
(Étienne Guillé)

The days of the week, in most of the Indo-European languages, have names associated with the planets: Mon-day (day of the Moon) ... through Sun-day (day of the Sun). Even though this "astrological" legacy may be firmly anchored in our vocabulary and culture, these attributions have no strict astrological value, since they occurred through a simple arithmetic process without any physical foundation. The *planetary week*, attested as early as the 2nd century BCE, is ostensibly of Mesopotamian or Syrian origin: the Greeks and the Egyptians, in contradistinction to the Semitic peoples, did not know a week of seven days. [\[18\]](#)

A direct application of the planetary week appears in the "pseudo-astrological" phenomenon of the *planetary hours* or *chronocratories*, probably of Egyptian origin: each of the 168 hours of the week is held to be governed by one of the planets of the Septenary, the planets ruling the hours succeeding one another following the decreasing order of their sidereal revolutions, which allows the first hour of each day to be governed by the planet of that day in the order of the planetary week. So the first hour (that of the rising of the Sun) of Saturday is ruled by Saturn, the second by Jupiter, the third by Mars, and so on to the seventh, ruled by the Moon. The eighth, as well as the fifteenth and the twenty first, are once again ruled by Saturn, the twenty-third by Jupiter and the twenty-fourth by Mars, which leads to the first hour of Sunday, ruled by the Sun, just as the first hour of Monday is ruled by the Moon, and so on to the first hour of Friday, ruled by Venus.

Another artificial application of the planetary week is found in the system of *faces*, or Zodiacal decans ruled by the planets: each of the 36 decans is held to be governed by a planet of the Septenary according to the same decreasing order of their sidereal revolutions, beginning this time with Mars, ruler of the first decan of Aries, then moving to Mercury, ruler of the first decan of Taurus, then to Jupiter for the first decan of Gemini, and ultimately to Saturn, Jupiter and Mars for the first, second and third decans of Pisces. In this manner the planets governing the first decans of the Zodiacal signs succeed one another

in the order of the planetary week, from Mars in Aries to Moon in Libra, then again from Mars in Scorpio to Saturn in Pisces.

This theory seems all the more artificial when one takes into account that it syncretizes two schemes of arithmetical origin: that of the division of the Zodiac into decans, and that of the planetary week. More generally, and I will demonstrate it later, this joining of essentially numerological theories -- probably fabricated in the syncretist and hermetic milieus of the Greco-Egyptian world, by no means represents a leap forward for astrology, but rather serves as a sign of its deterioration. The positivist Bouché-Leclercq (1899) gives himself free reign in stigmatizing astrology generally using examples of such outlandish schemes, and Françoise Schneider-Gauquelin suggests abandoning a part of these models to return to an astrology based on experience and observation, such as was probably practiced in Mesopotamia some centuries earlier. [\[19\]](#)

Although the planetary week and the astrological theories derived from it have no striking astrological value, the "artificial" planetary series probably served to encode a body of knowledge that is much less artificial, i.e. the knowledge of metals associated with planets. The principal metals known in antiquity, with the exception of zinc, were associated with the planets: gold with the Sun, silver with the Moon, iron with Mars, copper with Venus, tin with Jupiter, lead with Saturn and mercury with Mercury. These associations likely stem from a time when alchemy had close ties to astrology. As the astrologer Dom Néroman (1884-1953) has shown, it is probable that the arrangement of the planetary week acted as a symbolic code for the order of the sidereal revolutions of the planets, like the order of the atomic numbers of their associated metals. [\[20\]](#) In fact, one can deduce from the circular or heptagrammatical series (Saturn, Sun, Moon, Mars, Mercury, Jupiter, Venus), two other series, *and only two*: the one beginning with the Moon and jumping over every other one (as in the game of leap-frog), the other beginning with Mars and skipping over two planets.

The first series (Moon, Mercury, Venus, Sun, Mars, Jupiter, Saturn) shows the order of the planetary sidereal revolutions, known for a long time in Mesopotamia; [\[21\]](#) the second (Mars, Venus, Moon, Jupiter, Sun, Mercury, Saturn) shows the order of the atomic numbers of the "planetary metals": Iron (26), Copper (29), Silver (47), Tin (50), Gold (79), Mercury (80), Lead (82). It is also interesting to note that the planetary metals have a decreasing thermal conductivity (or an increasing rate of resistance) with silver highest and lead lowest (with the exception of mercury, which is a liquid), i.e. following the order of the sidereal revolutions of the metals associated with these planets. Consequently, it is highly probable that the planetary week was used by Babylonian savants to code their knowledge of the chemistry of the seven metals known in the Mediterranean in antiquity, leaving aside an eighth metal, zinc, not used in the chart.

Taking into account the table of elements by Dmitri Mendeleev (drawn up in 1869 and completed later), a scientist with a matrix-based temperament one cannot mistake, it is remarkable to note in the choice of these metals the relations between the planetary metals -- leaving aside mercury, a metal the Harranians never believed properly attributed to the neutral planet of Greek astrology. In that vein, the atomic numbers of the planetary metals confirm the following relations: Copper 29 (Venus) = Iron 26 (Mars) + 3, Tin 50 (Jupiter) = Silver 47 (Moon) + 3, Lead 82 (Saturn) = Gold 79 (Sun) + 3.

Let us allow the attribution of mercury to the planet of the same name. Following the same line of logic, Zinc (with bluish hues and the only other metal beyond the 7 mentioned that was known in antiquity) can be attributed to Uranus, the first trans-Saturnian planet. Attributions of metals discovered later (antimony in the 15th century, platinum, nickel, bismuth, cobalt and tungsten toward the middle of the 18th century), can proceed as follows: cobalt to Neptune, Bismuth to Pluto, by reason of the relationship between the atomic numbers. [22] Thus Zinc 30 (Uranus) = Cobalt 27 (Neptune) + 3, and Bismuth 83 (Pluto) = Mercury 79 (Mercury) + 3.

Table of planetary Metals and Colors

26 Fe Iron MARS	27 Co Cobalt NEPTUNE	28 Ni Nickel	29 Cu Copper VENUS	30 Zn Zinc URANUS	31 Ga Gallium	32 Ge Germanium	33 As Arsenic
44 Ru Ruthenium	45 Rh Rhodium	46 Pd Palladium	47 Ag Silver MOON	48 Cd Cadmium	49 In Indium	50 Sn Tin JUPITER	51 Sb Antimony
76 Os Osmium	77 Ir Iridium	78 Pt Platinum	79 Au Gold SUN	80 Hg Mercury MERCURY	81 Tl Thallium	82 Pb Lead SATURN	83 Bi Bismuth PLUTO

Examination of the atomic numbers of the metals (or of their associated planets) allows us to extract the following relationships (involving 20 of the 45 planetary pairs):

Moon + Saturn = Sun + Jupiter
 Moon + Venus = Mars + Jupiter
 Sun + Venus = Mars + Saturn

Mercury + Uranus = Neptune + Pluto
 Venus + Neptune = Mars + Uranus
 Sun + Pluto = Mercury + Saturn

Moon + Uranus = Jupiter + Neptune
 Moon + Pluto = Mercury + Jupiter
 Mercury + Venus = Mars + Pluto
 Sun + Uranus = Saturn + Neptune

The relationships proceed from the "circular" band that follows, in which the planets and their associated metals are placed in order of their chromatic succession, the planets of opening on top (warm colors) and the planets of closure on bottom (cool colors):

80 Hg Mercury MERCURY	79 Au Gold SUN	50 Sn Tin JUPITER	26 Fe Iron MARS	27 Co Cobalt NEPTUNE
83 Bi Bismuth PLUTO	82 Pb Lead SATURN	47 Ag Silver MOON	29 Cu Copper VENUS	30 Zn Zinc URANUS
+ 3	+ 3	- 3	+ 3	+ 3

Taking this schema as a cylinder demarcated by Mercury and Pluto at one extremity and by Neptune and Uranus at the other, one sees planetary pairs organized across diagonals: Pluto-Sun, Saturn-Jupiter, Moon-Mars, Venus-Neptune, and the Uranus-Mercury pair that closes the cylinder.

From another angle: $\text{Mars} + \text{Neptune} = (\text{Moon} + \text{Venus} + \text{Uranus}) / 2 = (\text{Mars} + \text{Jupiter} + \text{Uranus}) / 2 = (\text{Sun} + \text{Mercury}) / 3 = (\text{Moon} + \text{Saturn} + \text{Pluto}) / 4 = 53$

To put it another way, two harmonic relations underlie the atomic numbers of the planetary metals, one between the planets of excitation or opening (with the exception of Jupiter), the other between the planets of inhibition or closure: $\text{Sun} + \text{Mercury} = 3 \text{ Mars} + 3 \text{ Neptune}$, and $\text{Saturn} + \text{Pluto} = \text{Moon} + 2 \text{ Venus} + 2 \text{ Uranus}$.

I do not know if the various observations presented in this text might spark the interest of astrologers. In any attempt at a statistical study of the colors chosen by painters, I salute the jewellers and wish them a lot of business.