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# Developmental Disparities in Differing Levels of Conceptions of the Beautiful and Implications on Marriage as a Fundamental Organizational Unit

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This paper presents the empirical results of a study with 70 adult respondents concerning whether Picasso's *Les Femmes d'Alger (O.J.)* (1907) and *The Bull Series* (1945–1946) are beautiful or not. The correlation between responses to these 2 complex Cubist art works is  $.97, p = .01$ . Disparities between subjects' conceptions of what the works of art are about in contrast to what Picasso depicted are characterized by 2 structural-developmental levels. This study extends some of the findings of conceptions of the beautiful (Erdynast & Chen, 2014). The hypothesis that a higher chronological age cannot be equated with a higher exhibited developmental level of conception of the beautiful and that some older age subjects exhibited lower-level responses than some younger age subjects was supported. Content choice changes concerning the 2 artworks were always unidirectional, from "not beautiful to beautiful" or from "undecided" to "beautiful;" never in the opposite direction. Developmental disparities of conceptions of the beautiful are illustrated in the late period of the marriage and divorce of the Nobel Prize-winning playwright Harold Pinter and actress Vivien Merchant. Their structural-developmental conceptual analyses of aesthetic (and political and human rights) issues were so disparate that Harold Pinter could not effectively communicate about his conceptions as a playwright and social critic. Picasso's *Les Femmes d'Alger (O.J.)* and *The Bull Series* illustrate general principles of design and command of line: composition and balance, movement, dynamic tensions, interplay between abstraction and realism, rhythms of form and planes, distinctness of style and craft.

*Keywords:* Developmental conceptions of the beautiful

## Conceptions of the Beautiful

Conceptions of the beautiful involve the contemplation, appreciation, and fashioning of beautiful objects (Rawls, 1971; Dewey, 1980). Numerous questions are studied in the field of aesthetics, but the three most fundamental questions are: (a) does beauty exist, (b) if beauty does exist, is beauty culturally relative and different in differing cultures, and (c) if beauty exists, what are its properties (Adler, 1981)? Marriage is a fundamental organizational unit, and shared conceptions of the beautiful within a marriage are one indication of its compatibilities (Huston & Houts, 1998) and/or comple-

mentarities. Developmental disparities within a marriage can be present when conceptions of the beautiful are so different and structurally distant from one another that there is no commonality between them. Developmental disparities are illustrated in this article in the late period of the marriage and divorce of the playwright Harold Pinter who went on to win a Nobel Prize for literature in his later life and Vivien Merchant who was an actress when they were in their mid-40s. Their structural-developmental conceptual analyses of aesthetic (and political and human rights) issues were so different that Harold Pinter could not effectively communicate about his conceptions.

Empirical studies of structural-developmental levels conceptions of the beautiful are sparse. In one cross-sectional study of children's conceptions of artworks, 121 children ranging in age from 4 to 16 were shown works of art and administered an open-ended Piagetian clinical interview with inquiries about reasons

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for their tastes such as, “Did you like it?”, and their opinions, “Do you think everyone would like it?” (Gardner, Winner, & Kircher, 1975). Three types of general developmental levels of responses were found: *immature* responses among the 4–7 year olds, *intermediate* or *transitional* responses among the 8–12 year olds, and *mature* responses among the 14–16 year olds. The three stages are characterized as follows:

The most fundamental misconceptions about art were typically found among the youngest subjects. When asked to identify works, they tended to name the represented objects rather than the medium of representation. When asked about the medium directly, they often gave answers which were *concrete* and *mechanistic*. That is, the child focused on the mechanics of producing a work, such as the machinery and actions involved in production and the technical limitations, such as the size of the canvas or the amount of paint available. The immature responses tended to be animistic—the paintings might be thought to just begin, or arise out of paper and paint.

The children in the middle age group had thoughts that were emerging away from primitive conceptions but not yet accommodating to the thoughts of those of the older group. Art was rather rigidly seen as a *striving toward realism*, the success of which was judged by proper authorities rather than by individual actions. . . . (Both) responses and interpretations of questions tended to be extremely *literal*—the subjects did not generalize beyond the most concrete interpretation of the question, and they failed to consider the possible, focusing instead on the here-and-now.

The oldest subjects were capable of a less mechanistic, more *complex* and *cognitive* view of art. . . . These adolescent subjects did . . . demonstrate a basic understanding of the difficulty involved in artistic creation, the various direction which works and styles can take, the properties of different media, and the relation of art to the public. (Gardner et al., 1975, pp. 64–65.)

Parsons (1987) examined understanding of art and presented over 300 children, adolescents, and adults with seven questions about eight paintings. The eight paintings were representative of seven artists (two were by Picasso). The questions concern art and aesthetics as these are philosophically conceived (Collingwood, 1958; Danto, 1981; Dewey, 1980; Langer, 1953). The question “Is it beautiful?”

was not included in the interview protocol. The questions were:

1. Describe this painting to me.
2. What is it about? Is that a good subject for a painting?
3. What feelings do you see in the painting?
4. What about the colors? Are they good colors?
5. What about the form (things that repeat)? What about texture?
6. Was this a difficult painting to do? What would be difficult?
7. Is this a good painting? Why?

Parsons’ questionnaire was effective in identifying five cross-sectional developmental stages of conceptions of the good as applied to works of art. The stages of understanding art were determined by examining responses about (a) the subject, (b) the expression, (c) the medium, form and style, and (d) the judgment. The developmental stages of understanding art identified in the study are: Stage I–Favoritism, Stage II–Beauty and Realism, Stage III–Expressiveness, Stage IV–Style and Form, and Stage 5–Autonomy. Although the study did not present quantitatively correlated results, Parsons (1987) concludes that the five stages identified in the study generally parallel Kohlberg’s stages of moral development. Parsons does not address any differences between an individual’s developmental reasoning about one work of art and the other works, either qualitatively or quantitatively.

The structures of conceptions of the beautiful using a single lithograph by Picasso, asking the question “Is it beautiful?” have been studied (Erdynast, Armon, & Nelson (1978) along with the Piagetian clinical interview structural reasoning probe question, “Why or why not?” A reproduction of Picasso’s four-line etching of buttocks from an illustration for Ovid’s *Metamorphosis* (Ovid, 1977) was used to elicit judgments of whether the etching is beautiful or not. Results of the study organized the responses into structural-developmental levels ranging from egoistic judgments of taste to principled judgments of the beautiful.

Responses to five works of art by two creative artists, Picasso and Michelangelo were studied by Erdynast and Chen (2014). These are Picasso’s *The Blind Man’s Meal* (1903),

*Woman Ironing* (1904), *Les Demoiselles d'Avignon* (1907), *Weeping Woman* (1937), and Michelangelo's *Pietà* (1498–1500) sculpture at St. Peter's Basilica. Among the results of the study are the findings that differing levels of task complexity represented by the different works of art elicit varying levels of conceptions of the beautiful from subjects—the more complex the painting, the less its aesthetic characteristics are understood by subjects (see Table 1). These results are consistent with findings that the nature and level of the task presented to subjects have a very strong influence on the stage of problem-solving that is elicited (Commons, Trudeau, Stein, Richards, & Krause, 1998; Erdynast, 1974). Such a theoretical premise implies that varying levels of complexity of the works of art presented to subjects may well elicit varying structural-developmental levels of responses from subjects up to their highest levels of capability (see Tables 2–4).

Results of the Erdynast and Chen (2014) study identified the following six adult levels of conceptions of the beautiful.

### Level 1: Preaesthetic

Beauty cannot be associated with the painting *Les Demoiselle d'Avignon* (1907) since it cannot be comprehended by the viewer. It is viewed as strange. Individuals guess what the painting is about when it does not make sense to them.

### Level 2: Egoistic Tastes

The beautiful is equated with one's personal tastes. Individuals either like a painting or they do not like it. Absence of beauty derives from not liking the shapes, the looks of the faces, or an overall global feeling about a painting.

### Level 3: Cultural Views of the Beautiful

The beautiful is equated with attractiveness and positive emotions such as depictions of happiness. Absence of beauty derives from qualities of sadness and unhappiness. Disturbing aspects include ugliness, strange angularity, disproportion, and dissonance.

Table 1  
*Age Group Level Highest Cross-Tabulation*

Age range			Highest level exhibited			Total
			3.00	3.50	4.00	
Age group	15–20	Count	1	1	0	2
		% within age group	50.0%	50.0%	.0%	100.0%
	21–30	Count	20	21	1	42
		% within age group	47.6%	50.0%	2.4%	100.0%
	31–40	Count	4	9	1	14
		% within age group	28.6%	64.3%	7.1%	100.0%
	41–50	Count	1	2	8	11
		% within age group	9.1%	18.2%	72.7%	100.0%
	51+	Count	0	1	0	1
		% within age group	.0%	100.0%	.0%	100.0%
Total		Count	26	34	10	70
		% within age group	37.1%	48.6%	14.3%	100.0%

### Chi-square tests

	Value	df	Asymptotic significance (2-sided)
Pearson chi-square	39.069	8	.000
Likelihood ratio	30.523	8	.000
Linear-by-linear association	16.486	1	.000
N of valid cases	70		

Table 2  
*Bull Series Pretest Posttest Content Choice*

			Posttest Bull Series			
			Yes	No	No opinion	Total
Pretest Bull Series	Yes	Count	30	0	0	30
		% within pretest Bull Series	100.0%	.0%	.0%	100.0%
	No	Count	29	8	1	38
% within pretest Bull Series		76.3%	21.1%	2.6%	100.0%	
No Opinion	No Opinion	Count	1	0	1	2
		% within pretest Bull Series	50.0%	.0%	50.0%	100.0%
	Total	Count	60	8	2	70
% within pretest Bull Series		85.7%	11.4%	2.9%	100.0%	

#### Chi-square Tests

	Value	df	Asymptotic significance (2-sided)
Pearson chi-square	24.561	4	.000
Likelihood ratio	16.769	4	.002
Linear-by-linear association	11.001	1	.001
N of valid cases	70		

#### Level 4: Formal Art Analysis

There is comprehension of the subject matter but without necessary comprehension of principled Cubist representation of geometric form. The beautiful incorporates formal aesthetic properties such as: order, definition, perfection, brightness, and unity among the disparate parts, symmetry, integrity, and due proportion or har-

mony. Typical analyses based in art history and art criticism involve such formal art analysis.

#### Level 5: Principled Art Analysis

Comprehension of the aesthetic principles utilized in major artistic works. The critically evaluation of various works of art, their excellences, their limitations and their weaknesses in

Table 3  
*Demaiselles Pretest Posttest Content Choice*

			Posttest Demaiselles			
			Yes	No	No opinion	Total
Pretest Demaiselles	Yes	Count	26	0	0	26
		% within pretest Demaiselles	100.0%	.0%	.0%	100.0%
	No	Count	32	8	2	42
% within pretest Demaiselles		76.2%	19.0%	4.8%	100.0%	
No opinion	No opinion	Count	1	0	1	2
		% within pretest Demaiselles	50.0%	.0%	50.0%	100.0%
	Total	Count	59	8	3	70
% within pretest Demaiselles		84.3%	11.4%	4.3%	100.0%	

#### Chi-square Tests

	Value	df	Asymptotic significance (2-sided)
Pearson chi-square	17.589	4	.001
Likelihood ratio	14.891	4	.005
Linear-by-linear association	9.382	1	.002
N of valid cases	70		

Table 4  
*Levels of Change in Developmental  
 Levels Postexposure*

Age range	#Subjects	$\Delta 0$	$\Delta .5$	$\Delta 1$	$\Delta 1.5$
15–20 years	2	2	0	0	0
21–30 years	42	19	20	3	
31–40 years	14	8	6	0	0
41–50 years	11	5	4	0	2
51+ years	1		1		
Total	70	34	31	3	2

relation to other artists and other artistic styles across major schools of artistic thought.

### Level 6: Content-Dependent Principled Conceptions of the Beautiful, for Example, Cubism

*Les Femmes d'Alger* involves Cubist geometric analysis and representations of female form, not images of actual persons. The painting is a study of five women in the reception room of a working-class brothel, four of them vying for a client. The painting involves dynamic sequences of progression of representation from the most naturalistic to the most conceptualized one. It is a painting that involves artistic originality and the discovery of new limits in the geometric analysis and representation of torsos, elbows, breasts, noses and masks and incorporates multiple viewpoints presented into a single viewpoint to the viewer. The paint-

ing examines the limits of being revealing and exposed, from minimum to maximum, in the various poses adopted by the women. Anatomy is represented geometrically with the use of the triangle, curve, cone, circle, square, cylinder, rectangular plane, and a trapezoidal form. Cubist geometric multiple perspectives simultaneously depict a three-quarter back view from the left, another from the right, and a frontal view of the head in the figure on the lower right. The noses are presented with simultaneous lateral and frontal views.

This paper presents the results of an empirical study with 70 adult respondents concerning whether Picasso's painting *Les Femmes d'Alger* (1907) and the lithographs *The Bull Series* (1945–1946; see Figure 1) are beautiful and the correlation between responses to these two complex Cubist art works. *Les Femmes d'Alger* (1907) differs from naturalistic period depictions of brothel waiting room scenes by Toulouse-Lautrec (see Figure 2) in that it is an active, dynamic scene with the women vying for the client who is invisible to the novice viewer but present to art historians who have examined the studies and sketches prior to the final version of this painting (Erdynast & Chen, 2014).

Picasso rendered an exceptional amount of art in several of his styles for the "Blue Period," the "Rose Period," and the "Cubist Period." There are an abundance of choices of works of art from Picasso's prolific span of creativity,

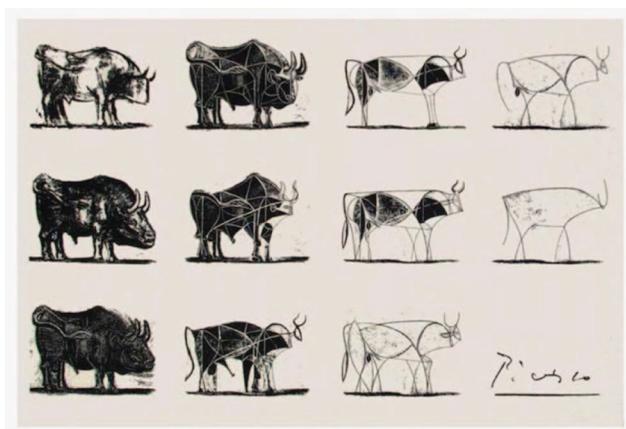


Figure 1. The Bull Series (1945–1946), Pablo Picasso. Courtesy of Norton Simon Art Foundation.



Figure 2. *Le Salon de la Rue des Moulins* (1894), Henri Toulouse-Lautrec. © Collection Musée Toulouse-Lautrec, France.

which extended well into his 90s, from which to select for research. Some of his works of art are relatively simple, however, and therefore cannot elicit the highest level capabilities of aesthetic conceptual analysis.

Toulouse Lautrec and Edgar Degas painted period piece images of brothel scenes in the 19th century. One of such paintings (see Figure 2), for example, is a scene of prostitutes who are dressed, lounging, and waiting for a client to arrive (*Le Salon de la Rue des Moulins*, Henri de Toulouse-Lautrec, 1894). Neither of such types of period piece images represents what inspired Picasso to paint *Les Femmes d'Alger*, but rather it was Picasso's main competitor for who was to be the leader of the avant-garde in art, Henri Matisse (Mailer, 1995). Two particular important paintings by Matisse in 1905–1906 and 1907 inspired Picasso. One is *Le Bonheur de Vivre* (1905–1906), “the good fortune to live,” a lyrical scene of women, mythical animals, all peaceful and contented. Matisse's motivation was to paint something that the business executive could view at the end of his hard day; a calming painting (Mailer, 1995). The other Matisse painting was the *Blue Nude* (1907). Picasso spent months creating drafts on some very challenging ideas, his motivation was to take over from Matisse the leadership of the modern art movement. He

made numerous studies that incorporated continuous changes. Initially there were five women, a sailor who was the client, and a medical student who was there on a visit to make sure none of the prostitutes had syphilis (*Study for Les Femmes d'Alger*, Philadelphia Museum of Art, 1907). In the final version Picasso came up with *Les Femmes d'Alger* (1907).

In contrast to Degas' and Lautrec's brothel scenes, Picasso's *Les Femmes d'Alger* does not involve images of actual women. The painting is not an attempt to mimic women in a brothel. The female figures are representations rather than images of five women in a brothel. A close study of the torsos, waists, noses, breasts, and masks is necessary to understand the painting that depicts a madam and four available prostitutes who are competing for a client and how in particular the female forms are depicted. In the quid pro quo exchange between the prostitute and the client, the exchange is for sex but the prostitute is not required to reveal what she thinks of the client, nor how she feels about what she is doing. Picasso protected the genital privacy of the women with coverings and their moral privacy by using masks. The two women in the middle have masked expressions. When they are in a brothel they may be looked over by various clients to decide whether or not the

client wants to select that particular prostitute and they do not show disappointment or self-judgment when they are not selected. The mask on the madam on the left in the painting is Carthaginian. The mask on the female figure on the top right is a baboon-like Africanized mask, which was used as a fetish to ward off evil spirits, to protect the individual from the unknown. When Picasso went to an African museum he recognized that he was always battling the unknown. He was a very daring, courageous individual who ventured into new art forms never knowing whether he would succeed. Despite the risk of failure, Picasso was daring, willing to examine and risk. The mask on the figure on the bottom right is the very first and original Cubist mask. The figure on the bottom right is squatting with her legs spread but her genital privacy is protected since she has her back to the viewer and a client actually in front of her. She is painted in a particular way that is a definitive characteristic of Cubism—any individual or object or animal viewed from multiple perspectives—left, right, front but presented in a single perspective to the viewer. Picasso did not give this painting the name by which it is known, *Les Femmes d'Alger*, “the young ladies of Avignon street.” The author of the title is seemingly one of Picasso’s friends, the poet André Salmon (Andersen, 2002, pp.17–32). Picasso referred to the painting as *My Brothel*. Its location is exclusively in his mind.

Picasso created a lithographic set of bulls, (see Figure 1) *The Bull Series* (1945 and 1946), at the interval of one lithograph each several weeks or months. Bull I is a young naturalistic bull. Bull II is the maximum bull possible, the maximum that a bull can be before the animal would have to be part of a larger species like a bison. By Bull III Picasso begins to present a different new analysis of the bull, an essentialist analysis, removing unnecessary details and working toward conceptualizing the essence of a bull. Bull IV is a representation of the bull in various geometricized forms. Bull V is a streamlined bull, which has a mask and various representations and angles. Bull VI is the skeletal and componential analysis of the bull with the penis at its completely phallic extension. Additional analyses follow until Bull XI. Bull XI is the minimum that the bull can possibly be. It is mass free and characterized exclusively by line and texture.

There are parallels between Bulls II and XI and Michelangelo’s *Pietas*. Michelangelo’s renditions of minimum and maximum mass in sculpture preceded Picasso’s by several centuries. The famous Michelangelo *Pietà* at St. Peter’s Basilica, (1498–1499), involves minimum mass. Mary barely holds Christ with one hand. The fingers of her left hand just slightly fold into his chest, but the left hand does not support the body at all. In the lesser familiar *Pietà Palestrina* (1555) two people have to have a very solid grasp of Christ, who is represented with an enormously muscular torso and legs, to prevent him from falling from the grip of both of their hands.

### Case Study of Developmental Disparities on the Organization of Marriage

When individuals marry in their late 20s and early 30s very few are good at predicting how much they will eventually develop. And, similarly, very few are astute at predicting how much their spouse will develop. The case study of Harold Pinter, an English playwright and director, and his divorce and later remarriage illustrates disparities and complementarities involving structural-developmental differences and similarities in conceptions of the beautiful in spousal relationships. Among Harold Pinter’s plays are *The Birthday Party*, *The Homecoming*, and *Betrayal*, which also was made into a movie for which he wrote the screenplay and directed. His first marriage was to Vivien Merchant. Merchant was a leading actress and was the leading actress in most of his early plays. Harold and Vivien were married approximately 18 years. Merchant was unintellectual and apolitical. She was snide about intellectuals and prided herself on not having a formal education (Billington, 1996). Vivien Merchant and Harold Pinter had one child. Pinter did not fully predict what he would eventually accomplish; but Pinter became successful as a poet, a playwright, a screenwriter, a director, a producer, a social critic and a political activist who protested against the repression and torture of writers in different countries. He was a social critic of Prime Minister Blair and President George W. Bush concerning the types of wars they launched in the Middle East that led to the deaths of enormous numbers of civilians. He was a social critic of the American CIA under-

mining the democratically elected socialist government of Allende in Chile. Eventually Harold Pinter was awarded a Nobel Prize for his contributions to literature. He was self-educated and read every major play written by major playwrights. He had lunch, dinner, meetings, discussions, and conversations with leading writers, actors, directors and producers, and also with some heads of state (Fraser, 2010).

Antonia Fraser was married to Hugh Fraser, who was a Conservative Member of Parliament. They had six young children. Antonia started a conversation with Harold Pinter at a party to celebrate the opening night of *The Birthday Party*. They talked for 8 hours. The next day they met at a bar and talked for another 6 hours.

Antonia Fraser is a historian who has written 11 biographies and eight works of fiction. Her biographies include *Mary Queen of Scots*, *Royal Charles: Charles II and the Restoration*, *The Wives of Henry VIII*, and *Marie Antoinette: The Journey*. Harold Pinter felt his marriage to Vivien Merchant was a prison (Fraser, 2010). From a structural-developmental perspective, Harold Pinter felt he was reduced, not understood and not fully appreciated. At the end of any play in which Merchant performed, Merchant wanted to talk about herself—how did she do in the performance of her role? What Pinter wanted to think about and talk about was its entirety and ways each play could be improved.

The principal objective of the study is to empirically identify the number of structural-developmental level differences between the level at which a work of art has been created and the levels at which it is misunderstood in order to constitute disparities. The exposure treatment constitutes a presentation of Level 6 Cubist analyses of the two works of art based on Picasso's discussions of Cubism with the art critic and historian Pierre Daix (Daix, 1994) and Picasso's discussions with Picasso Museum curator D'Or de la Souchere, (de la Souchere, 1960). Results of the study contrast postexposure with preexposure outcomes.

### Methodology

The study involves research subjects' responses to whether two works of art are beautiful, using works by a single artist, Pablo Picasso. The number of artists is kept to a single one

in this study, in order to reduce the number of variables. Two complex works were selected within Picasso's Cubist Period so as to elicit the highest available responses from subjects willing to respond to the questions.

The first is the painting Picasso's *Les Femmes d'Alger (O. J. R. M.)*, 1911-1914. The second work of art is Picasso's lithographs, *The Bull Series, 1945-1946*. Subjects were presented with reproductions of the first work of art and the second, with the question, "Is it beautiful?" and "Is *The Bull Series* beautiful? And subjects were then asked the question, "Why or why not?" Their answer to each of the first questions was categorized as the content of their response, which was A (Yes) or B (No), or O for "other", when they answered the works of art were neither beautiful nor not beautiful. Subjects' responses to why the works of art are beautiful or not beautiful were scored for matches between their structural-developmental responses with those in scoring manuals.

### Exposure Treatment

A Level 6 analysis was presented to the 70 subjects. Subjects were retested on their responses to the two works of art either a week or several weeks later. Their responses to the two paintings were rescored in a blind condition to their pretest scores.

### Subjects

The group of 70 subjects is primarily a sample of adult individuals who are returning to college, taking a psychology course to complete their Bachelor of Arts degree and who are willing to fill out a questionnaire in one of several psychology classes taught by the researcher. Of the 70 subjects, 30 were male and 40 were female.

### Scoring Manuals

Scoring manuals were used in order to obtain reliability in analyzing and scoring data. The scoring manual for Picasso's *Les Femmes d'Alger (O. J. R. M.)* created for the Erdynast and Chen (2014) research study was used. A scoring manual was similarly created for the analysis of *The Bull Series* for the current study. The scoring manuals for *The Bull Series* and *Les Femmes d'Alger (O. J. R. M.)* are organized into three types

of content or sections for each level of conceptions of the beautiful. These scoring manuals include: (a) the structural response to whether the painting is beautiful or not, (b) the characteristic misconceptions or deforming assimilations, and (c) the typical attributions that cannot be objectively supported within the painting.

### Reliability

Two raters independently scored conceptions of the beautiful data. The interjudge reliability was 82% unanimous consensus across the two works of art, and 86% of responses scored within a half level of one another when there were differences in assigned scores.

### Results

1. A higher chronological age cannot be equated with a higher exhibited developmental level of conception of the beautiful. Some older age subjects exhibited lower-level responses than some younger age subjects. For example, while 73% of the subjects within the 41–50 age group exhibited Level 4 highest conceptions of the beautiful, 27% exhibited no higher levels of conceptions of the beautiful than the Level 3 and Level 3.5 conceptions of the beautiful exhibited by the 93% of subjects in the 31–40 age group or the Level 3 and Level 3.5 conceptions of the beautiful exhibited by 98% of the 21–30 age group.
2. Content choice changes were unidirectional. When subjects changed their content choice, the choice was always from “not beautiful” to “beautiful,” in the instance of the *Les Demoiselles* painting which was 76% from the preexposure to the postexposure or from “not beautiful” to “undecided,” in the preexposure to the postexposure, which was 5%. In the instance of *The Bull Series*, 76% also changed from “not beautiful” to “beautiful,” while 3% of subjects changed from “undecided,” to “beautiful.” With neither work of art did any subjects change from “beautiful” to “not beautiful.” In other words, the changes were always unidirectional, from “not beautiful to beautiful” or

from “undecided” to “beautiful” but never in the opposite direction.

3. When research subjects exhibited any developmental level changes postexposure to a Level 6 presentation of analyses of *Les Demoiselles d' Avignon* and *The Bull Series*, the modal amount of change was .5 level and the maximum amount of change was 1.5 levels. No change of +2 levels was exhibited.
4. A strong correlation .97,  $p = .01$  level was found between responses to whether these two complex Cubist art works are beautiful—Picasso's *Bull Series* lithographs (1945–1946) and the painting *Les Demoiselles d' Avignon* (1907).

### Discussion

Rating systems for characterizing adult developmental responses to works of art utilizing ratings such as *immature*, *intermediate* or *transitional*, and *mature* responses, which are responses relative to one another, are inadequate for characterizing adult-level responses to art. These are comparative types of responses rather than definitive ones at each distinct qualitatively different structural level, which is part of an invariant sequence of transformational levels of its own. Adulthood responses do not constitute a single level of their own type. There are multiple adulthood structural-developmental levels of conceptions of the beautiful responses to an artwork's qualities as characterized by the responses from adult subjects in this study whose responses ranged from Level 2 to Level 5 on the pretest and posttest responses. The types of developmental levels of “hard” structural stages central to the focus of Piaget's (Inhelder & Piaget, 1958) and Kohlberg's studies (1969) are ones whose qualities are (a) structural and, (b) progress through invariant sequences of construction that (c) transform previous structures rather than qualitatively add to them. There is no skipping of invariant sequential levels. Each level or stage provides a platform from which the next levels are constructed.

The research study examined the kinds of changes that occurred both in content choice (not beautiful to beautiful) and structural-developmental level changes after exposure to a single instance presentation of higher levels of conceptual

analysis than those of the subjects' manifested own during the pretest phase. There were three prominent types of changes as a result of the exposure condition. The first type of change was a unidirectional content shift by individuals from "not beautiful" or "undecided" to "beautiful." There were no shifts in the opposite direction from "beautiful" to "not beautiful." The second type of most frequent change was a half-level developmental change upward from their pretest score for those who exhibited Levels 2, 3, 3.5. A Level 6 analysis was presented to them and then subjects were retested several weeks afterward. For those who exhibited Level 2 personal preference and taste on the pretest, Level 2 or Level 2.5 was exhibited on the posttest. Subjects who exhibited Level 3 on the pretest exhibited Level 3 or Level 3.5 on the posttest. Those who exhibited Level 3.5 on the pretest exhibited Level 3.5 or Level 4 on the posttest. The third type of change was a change to Level 5/6 by those who had exhibited Level 4 capacity during the pretest.

In summary, when changes occurred as a consequence of the exposure condition, subjects' changes were unidirectional either (a) in the shift of the content of their response from "not beautiful" to "beautiful", even though their structural-developmental thinking did not change at all, and (b) shifting upward by a half-level when there was indeed structural-developmental change, which supports the implication that they preferred an analysis more profound and accurate to the content of the lithograph series and/or the painting than their own, even when they could not fully comprehend or replicate that analysis at the level that it was presented to them. Subjects needed to exhibit a minimum of Level 4 on the pretest to exhibit Level 5–6 on the posttest.

### Structured Wholes

Task complexity is most evident in the level elicited for "no" responses to the lithographic series and the painting. Where the response is "not beautiful," there are instances of developmentally lower reasons for that aesthetic judgment due to inability to comprehend the complex aesthetic issues depicted by the work of art. An important finding is that individuals cannot comprehend, and thus are not able to reproduce, an analysis that is more than 1.5 hierarchical levels than their own highest level. In a Moral

Comprehension Study and Moral Preference study by Rest, Turiel, & Kohlberg, (1969) young subjects, ages 6–8 or 10–12, were presented responses to moral dilemmas +2 moral levels above their own, +1 above their own, with +0 and with -1 relative to their own. Subjects presented with two levels above their modal level did not comprehend and they could not reproduce the ideas.

Appreciating a work of art as beautiful is not merely a situation-specific judgment about a particular painting or lithograph. The structural-developmental conceptions of the beautiful that various individuals present in their responses to why the works of art are beautiful have the hierarchical characteristic of generality (Kohlberg, 1969). For example, subjects who used a Level 2 conceptions of the beautiful on one artwork, tended to use the same Level 2 on the other. The finding of general consistency of the use of developmental structures with the same or proximate levels of conceptions of the beautiful across the two works of art supports the premise that levels of conceptions of the beautiful are not just work of art-specific judgments of the beautiful. They are, rather, general structures of thought and feeling that are evoked in generating judgments of the beautiful or its absence. The structures thus meet the criterion of generality.

The relationship between subjects' level of formal education and their conceptions of the beautiful was examined. There is a significant association between education and hierarchical developmental conceptions of the beautiful,  $p = .01$ . As individuals' level of formal education level rises, their developmental level of conceptions of the beautiful tend to rise to higher levels as well. But higher levels of formal education do not necessarily result in higher levels of attainment of conceptions of the beautiful. The aesthetic judgment of a viewer about whether a painting is beautiful depends in part on the viewer's ability to comprehend and appreciate the artist's renditions in the painting.

According to the findings of this study, couples do not need to have aesthetic parity or strict equality to have complementarities as long as there are no more than 1.5 developmental level or stage differences between them. As soon as the developmental differences are 2 or higher they have disparities. Since Harold Pinter was awarded the Nobel Prize for originality and his general influence on literature, he was exhibit-

ing at least Level 5/6 or Level 6 conceptions of the beautiful. Harold Pinter continued his development since the time he and Vivien Merchant married, but she seems to have plateaued and was quite content with that. What Antonia Fraser and Harold Pinter had in common was complementarities in their literary, intellectual, political and aesthetic frameworks. Initially Antonia Fraser and Harold Pinter just intended to have a romantic affair. She never imagined she would dissolve her marriage to Hugh Fraser and divorce him. For Harold Pinter, the deficiencies in the marriage to Vivien Merchant were disparities that included Vivien Merchant's inability to appreciate Pinter's interests in discussing the entirety of the structure of his plays and the conceptions of the beautiful incorporated within them in contrast to her interests in wanting to just discuss how well she did in her particular parts (Fraser, 2010). What his mind gravitated toward would be all of the ideas involved in his plays. They would be talking about the same play but they would not be thinking about it at the same level. Harold Pinter did not find an audience in Vivien Merchant. He found it in Antonia Fraser who had her own work and her field of biographies, and who was wrestling with similar higher-level ideas. Pinter would have thought and felt that Vivien did not truly understand what he really was writing.

### Some Implications of Varying Levels of Hierarchical Complexity

Picasso's discovery of Cubism has several important implications about stages and fostering of innovation. Picasso's *Les Demoiselles d'Avignon* and *The Bull Series* illustrate general principles of design and command of line: composition and balance, movement, dynamic tensions, interplay between abstraction and realism, various planes, distinctness of style and craft. The process of scoring as applied to Picasso's brothel scene and the bull series makes the point that the realm of the beautiful can be studied from a developmental perspective. This is important to organizations because it demonstrates that the work of designers can be developmentally scored (Commons et al., 1998). Moreover the scores may be relevant to the quality of their work. The concepts of maximum and minimum incorporated into the designs of figures by Picasso and Michelangelo

are universal concepts. The postures of the female figures, their geometrical representation, their masks represented another metasystem. The coordinating of these metasystems is paradigmatic. Individuals with lower-stage capabilities see the brothel scene and geometric representations differently at each stage or level. Picasso pushed the boundaries of where his work could go. He created numerous works of art at various orders of hierarchical complexity.

Harold Pinter's divorce and remarriage shows three separate two-person organizations. Harold Pinter's first marriage, Antonia Fraser's first marriage, and Harold Pinter's and Antonia Fraser's subsequent marriage to each other show a transition from less optimal to more optimal social support. Some of the important aspects of higher stage social support are that shared interests are not the same as shared level of interest. Harold Pinter as a playwright and Vivien Merchant as an actor both had a keen interest in the plays they were putting on. However, the actor tended to focus on her performance in particular, whereas the playwright tended to focus on how to change the play as a whole to be better. Shared social status and probable similar hierarchical complexity of work does not necessarily lead to productive communication. Antonia Fraser the historian and Hugh Fraser came from a similar social class. Hugh Fraser was a Member of Parliament. Legislation is relatively high-stage work. Harold Pinter was viewed by Hugh Fraser as the best living playwright (Fraser, 2010, pp. 15–16). Antonia Fraser found her communication with the lower-class playwright to be more profound and of a higher level.

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