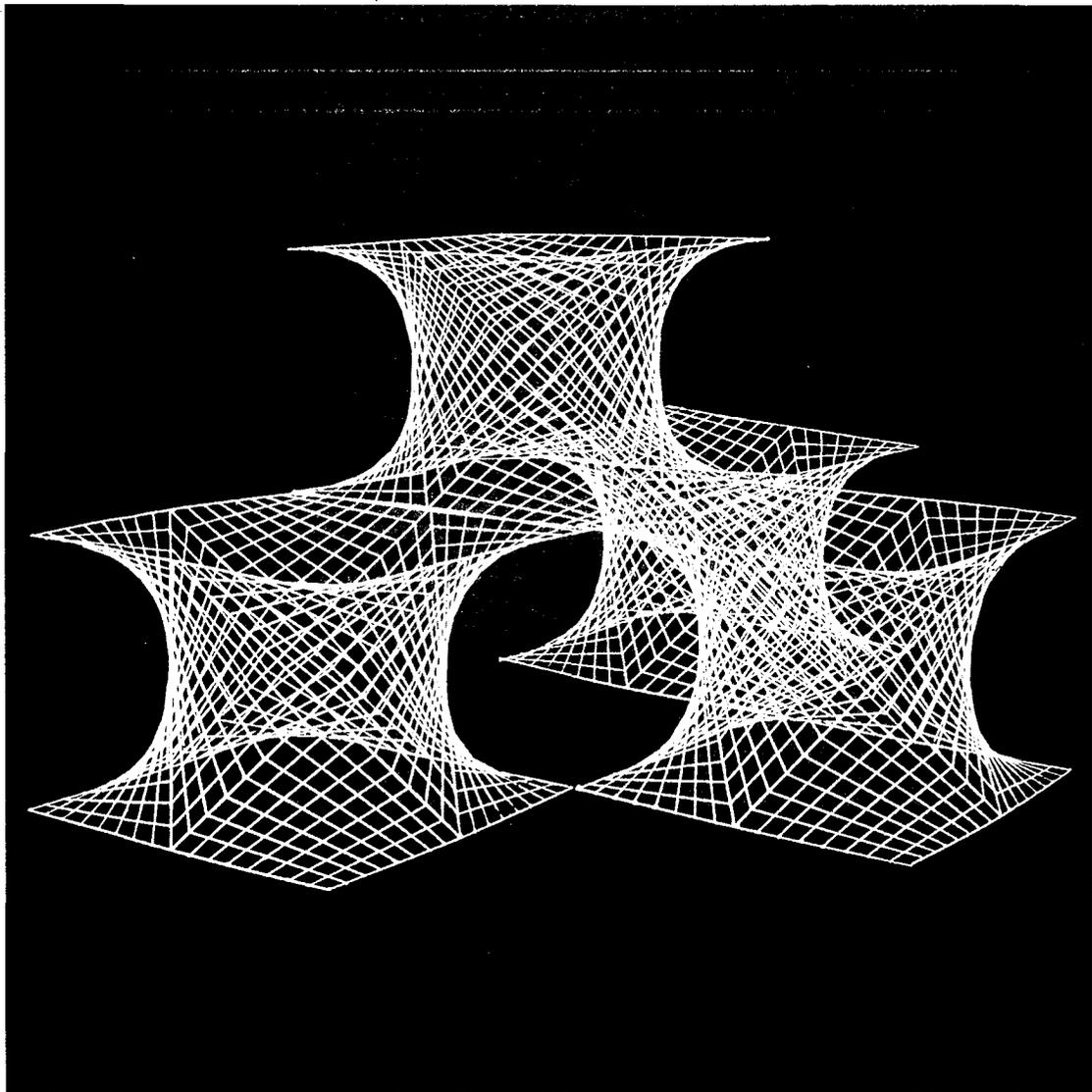


# Symmetry: Culture and Science

**ORDER / DISORDER**  
Proceedings, 4th Congress

The Quarterly of the  
International Society for the  
Interdisciplinary Study of Symmetry  
(ISIS-Symmetry)

Volume 9, Numbers 2 - 4, 1998



## **”ORDO MUNDI“ - ORDER OF THE WORLD AND STRUCTURE OF REASON IN RAFFAELLO’S “STANZA DELLA SEGNATURA“**

Peter Klein

*Address:* University of Hamburg, Faculty of Education, Von-Melle-Park 8, D-20146 Hamburg.  
*Tel.* x49-40-4123-2151, *Fax:* .. - 2112

**Abstract:** *The “Stanze“ are a flight of rooms in the Vatican Palace, ordered by Pope Julius II. to be ornated with frescoes by Raffaello Santi and his disciples. The second of them, called the “Stanza della Segnatura“, was painted first, in 1508-12, by Raffaello himself. Housing the papal library for some time, the frescoes are usually understood as - though brilliant, yet rather conventional - representations of the common fields of study for a cultivated renaissance sovereign: science, Christian theology and the arts, all of which when working together are supposed to cause humane virtue in the studying person, as the images of the “Cardinal virtues“ on the fourth wall indicate. Yet, the meaning of the images and their intentions reach much farther, thus making the room a climax of modern European self-understanding, its pride and failure: they are the program of a reasonable reigndom over the world, intending to do justice to Man and the world, proclaiming autonomy for the reasonable individual, who is guided, and protected, by the merciful self-revelation of God through Jesus Christ. The threefold order of the world: the laws of nature, divine providence, and esthetic order, is reflected in the three components of human reason: cognition, morality, and esthetic judgment, as they were identified in the three “Critiques“ of Immanuel Kant. The complex esthetic qualities of the pictures, the interactions of their symmetries, thus are supposed to express both, the structure of the world and the structure of reason: symmetry gains a semantic meaning, a “spiritual dimension“ transcending mere artistic beauty.*

## EUROPEAN HUMANISM: A CONCEPT OF SUSTAINABLE AND JUST DEVELOPMENT

In the current worldwide crisis of the environment, the term “sustainable development“ figures as a key concept in environmental ethics and policy. It is meant to denote the final goal of human activities insofar they aim for ecological stability of nature and society. It intends a well-balanced long-term status of the world, that renders justice to Man and the world, for the benefit of both.

This idea is understood as a responsible reaction on the severe crisis and damage of nature - and in a more comprehensive sense: also of the crisis of the inner status of Man himself. This crisis is usually understood as the result of science-based industrialisation during the last two centuries, which, to its side, is supposed to be the result of the limitless (ab-)use of specifically European traditions of thinking and interpreting the world; in particular: by the technical application of Europe-born modern science, for the exploitation of the resources of the world, for the pretended benefit of Man - i.e.: esp. for the Europeans.

Since *European* thinking is supposed as the main source of this crisis, it is frequently expected to find salvation from that human corruption in turning to extra-European philosophical or religious traditions, which are supposed to have lived more in concordance with the laws of nature, take more responsibly into account the situation of Man as dependent from nature, are more peaceable and humble, less imperialistic and exploitious.

This view, however, seems to be doubtful: research in the last years more and more has confirmed the suspicion that Man has always and in general been an essentially disastrous event in nature. We had to learn that all cultures had been on their, more or less effective, way to destroy their environment - if not European colonialisation had prevented them from finishing their cultural path into disaster on their own account.

On the other hand, I would like to defend the thesis that European philosophical and religious streams and traditions offer perspectives of cultural self-understanding, of responsibility and respect to nature. Though nowadays widely neglected, they teach us that the exploitive turn of reason is but the abuse of a *part* of full reason - usually called “instrumental reason“ - and that by a sufficiently comprehensive concept of reason a system of incentives and criteria of human activities can be constituted that may be called “sustainable“ in the above defined sense.

As usual in human culture, the ideas on which society is based are expressed by works of art, their symmetries giving symbolic reference of their structures. In a most comprehensive sense those ideas that incited European Renaissance and since characterize modern identity and self-understanding have been expressed by Raffaello Santi in the "Stanza della Segnatura".

## THE "STANZA DELLA SEGNATURA"

The "Stanze" are a flight of rooms in the Vatican Palace which were inhabited by Pope Julius II, because he could not stand the idea of living in the old quarters below, now called the "Borgia apartments" that were so severely abused by his predecessor, Alexander VI "Borgia". So Julius, and his successor Leo X, ordered Raffaello Santi and his disciples to ornate the walls of the Stanze by frescoes. Of these, the frescoes in the second room, commonly called the "Stanza della Segnatura" because at times acts of justice were signed there, have been painted by Raffaello himself in 1508-12, most likely following a program of his friend and philosophical advisor, Fabius Calvus. As the room was also used as the papal library, the paintings usually are understood just as representations of the common fields of interest of a cultivated sovereign.

Instead – and this makes the room a climax of European identity and self-understanding – the images should be understood as the admonitory program of an ideal sacred reigndom, that intends to do justice to Man and the world. It is based on the Renaissance proclamation of individual autonomy and responsibility, and on an image of the structure of human reason identical with that later identified by Kant's "Critiques". It is the proud and self-confident spiritual program of modern (Renaissance) Europe; which in the future failed, however, caused by human weakness, arrogance and self-*mis*understanding - an ambiguity and failure of European culture of which this first room gives reference in advance.

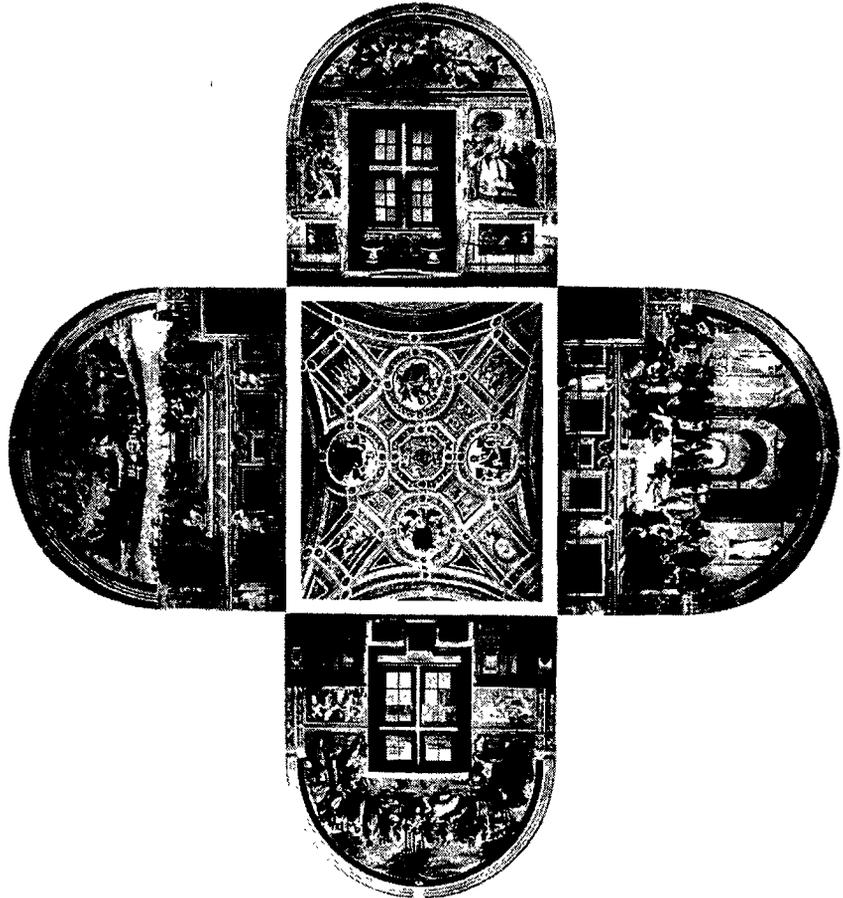


Figure 1

The *general structure* of the room's artistic ideas:

The pope is the ruler of the world insofar, as his mundane as well as his spiritual rulership are installed by divine order. As such, his judgementship over the things of the world should be based on the *Cardinal Virtues* (see IV). These, generated by profound erudition of the three components of reason, must be grounded in:

– *Scientific Knowledge* about the laws of the natural world, and their comprehensive philosophical interpretation, including the image that Man has of himself (see I: “The School of Athens”);

– *Religious Belief*, that embeds moral laws, as the guidelines of action, into a system of divine revelation and providence (see II: "The Disputá of the Holy Sacrament");

– *Artistic Beauty*, as the expression of a humane status of the world to be aimed for (see III, "The Parnassus"), and of the esthetically felt *Virtuous Welldoing* of Man (see IV again).

The seat of the pope is below the Cardinal virtues, as incentives of his reigndom. Science is to his left side, Religion to his right, and opposite are the Arts.

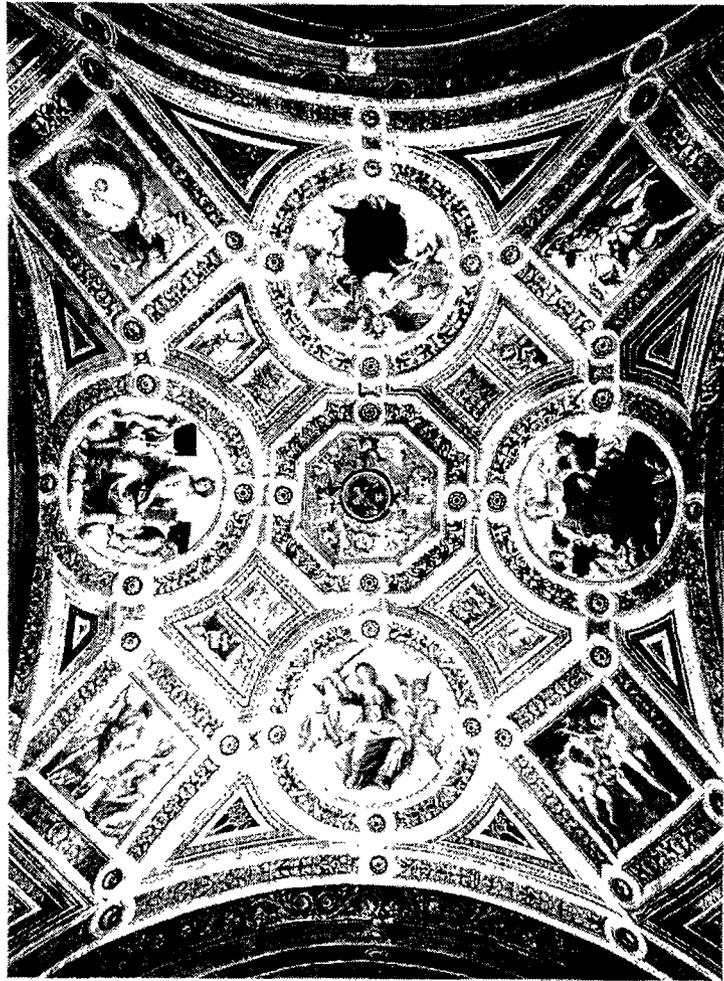


Figure 2

## THE CEILING

*Figure 2:* The ceiling is a fourfold vault, exhibiting a central medallion, surrounded by four round symbolic medallions, right above the four wall paintings, and four rectangular pictures in the diagonal corners.

The *central medallion*: As became usual later in baroque vaults or cupolas, this central place is the location of transcendent or symbolic representation of the theme of the entire room. Thus, the central medallion, painted in the shape of the “lantern“ of a cupola, shows the *papal arms* (= St.Peter’s keys), thus referring to the pope’s role as the mediator between heaven and earth, who is surrounded by angels, as divine messengers (the greek “*eu angelion*“ meaning “good message“).

The *round medallions*: Four symbolic *female figures*, also accompanied by angels, give emblematic reference of the spiritual gifts acquainted by the mental activities illustrated on the walls below:

- *Theology*: (motto:) “*divinarum rerum notitia*“ = Notion of the divine objects
- *Philosophy (Science)*: “*causarum cognitio*“ = Cognition of the causes of things
- *Arts and Poetry*: “*numine afflatur*“ = Touched by spiritual mysteries

These three, when acting together, render justice, enabled by

- *Jurisprudence*: “*jus suum unicuique tribuit*“ = Law awards everybody his due

The rectangular *images in the corners* (see Figure 3): These fields of reasonable functions truly form a *network* of mental activities which is symbolized by connecting two of them, respectively, illustrated by appropriate mythological scenes (clockwise):

- *Adam and Eve (the Original Sin)* (relating theology with jurisprudence): *Justice is guarded and promoted by divine providence*
- *Salomo’s Judgement* (relating jurisprudence with science): *Science-based human wisdom enables true justice*
- *A female genius studying the Zodiacus* (relating science with poetry): *Man reflecting himself by the universe in science and poetry (two books of nature)*
- *Apollo punishing Marsyas* (relating the arts (poetry) with theology): *Artistic arrogance without respect to God will be punished by cruel defeat*



Figure 3

## I THE SCHOOL OF ATHENS



Figure 4

*Figure 4:* In a vast hall, painted as a cassetted vault in the most modern manner by using central perspective (as Raffaello's friend, teacher and advisor Bramante had "built" just recently, as a mixture of architecture and painting, as the "choir" of San Satiro, Milano), we see an assembly of antique philosophers and scientists.

There was no strict cut between *science and philosophy* in those days; rather, science was supposed as rendering truth only if embedded into systematic philosophical contexts.

The motto above: "*causarum cognitio*", refers to both, modern *instrumental causal laws* as also to the four traditional Aristotelian *ontological "causae"*.

Two classic deities in the niches: *Apollon* (left) and *Athene* (right), supervise science by appealing to *good measure* and to *political relevance* of science, respectively, as crucial for true and useful science.

Few of the rich *personalities* have been identified, partly by tradition, partly by plausibility. Some at the same time also are portraits of contemporaries.

In the foreground, *to the left*: scientists representing esoteric paths in philosophy (Pythagoras, Heraklit, Averroes); *to the right*: applied sciences and education (Ptolemaios, Zoroaster, Euclid (an effigy of Bramante, demonstrating to his disciples, including Raffaello himself); *up the steps* (passing the demonstrative scepticism of Diogenes, as an obstacle against a simple ascent to truth; perhaps an effigy of Fabius Calvus), to the left once more the political relevance of science is indicated (Socrates and his disciples, esp. Alcibiades).



Figure 5

In the *center* (see Figure 5), the very representatives of European philosophy, *Plato* and *Aristotle*.

*Plato* is pointing upwards to heaven and eternity, in accordance with his philosophy of eternal ideas beyond the appearing world.

*Aristotle*, as the true founder of European science, by his demonstrative gesture is taking reign and command over the earth.

But *notice*: *Plato* does not bear in his hand one of his “idealistic” dialogues, but his “scientific”, “*Timaios*”, thus saying that these ideas are accessible only via science. Likewise *Aristotle* holds none of his scientific books, but his (Nicomachian) “*Ethica*”, saying that science gains dignity only when aiming for goodness and virtue.

*In general*: *Virtue must be the final aim of science, and there is no true virtue without scientific knowledge!*

## II THE DISPUTÁ OF THE HOLY SACRAMENT

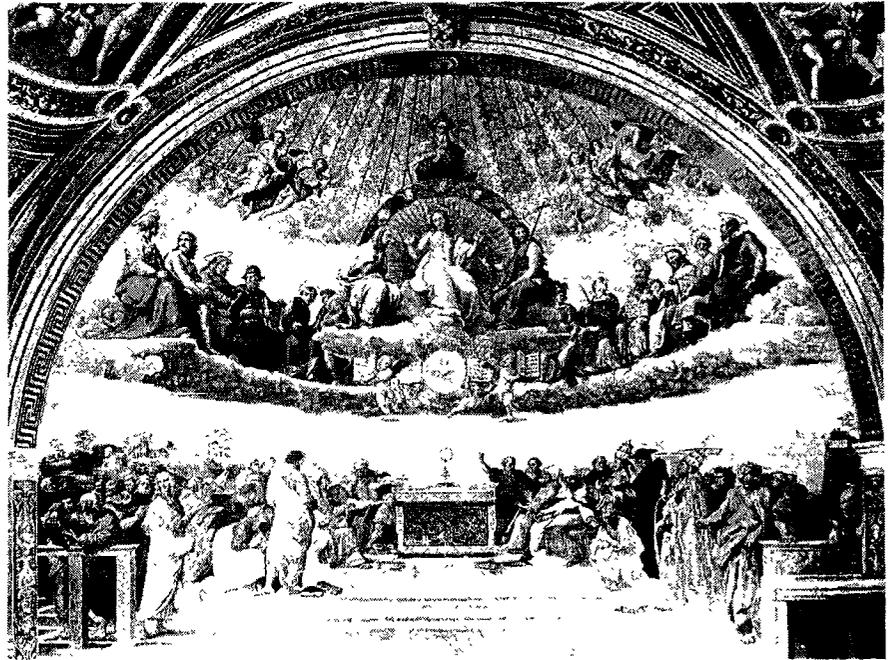


Figure 6

*Figure 6:* This picture is not so much a theological discussion, as the traditional title indicates, but a revelation of the *divine cosmic order and providence*, insofar it is guided and guarded by the three divine persons, respectively.

Consequently, the picture is divided into three spheres:

"Up in the highest" is the sphere of *God the Father*, who has *created* the world and preserves it "through the times". The structures and forces of cosmos, and the heavenly personage: the choirs of angels, whose hierarchic order had been elaborated by medieval theology, is supporting, appraising and revelling His creation, symbolized by a throughout symmetrical arrangement of human-like figures who, by their specific "sfumatic" peinture, clearly express their transcendent character.

The second sphere, still up in the clouds, and thus no subject of ordinary experience, yet participating in both spheres, the heavenly and the terrestrial, is the sphere of the revelation of divine providence with sinful mankind, as has been verified by salvation through *Jesus Christ*.

Closest to Him, St. Mary and St. John the Baptist, then persons from the Old (Adam, Moses, David) and from the New Testament (Apostles, Evangelists, with (right and left) St. Peter and St. Paul as "cornerstones" of the church). All these had been participants and direct witnesses of the historical event of salvation (therefore, the traditional identification of Nr. 7 as St. Lawrence certainly is false).

Divine salvation continues to penetrate our lives on earth by being revealed to us through witness of the four *gospels*, presented by angels, as attendants of the *Holy Spirit*, who acts as the mediator between the world "above" and "below", and will be with us "from now on till the end of the world".

Through all these times God is really present within the world in the shape of the *Holy Sacrament*, which thus becomes the focus point of all perspective lines that regulate and organize the earthly sphere below.

Now religious belief does not so much command us to "discuss" the presence of God, but to cope for understanding and for becoming agreeable to His eyes. The *Holy Fathers*, sitting around the sacrament, have given authoritative exegesis of this secret. But, according to catholic view of the importance of "tradition", also the *theologists* and *priests* (to the right) play their specific part in this never ending spiritual enterprise, as do also the *sceptics* (foreground, right) and the *heretics and gentiles* (foreground, left):

Jesus has dedicated His salvation to all mankind, and speaks to them “in different tongues”.

Note how these three different spheres show a more and more “broken“ symmetry, the more we descend from “heaven“ to “earth“, ending up with a nearly chaotic, yet vivid arrangement of the persons to the left: the clear and eternal “*logos*“ of the world is hidden and gets confused by the human efforts to understand it by discussion, instead of trustful belief in His revelation.

### III THE PARNASSUS

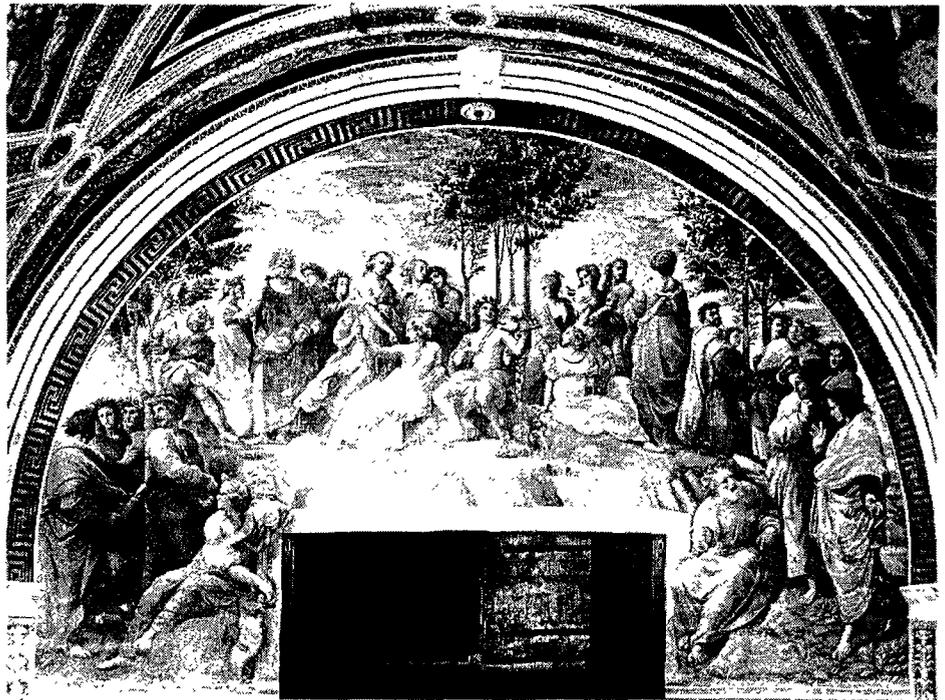


Figure 7

*Figure 7:* This picture perhaps may appear as the most conventional, though certainly it handles the complicated problems of the place on a remarkably high artistic level, in that typically “renaissance“ style, relaxed and vividly “*humane*“, yet “classical“, which Raffaello mastered first and was famous for.

We see an assembly of *poets*, all characterized as "classical" by being coronated with a laurel-wreath (the left person is just a writer listening to the dictation of blind Homeros). Few of them can doubtless be identified (besides Homeros only Sappho and Dante). Some count as known by literary tradition; ancient authors are mixed with contemporaries.

The full range of the arts is present by their symbols, the nine *Muses*, gathering around *Apollon*, who sits beneath the Kastalian Well, creating the harmony of the spheres by playing an old-fashioned violone.

All this looks like a very standard illustration of the literary formative process of Renaissance humanism that focused so much on reading the classical authors. To understand the full programmatic importance *in our context*, we must refer to the book that explicitly elaborates this view, the book of Raffaello's friend, Baldessare Castiglione, "*Il Cortegiano*" (The Book of the Courtier) which exhibits the modern renaissance ideal of a truly cultivated and educated person, able to act in the world with scientific, moral and artistic responsibility, as an autonomous individual personality. Though printed only in 1528, its considerations go back to the conversations held about 1507 at the court of Guidobaldo da Montefeltro and his spouse, Elisabetta Gonzaga, at *Urbino*. This court, since the reign of Guidobaldo's father Federigo counted as the birthplace of renaissance humanism and as the ideal of a truly humane court, famous as singular in Italy for the absence of any crime, murder, conspiracy and immorality. Here, Raffaello, Castiglione and Bramante had met first, and also the later popes Julius and Leo at times had lived there.

These discussions at Urbino now in fact unfold the *ideal of a just reigndom*, based on true humanity, as was supposed to be found in the works of the classical antique authors, as "scriptures", equivalent and complementary to the Holy Bible. This ideal is characterized by continuous coping for moral virtue that comes into being - and is indicated - by the comprehensive beauty of conduct of life, that verifies the ideals of antique classics.

*Thus, beauty is not an adversary of moral goodness, but rather expresses it; in fact, they are a unit of a whole: "Das Schöne ist das moralisch Gute in der Erscheinung" (Schiller).*

#### IV THE CARDINAL VIRTUES

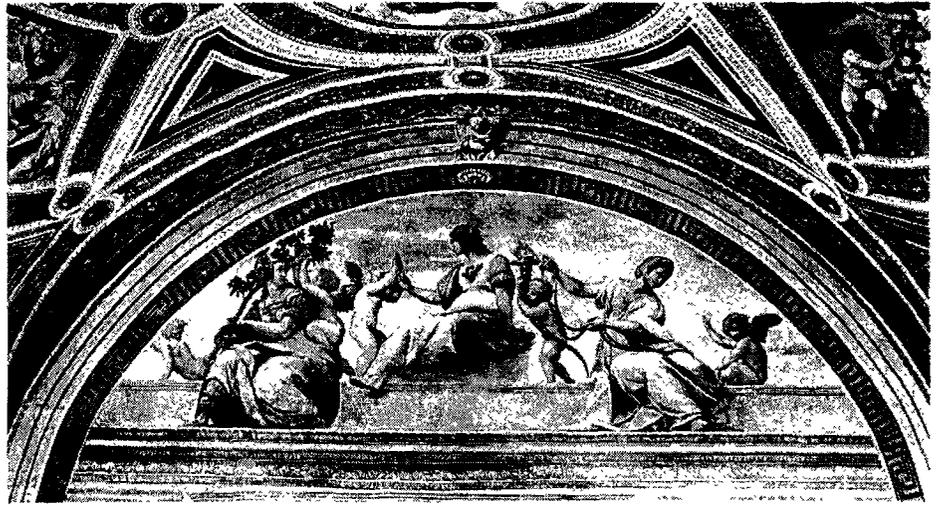


Figure 8

*Figure 8:* Having these three dimensions of reasonable mental activities in mind, their impact onto the human mind is supposed to cause the Cardinal Virtues, as continuous incentives of virtuous action in the world. So whenever the pope sits in the window bay, deliberating on political or spiritual problems, they are above him, acting as appealing guides.

The classical *Cardinal Virtues*:

- *Fortitudo* = courage or strength (with the attributes: oak-tree and lion)
- *Temperantia* = moderation or temperance, also self-control (curbs of passions)
- *Prudentia* = prudence or wisdom (torch of enlightenment, mirror of self-knowledge, also showing the “Janus“-face of knowledge: looking into the dark)

These three virtues, denoting *habits*, according to Aristotle are synthetically comprised by the fourth, that marks the resulting *manners* (hence is painted above them all, on the ceiling):

- *Justitia* = justice or righteousness

## KANT: A COMPREHENSIVE THEORY OF THE STRUCTURE OF REASON

Up to now, we have interpreted Raffaello's pictures as an artistic expression of the renaissance image of the true order of the world, which in its threefold dimension can be understood by the human mind in a rational way, as science, as religion, and in the arts. But how is it possible to be convinced of the truth of this order, which in its core is based on metaphysical ideas about the structure of nature, of the transcendent world, and of artistic beauty. Obviously we must study the structure of our mind as well, hopefully expecting to find our mind well adapted to the world in which we are supposed to act.

The German philosopher Immanuel Kant has done this study in his three "Critiques", finally claiming that he has rendered an empirical description of the full and general structure of reason, independent from any cultural specifications. He discriminates three components of reason which in fact are coordinated to the three dimensions of the world mentioned above.

The "*Critique of pure reason*" describes the *cognitive* basis of instrumental (technical) action of Man in the world, stating that cognition is not a sufficient tool for responsibility in action because it principally cannot give us truth of the world, since it is always limited by the specific structures of cognition at all, namely to sensual data and their cognitive promotion by the logical laws. Especially, cognition is unable to give us knowledge about those metaphysical ideas "behind" the sensual data, which classically acted as foundations of cognitive truth.

Hence a second field of reason, specific *postulates of "practical reason"*, traditionally identified with moral laws and usually bound to a religious system, must be added to cognition, as the sources and guaranties of welfare and eternal salvation of Man: the postulates of "*freedom*" (as the condition of any responsibility in action), of "*eternal life*" (as the basis of aiming for moral perfection at all), and of "*God*" (as the guarantor of the compatibility of natural and moral laws).

Yet, Kant shows, that also these postulates are not sufficient for reasonable action because they in fact are just postulates, meant to fulfill the human aim for acting "free" in a philosophical sense, but grounded in a transcendent world independent from the world of sensual experience, in which we are supposed to act.

Hence, a third field of reasonable mental activity must be considered, called "*power of judgment*" that has to connect the transcendent with the empirical world. Judgment is guided by general ideas about the systematic, "*teleological*" structure of the world, and by the idea of an "*esthetically*" felt well-being of Man within the world. Thus, a just, responsible, and sustainable action of Man is a balanced system of cognition, moral laws, and esthetic judgment, enabling virtuous self-control and self-erudition.

This Kantian system of the structure of reason is only a description of the *formal* structure of reason. In each "culture", as the concept of a manifold of human beings unified by their common image of the world, it is concretely verified by specific cultural ideas about the world as a whole, and of adequate human behaviour in it. In European Christian-based culture the laws of nature and of human morality both are supposed to have been created by God, who, as Christians believe, has created them as an image of His divine essence. Thus, a kind of isomorphic structure unifies them all, as the medieval "*doctor mirabilis*", Albertus Magnus, stated in a most condensed manner: "*Tribus ordinibus ordinatum est universum: scilicet in se, et ad hominem, et ad Deum creantem.*" (i.e., Threefold is the order of the universe, namely: - in itself, - with respect to man, and - with respect to God, the creator.)

The "Stanza della Segnatura" perhaps is the most comprehensive, and also the most beautiful, illustration of these ideas insofar they are considered as mental guidelines for modern European, Christian Man and his culture.

## AMBIGUITY AND CATASTROPHE

We had not yet finished our interpretation of the Stanza, but had left it at the point that the cardinal virtues promise the ability of justice in human action. Exactly at this point, however, the tragedy of the "Stanza della Segnatura" - and symbolically: the tragedy of Renaissance Europe - started by an interruption: by the corruption of Raffaello's program, - an event tragically figuring as a symbol of the failure of European spirit of enlightenment, and of the European concept of individual autonomy at all.

We do not know how Raffaello intended to complete this last wall (below the lunette of the "virtues"), and thus his whole program. But we know what happened instead: When the pope returned from a war campaign, he ordered that two historical scenes should express *his* interpretation of justice:

- Cesar Justinianus donating the *Roman Law* to Trebonianus (Fig. 9a)
- Pope Gregorius IX donating the *Canonic Law* to St. Raimund of Penaforte (Fig. 9b).



Figure 9a



Figure 9b

At first glance these themes quite innocently illustrate two representative historical events that have founded justice in the mundane and in the spiritual sphere. Yet, they are a severe mistake:

"Justice" originally meant the comprehensive destination of mind that overarches knowledge, morality and beauty, thus enabling individual responsibility, now has become a matter of *merely formal law*.

Even worse: The effigy of pope Gregorius was ordered as a portrait of pope Julius himself: thus *self-celebration, diplomacy, and politics take command* (and the following Stanze confirm this decline of spirituality: Raffaello left them to his disciples, disinterested in what would follow after his general idea had been corrupted.)

Up to this point, the program had intended images of pure (infinite) ideas, now they are interpreted as mere (finite) history.

*The pope pretends to do already what originally he was appealed to do, as an ideal:*

Humble endeavor for ideals is replaced by the arrogant self-confidence of modern Man - a symbol of the continuous treachery of reasonable Christian ideals, that we commit every day by our irresponsible conduct of life.

It is the "sin" of Marsyas: proclaiming ourselves as divine, instead of striving modestly after God's benevolence; and like Marsyas we will be punished by getting stripped our skin.

Hence we agree with Wilhelm Kelber who (in his book on Raffaello) summarizes the ambiguity of the Stanza, that Raffaello "*on these walls has documentated the crucial and tragical crisis in the history of human spirit*", from which we do suffer now, and perhaps will perish.