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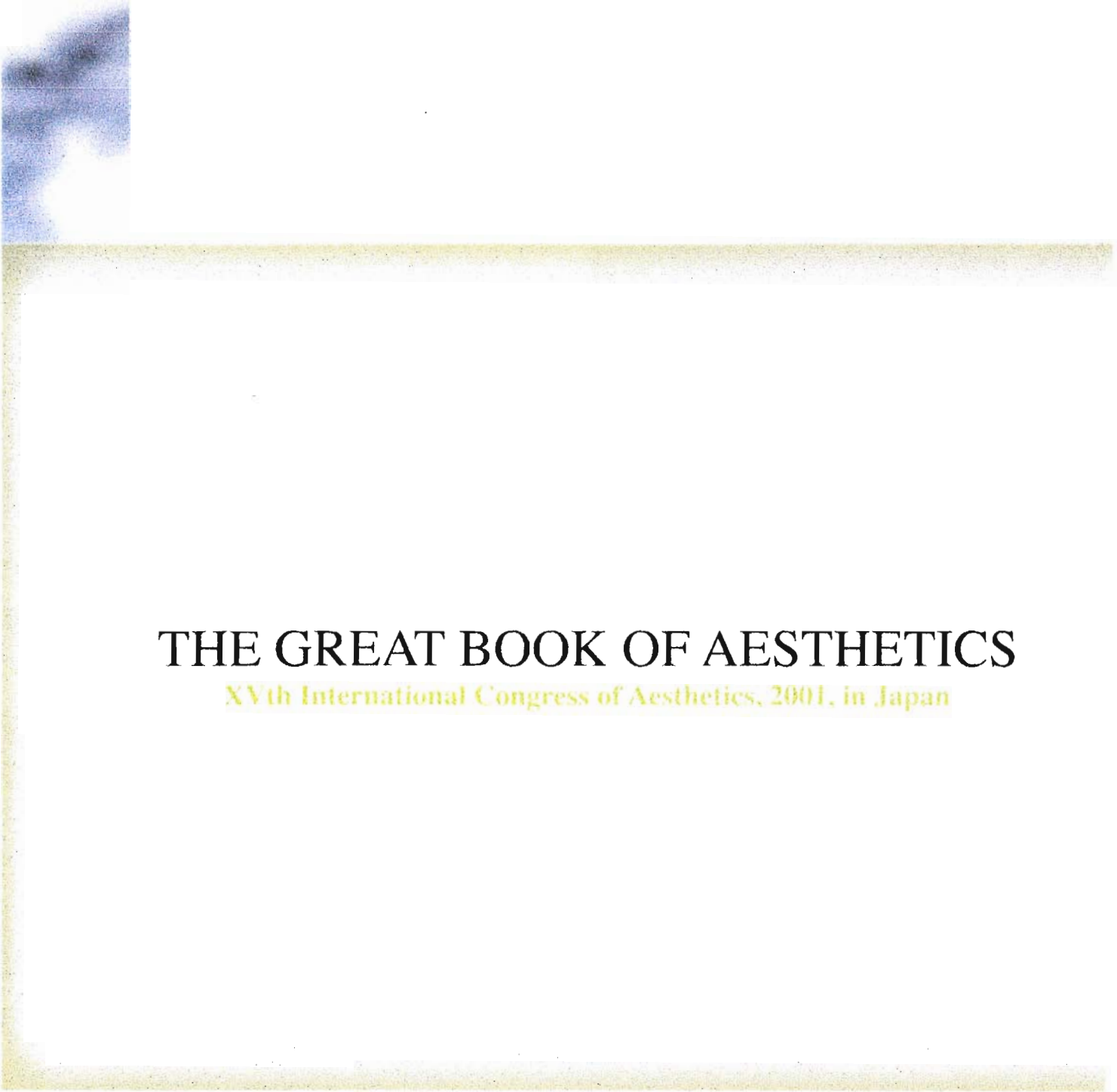
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THE GREAT BOOK OF AESTHETICS
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THE GREAT BOOK OF AESTHETICS

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Abstract

The “golden section” ($\phi' \approx 0.618$) is a proportion that has in various geometric, arithmetic, biological, and artistic contexts fascinated, for 2,600 years, some of the finest minds in European philosophy, sciences, and the arts. It has been called “divine” and the epitome of beauty. The results of the author’s large-scale experimental and archival investigations of the significance of ϕ' in the structure and composition of Western paintings will be presented. The use of the golden section in Western art is elusive and subtle, but detectable; the non-linearity and contextuality of its application suggests that the differences between Western and Far-Eastern aesthetics may have, in some respects, been exaggerated.

In this paper will be presented (1.) a brief introduction concerning the “golden section” (GS) as an ancient Western aesthetic idea, (2.) the author’s view of the conceptual and research errors that had been historically committed by empirical aestheticians interested in the GS, (3., A - D) an overview of the results of the author’s large-scale experimental and archival research program on the significance of the GS in the structure and composition of Western paintings, and (4.) the implications of the current substantive and epistemological status of the GS for (5.) the discussion of the differences between Western and (Far-)Eastern aesthetics.

1.

The GS (or $\phi' \approx 0.618$; ϕ is for Phidias) is a proportion that has in various geometric, arithmetic, bio-morphological, and artistic contexts fascinated, for some 2,600 years, some of the finest minds in European philosophy, sciences, and the arts. It has been called “divine” (by Johannes Kepler) and considered the epitome of beauty by many influential others, including Baumgarten (1750-1758/1961) and, in far greater detail, by Zeising (1854, 1855, 1884-*posthum.*). In the 20th century, Borissavlievitch (1952), among others, has discussed the pervasive role of the GS in aesthetic theory, Huntley (1970) has used it as a major example of aesthetics in mathematics, Bouleau (1962) has identified it in major Western paintings, and Le Corbusier (1951) has made it the building block of his *Modulor* – the proposal for a fusion of the functional and the aesthetic in architecture.

2.

The Leipzig scientist Gustav Fechner performed the seminal experiments on the preference for the GS in rectangles (1871, 1876). Important as these experiments were in representing the beginning of modern *empirical* aesthetics (the so-called “aesthetics from below”), they paradoxically proved to be, in several important respects, *too* influential. Countless researchers, mostly psychologists, have since attempted to examine the significance of the golden section more or less rigorously (for recent reviews, see Green, 1995; Hoegge, 1995). However, much of this research has been too restricted: (a) to non-artistic stimuli (especially rectangles); (b) to objects presented without an aesthetic context; and (c) to non-artists as research participants -- students who often had not even a modicum of training or connoisseurship in the arts (a confusion of “aesthetics from below” with “subjects from below”).

These research limitations can be traced to modern scientific psychology’s rather naïve adherence to the model of (18th-century) physics and the equally quaint belief that the GS is a concept so broad and powerful that it can be captured with almost any stimuli, setting, and type of subject. For these and various other methodological and substantive reasons, the results remain inconclusive: When an entire recent issue of a major journal of empirical aesthetics was devoted to the golden section (*Empirical Studies of the Arts*, 1997, 15, No. 2), that seemed to be the consensus.

3.

The present author’s six-year research program on the GS can be divided into four related steps. The first of these attempted to aestheticize and

contextualize the GS, but continued the tradition of using psychology students as research participants.

A. The Vase on the Mantelpiece: The golden section in context (Konečni, 1997).

In three classroom and laboratory experiments, using a total of some 260 undergraduate research participants (mostly psychology students), the GS was investigated, for comparative reasons, by means of both traditional research tasks (line bi-section, production of rectangles) and novel stimuli (contours and cutouts of vases constructed by the GS and non-GS rules) and tasks (the placement of “vases” on an imaginary and a laboratory, purpose-built, mantelpiece).

Several conclusions could be reached. First, using traditional tasks and stimuli, the GS did not emerge as a notable proportion. Second, there were many complex, but interpretable statistical interactions involving the type of stimuli, type of task, and type of research setting -- the lesson here being that the demonstrable neglect of methodological and conceptual details makes the lack of replicability of much prior research on the GS hardly surprising. Third, the use of the GS in quasi-aesthetic objects (contours and cutouts of vases) produced no advantage of their placement on the GS points of either the entirely imaginary or the almost-real (laboratory-built) mantelpieces: Yet the subjects’ consistent, overwhelming use of *balance* principles for vase contours and cutouts, on both the imaginary and “real” mantelpieces, shows that they took the task very seriously indeed. Fourth, when subjects were asked to choose one from among eleven “vases”, five from the GS, and six from the non-GS series (but with other interesting proportions, such as 0.50, 0.67, 0.75), almost 50% of the respondents chose one particular vase from the GS series (even though there was no overall preference for the GS-series vases).

What do these experiments tell us about the GS? Let us examine in some detail the two judgment situations in which the respective subjects whose responses were summarized under the latter two points above found themselves. In one of these, the subjects arrive to the laboratory one by one. At one end of a large room, there is a realistic-looking mantelpiece with the non-existent fireplace covered by a piece of canvass. From a table at the other end of the room, eleven vases -- all bottom-heavy, but of either GS or non-GS proportions -- are handed to the subject one by one, in a random order. The task is to consider the vase as precious -- Etrurian, Greek, Ming -- and the fireplace as the focal place of their home. The exact placement of the vase on the mantelpiece, it is patiently explained, will become a salient visual element of daily living in one’s home, as well as an issue of pride with regard to respected visitors.

What the subjects do in this situation is extremely orderly: The bigger the vase (*regardless* of its GS or non-GS proportions), the closer to the center of the mantelpiece it is placed on the average. The smaller the vase, the greater the variability. Thus, whereas the placement distributions of each of the eleven vases have their respective means at mantelpiece midpoints, the dispersion of the vase placement is inversely related to vase size. The GS does not matter, balance does. The perception of a big vase close to the end of the mantelpiece is uncomfortable -- *the basis will tip!* --even if the vase is a cutout and the mantelpiece made of solid wood.

In the second situation, the subjects -- in a group, but making the ratings individually -- looked at all eleven “vases” simultaneously, with no mention of placement or mantelpiece, but with the instruction that they should imagine that all the vases were of extreme beauty and value and that they could take the chosen one with them. Almost 50% of the research participants chose the same vase -- which had GS proportions --although the GS vases were not generally preferred; the most chosen vase was not the biggest, so that the idea that the bigger the vase the better can be discarded.

Evidently, for the significance of the GS to be demonstrated, it is not sufficient that the stimuli are somewhat aestheticized and somewhat contextualized. These half-steps cannot offset the disadvantage of the GS when it is pitted against a truly powerful aesthetic need, such as that for balance, at least not when people untrained in the arts are used as subjects. Yet one of the vases from the GS series was the overwhelming favorite of these very subjects. The GS may be important, but only in conjunction with several other factors, as a part of higher-order interactions. These ideas were explored in the next step of the research program, with practicing painters as subjects.

B. Painters’ Differential Accuracy in Capturing the GS vs. Other Proportions (Konečni, 2000).

In this project, the relative significance of the golden section was investigated using a new, unobtrusive, methodology, a modified Fechnerian “method of production.”

Fourteen professional painters sketched under controlled laboratory conditions -- with instructions to do so "veridically, accurately, and realistically" -- 27 complex stimuli presented as slides. The stimuli were: Four of the vases used in *A.* (two of which were from the GS series, including the most favorite vase, and two from the non-GS series), each of which had been photographed in color at four points of the mantelpiece (0.50, 0.62, 0.70 = "control," 0.75), for a total of 16 vase stimuli; seven stimuli were color slides of original abstract and semi-abstract paintings by Robert Kodama, a young and relatively unknown San Diego painter (who had incorporated the GS and other proportions into his paintings both prior to having a formal knowledge of the concept and intentionally, after learning about it); finally, four stimuli were color slides of well-known paintings by Piet Mondrian and James Whistler (two each; no writings by and about Whistler emphasize proportions or the golden section; the opposite is the case for Mondrian).

The golden section and other significant and control proportions (120 occurrences: 48, collectively, in the vases; 30 in the seven Kodamas; 42 in the four Mondrians and Whistlers) were identified beforehand in the stimuli. The 378 sketches produced by the 14 painters were measured to determine the accuracy with which the various proportions (a grand total of 1680 instances) had been reproduced by them. Hypotheses were derived from psychological notions concerning attention, cognitive processing, and the "prestige effect" (e.g., Francès, 1976), and, especially, from extensive interviews with professional painters (other than those used as subjects), who were thus treated as research *informants* -- in the sense that this term is used in anthropology. It was predicted that the sketching accuracy would depend on attention, and that the painters would experience more of a respect-induced and welcome challenge when confronted with authentic paintings -- especially by well-known painters -- as opposed to vases. It was also expected that the GS would be differentially more accurately sketched than other proportions when the stimuli were famous paintings, rather than the vases and works by Kodama. Finally, the greatest accuracy of sketching and the greatest advantage of the GS was predicted to occur for the two works of Mondrian, because of the respect he commands, and the welcome challenge he would pose as a supreme modern master of the proportions (including the GS) and the relational details of geometric forms.

The overall accuracy in rendering the vase-stimuli proportions was relatively low, 20%. In part because the vase-placement proportions at 0.50 and 0.75 were rendered somewhat more accurately than the structural proportions of the vases themselves, the vase so much preferred in the earlier research, and thus the golden sections in general, had no advantage in the accuracy of being rendered for these stimuli.

In the case of the seven Kodama paintings, the overall accuracy was almost as low, 22%. However, the Kodama golden sections were rendered significantly more accurately than was the case for the vases (26% vs. 18%), although 1.00, in its rare two occurrences (as three sides of a square and a circle), was rendered even more accurately than the GS within the Kodama stimuli.

Significantly higher overall accuracy than for the vases and the Kodamas was observed for the four Mondrians and Whistlers collectively, 42%. Furthermore, with regard to these works, whereas the accuracy for other proportions was in the 28% to 43% range, that for the GS (61%) and 1.00 (57%) was considerably higher; and for each of the four paintings, the GS was the most veridically rendered proportion, followed closely by 1.00. However, the Mondrians did not significantly differ from the Whistlers in the accuracy with which either the GS or 1.00 was rendered.

The relatively high accuracy of rendering proportions in general essentially validated the new research method that was developed for this study. The overall accuracy increased considerably from the vases and Kodamas to the Mondrians and Whistlers. The GS and 1.00 were rendered more accurately than other proportions for all the paintings (as opposed to vases), but this differential effect was especially pronounced in the the Mondrians and Whistlers. Very high -- 71% -- accuracy, was observed for the golden sections in one Whistler and one Mondrian; the highest accuracy of rendering 1.00 was 66% in that same Mondrian.

Most of the predictions thus proved to be correct. That the 0.62 and 1.00 depicted by a painter famous for masterful geometricity were not rendered more accurately than those presented by Whistler is somewhat surprising, but not essential. In addition, since the square and the circle are considered in aesthetics and the Gestalt perception theory as perfect and strong forms (e.g., Arnheim, 1974; Koffka, 1935), the very accurate rendering of 1.00 in the paintings certainly does not decrease the significance of the GS.

The present results show that the GS is considerably more important than one would have concluded on the basis of the research presented in *A.*: It is subtle, but its elusiveness can be considerably decreased by using authentic, first-rate, paintings as research stimuli, professional painters as

informants and research participants, and an appropriate new methodology by which to tease out unobtrusively such subjects' selective viewing and responding to different proportions.

C. *The GS in the Structure of 20th-Century Paintings* (Konečni, 1999; in press).

The 20th-century is of particular interest with regard to the GS, because this period has been conspicuous, on one hand, for the rejection of traditional learning and ideas, and, on the other, for geometricity and abstraction. The next step of the research program was to ask whether the GS is used in the structure of 20th-century paintings and, if so, in which way; also, it was of interest to find out which other proportions were used in the works which contained the golden section(s).

The intention of this research obviously was not to obtain the accurate incidence and prevalence values (in epidemiological terms) of the GS in the total population of 20th-century paintings (an impossible task of induction) or even in a genuine random sample (because various insurmountable logistical problems precluded such sampling). Rather, the goal was, first, to derive from a larger pool of paintings a sizable sample (of about 100), in which each painting would contain at least one GS. Second, these paintings were to be further closely scrutinized with regard to the GS and other significant proportions (such as 0.50, 0.67, 0.75, 1.00).

An initial pool of 250 paintings was sufficient for the detection of 95 paintings, each of which contained at least one GS (by the four criteria listed below) – which by itself is roughly informative about the incidence of the golden section in 20th-century paintings. The 95 works in the final sample were by 52 painters and all the decades of the 20th-century were represented to some extent.

In the case of most paintings, including abstract ones, one can identify in their content many relationships that can be expressed as proportions. In the present work, only the major and prominent structural and compositional elements, on which there was general agreement among the author, art authorities, and colleagues, were selected for measurement. The following elements were measured in each of the 95 works, with the measurements described under (b), (c), and (d) representing the new substantive contribution of the present study to the GS literature:

(a) Overall dimensions of the painting (“picture size”); (b) Vertical bi-section of the painting, which addressed the issue of left-right balance or the horizontal distribution of perceptual weights; (c) Horizontal bi-section, which addressed top-bottom balance or the vertical distribution of weights; (d) In addition to the proportions obtained by line bi-section, as in (b) and (c) above, various proportions, including the golden section, were identified and measured in various geometric shapes that may occur in paintings both as pure forms (e.g., the “golden rectangle,” where $a/b = 0.62$) and incorporated in the forms of the depicted objects; therefore, the facial and bodily proportions of the key human figures were identified and measured, as well as the dimensions of the various structurally prominent objects, such as houses, bridges, windows, crosses, vases, etc.; in addition, the major compositional relationships, including the spatial arrangement of color (for example, in “color-field” paintings), were identified and measured.

The results of the various types of measurement were interesting and instructive. With regard to *picture size* (expressed as the ratio of the shorter to the longer dimension), which was used only for auxiliary purposes in this research, the findings were in close agreement with some much larger samples (e.g., Fechner, 1876; Shortess, Clarke, & Shannon, 1997) in terms of both the relative scarcity of the GS and the relatively high incidence of 0.75 -- which should increase the confidence in the quasi-random sampling procedure by which the initial pool of 250 works was obtained.

Before turning to the results of the measurement of the *vertical bi-section* (the point on the horizontal side of the painting where the vertical axis intersected it was expressed as the ratio of the longer section to the entire width of the painting), a comment about symmetry and balance is in order. Mirror-image symmetry with regard to a vertical line that intersects the width of the painting at midpoint (0.50 in the present research, but 1.00 if the ratio of one of the two sections to the other is the unit of analysis) gradually began to disappear from Western painting some 650 years ago. It was replaced by balance, or the harmonious left-right distribution of perceptual weights -- but with reference to an identically (centrally) placed vertical axis.

What art judgment tests and psycho-aestheticians alike mean by imbalance is the situation where the weights within a picture deviate from a harmonious distribution around the central vertical axis. However, note that almost every painting thus unbalanced can in fact be considered balanced, but with reference to an imaginary vertical axis that is shifted from the center. The present research was concerned with the existence and the degree of

such shifts. Specifically, when an artist, consciously or not, chooses to break the norm -- presumably consisting of the central placement of the vertically bi-secting line -- where does that artist shift laterally and why?

For 63 of the 95 paintings in the sample, the vertical bi-section was found to be exactly at midpoint or in the 0.501-0.545 region. Thus, even in the 20th-century, at least as it is represented in this sample, 66% of the paintings are balanced with regard to a centrally placed vertical axis and thus intuitively follow a traditional prescription.

Of the remaining 32 paintings, the vertical axis was shifted from the center to the 0.546-0.595 region in the case of 10 paintings and to the GS (the 0.596-0.645 region) in the remaining 22 works (an impressive 23% of the sample and 69% of the non-center sub-sample). The shift of the vertical axis from the midpoint does not taper off, but rather a jump is made from the center to the golden section via a relatively little-used fuzzy region in-between. And it is noteworthy that none of the 95 paintings had the vertically bi-secting line shifted to beyond the GS region.

Consciously or not, artists who avoided the (boring?) centrally placed vertical bi-section, also avoided the (fuzzy and thus annoying?) adjoining region of the perceptible, but too small a shift from the central axis. The golden section may be the just-right region between the midpoint and two-thirds, in part because its legendary mathematical appeal gives it an intriguing advantage over, say, the nondescript 0.585, whereas a left-right imbalance greater than a vertical axis in the GS region was unpalatable to the artists in this sample.

Balance with regard to a horizontal axis has been far less discussed, mostly because the top-bottom mirror symmetry has been so very rare even early in Western art (cf. Bouleau, 1963). But this type of balance, specifically in terms of a centrally positioned horizontal axis, certainly was quite common in the 15th- and 16th-Century Italian, Flemish, and Spanish religious art. Painters tended to fill up the canvass, typically with the bottom part being taken by earth-bound doings of interest to the Roman Church, with the top reserved for the godly, angelic, and saintly presences. A good example is El Greco's stupendous *The Burial of Count Orgaz* (1586), a painting of irregular shape, but the horizontal axis of which can reasonably be estimated to intersect the height at 0.55 (the longer, top, section divided by the entire height, which was the procedure for computing the *horizontal bi-section* in the present research).

Even without statistical evidence, one could vouch that in the later centuries the top part became even longer -- mostly by virtue of the painters relieving the sky of heavenly weight. Already in Velasquez's *Las Meninas* (1656), within -- by the present sample's standard -- a very rare ratio of overall dimensions of 0.87 (317.50 X 275.60), the ratio analogous to that computed for *Count Orgaz* can be estimated at 0.63 (close to the lower golden section).

One could have reasonably expected the 20th-century "sky" to fill up, starting with the Cubists, and continuing with the various forms of abstraction, thus bringing the ratio close to 0.50. Indeed, in the present research, 62 of the 95 paintings were found to have the horizontal axis at 0.50 and another eight in the 0.501-0.545 region. At least in the present sample, there is a very considerable degree (74%) of safe top-bottom balance with regard to a centrally placed horizontal axis. For the majority of the painters represented in this sample, the top-bottom direction seems to have been a somewhat less attractive one for experimentation with balance than the left-right: It may be perceptually or aesthetically a less hospitable medium.

The remaining 25 paintings were almost equally divided between the regions of 0.546-0.595 (13 paintings) and 0.596-0.645 (the golden-section region with 12 paintings, all within the range of 0.60-0.63, five at 0.62). Thus, for none of the 95 paintings did the ratio of the longer part to the entire height, resulting from the horizontal bi-section, exceed 0.63: The GS region was again the limit of the off-center balancing experimentation.

When the vertical and horizontal bi-sections are considered jointly, over half of the paintings in the sample (49) are found in the cell defined by both bi-sections being at, or very close, to 0.50. However, the pattern of shifts away from the double central balance is highly instructive. The most interesting cell is undoubtedly the one with the paintings (seven) displaying the greatest displacement from *both* central axes, that is, those shifted into the GS region with regard to both types of bi-section.

Without judging other attributes of these paintings, perhaps only one strikes this author as having a dubious composition. In all the other cases, the double displacement to the GS region is effectively used to maximize both interest and focus on the desired feature(s). The key structural and thematic attributes would have been boring or awkward had they been more centrally placed with regard to either axis. These painters sought the viewer's

interest more than pleasure.

Finally, one can examine the results of the measurement of the various proportions *within paintings* (note that the summary results below exclude picture size and both bi-sections). Although the method of selection may have contributed somewhat to the fact that the GS was used 254 times within these 88 paintings (no occurrences within seven works), or 2.89 per painting, this high number testifies to the popularity of use of the GS in the structural, compositional, and thematic elements of numerous 20th-century works. Furthermore, the variety of styles and decades in which such heavy use occurred was impressive. The most frequent appearance of the GS (over five per painting) was in six works in which geometric patterns were used repetitively. Given that these canvasses are entirely filled up by patterns, it is not surprising that 11 of 12 vertical and horizontal bi-sections of these six works were in the 0.50 region.

Other proportions were used in the key structural elements a fair amount (1.57 per painting) in those (seven) works in which the GS did not appear -- and considerably less than that in the paintings in which the GS made a moderate appearance (one, two, and three occurrences). It was only in paintings with four and more occurrences of the GS that the average use of other proportions equals and then substantially exceeds that in the seven paintings without a structural GS.

So, two tendencies seem to be at work. One is to avoid the GS altogether and use other proportions (these seven paintings were included in the sample because of the ratios of overall dimensions or of the bi-sections). The other is a preference for geometricity that is reflected in the clear trend that as the use of the GS increases in frequency so does that of the other proportions.

The total number of occurrences of non-golden-section proportions in the 95 paintings was 122 (1.28 per painting), of which over a half (63, 52%) were 1.00 and 0.67. The ratio of 1.00 was especially frequently used -- in squares, partial squares, implied perpendicular diameters of circles, the shapes of regions around key figures, and within various depicted objects. This finding confirms 0.62 and 1.00 as serious rivals (Konečni, 2000).

D. The "Golden Woman" (Konečni & Cline, 2001).

In ancient Greece, the GS emerged in art and aesthetics in part through the depiction of the human facial and bodily proportions. Measurement of the GS in the human body was also a research focus of Zeising (1854) and a great interest of Le Corbusier (1954; cf. Arnheim, 1966). For such reasons, a separate study was conducted on all the paintings -- 24 -- in the sample of 95 described in *C.* which contained female figures (a total of 28).

The woman (including the nude) is, of course, one of the major themes of Western painting; also, from a socio-biological perspective, the pictorial representations of women are of interest in that they may intuitively summarize, in the work of some very talented artists, the accumulated beliefs regarding the relationship of the female bodily proportions and "reproductive fitness" -- perhaps mediated by attributes such as age, health, and attractiveness (e.g., Buss, 1994; Cunningham, 1986; Gangestad & Thornhill, 1997; Johnston, 2000; Jones, 1995; Katz, 1999; Singh, 1993).

Two additional facial and two bodily measurements were made on each of these figures (when this was feasible); furthermore, a sample of 81 research participants (of whom 50 were women) assessed the age and physical attractiveness of the figures.

When the painters depicted young female figures, they tended also to impart a considerable physical attractiveness to them. The most attractive figures differed from the rest of the sample in three of the four proportions that were measured in this study. Although one might perhaps be able to identify other proportions that would distinguish the most attractive members of the sample from the older and less attractive young members, it is notable that two of the three distinguishing proportions -- the "facial cross" (the ratio of the distance between the cheekbones to face length) and the body bi-section at the navel -- are golden sections that have been an important part of the classical ideas of youth, health, fertility, and beauty and used as such in Greek statues (as well as the more recent portraiture: cf. Konečni, 1991).

Two thousand years later, painters in the sample (sixteen, mostly European, men), despite working in a variety of styles, collectively continued to give life to these ideas through their use of female proportions. The fact that their meaning was correctly communicated many decades later to young Californian viewers of both sexes, mostly unschooled in the arts, testifies to their being an aspect of accumulated human beliefs -- or, may one say, wisdom?

In *line bi-section*, the GS is a source of tension, a perceptual pull away from the center. This tension is not tolerated in vase placement on a mantelpiece, at least not for large vases and by non-artists. In modern paintings, however, the bi-secting point of the horizontal dimension is placed at the GS fairly often, perhaps to avoid the predictability of central placement and introduce the novelty of a noticeable, but not too big, a lateral shift. Interest, rather than tedious comfort, is presumably sought. In the bi-section of the vertical dimension of paintings, the GS placement is more rare, but in terms of the bi-section of the female figure at the navel, the GS is the ideal that is captured in paintings and highly evaluated even by ordinary viewers.

With regard to the use of the GS in *cross shapes*, the precise context is again paramount. The golden facial cross appears to be a key aspect of female attractiveness and is implicitly recognized as such by both painters and ordinary viewers. A vase containing an inverted golden cross was the most preferred, but that was not true for other, both bigger and smaller, vases built on the basis of analogous golden crosses.

“Context effects” (higher-order factorial interactions) also seem to govern the use of *golden rectangles* and other compositional, structural, and color features *within* paintings. In the works characterized by geometricity, the copious use of the GS is often accompanied by an increased use of other significant proportions, especially 1.00. Again, it can be fairly safely assumed that the juxtapositions of golden rectangles and ellipses with squares and circles (e.g., in a Mondrian, Kandinsky, or Klee) are meant to introduce interest, complexity, and a desirable amount of tension.

The results, taken together, suggest that the traditional elusiveness of the golden section can be attributed to its subtle, configural use by both artists and nature; perhaps in order to have impact, it is used sparingly -- but it is detectable by an analytically and methodologically careful inquiry.

5.

The golden section is one of the concepts with a remarkable pedigree in Western culture and art. Had it, as an example, been more appropriately investigated by empirical aestheticians, the results might have muted some of the recent misguided descriptions of Western art (to go with the allegedly prevalent Western “epistemological types” and “mindscape types”) as “linear,” “hierarchical,” “one-truth,” and “homogeneous” -- attributes which are then contrasted with those of the Far-Eastern art and aesthetics, such as, to give just one example, Zeami Motokiyo’s 14th/15th-century *yūgen* (e.g., Deutsch, 1975; Maruyama, 1991, 1992; Maruyama, Farkas, & Capron, 1994; Servomaa, 1997).

The contextuality and configurality of the applications of the GS, which has been revealed in the present research, contradicts such “post-modern” views to a considerable extent. The criticisms turn out essentially to be misdirected: They seem more pertinent to the naively optimistic, positivist methods by which the GS had traditionally been investigated than to the details of the aesthetic contexts in which it has actually been placed and found. In the process, the differences between Western and Far-Eastern art and aesthetics have been artificially exaggerated. [There are, of course, unsystematic, light-hearted exaggerations of the differences, such as Tanizaki’s (1977) *In praise of shadows*; here, the comparisons are often facile to the point of becoming perverse.]

Less doctrinaire comparisons than those found in the post-modern deconstruction sources are, of course, numerous and have resisted the political, linguistic, and cultural temptations to exaggerate the differences (e.g., Bowie, 1911; Buhot, 1961/1967; Lee, 1994; Neuer, Libertson, & Yoshida, 1979; Terada, 1976). The hints and echoes of kinship are, in fact, many. Correspondences to the classical Western concepts of “unity-in-variety,” dialectics, polarity, and symbiosis can be readily found in the *yin-yang* principles of the Tao (cf. Rowley, 1959). Echoes of Plato abound in Confucius and Liu Hsieh, of Epicurus in the Taoist Yang Chu (Munro, 1965). As he steps into the character, a Western Stanislavskian actor is guided by principles that appear very similar to “living movement,” *sei do*, or *kokoro mochi* -- a key notion of Japanese *painting*, which, as described by Bowie (1911), urges the painter to experience the essence of the subject he is about to paint.

Perhaps most intriguingly, all seven attributes of Zen aesthetics that are described by Hisamatsu (1958/1971) in his distinguished *Zen and the fine*

arts, including the fifth, the aforementioned *yūgen* ("profound subtlety"), are shared, in the author's opinion, by the golden section. In its many mathematical, biological, and artistic manifestations, it is a marvel that imples *yūgen* just as does the *karesansui* rock garden Ryōanji in Kyoto.

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