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CULTURAL DIFFERENCES IN AESTHETIC PREFERENCES¹

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On compare les préférences esthétiques de huit échantillons d'étudiants, différant par le sexe, la nationalité (anglaise ou égyptienne) et la discipline étudiée (artistique ou non), à qui on demande de juger une série de 90 polygones à l'aide d'une échelle en 7 points. Les résultats ne confirment pas l'hypothèse d'une relativité des préférences esthétiques : le degré moyen de préférence ne diffère pas selon les groupes, ni selon le sexe; la nationalité rend compte de 50 % de la variance; la discipline étudiée joue plus chez les Britanniques que chez les Egyptiens et de plus, les différences sont inversées; les étudiants en art britanniques préfèrent les polygones simples, les Egyptiens, les complexes. Quand les jugements des deux échantillons égyptiens sont soumis à une analyse factorielle, on voit apparaître des facteurs semblables à ceux qu'on trouve chez les Anglais, à l'exception des facteurs les moins saillants.

The problem of the "objectivity" of aesthetic judgments has been widely discussed by philosophers; the answer to this problem seems ultimately bound up with the universality of agreement about the aesthetic qualities of objects, ascertained under well controlled conditions. Such studies have usually been carried out within a given culture (Valentine, 1962), and without any clear-cut differentiation between aesthetically trained and untrained subjects. From the theoretical point of view, cross-cultural comparisons are, of course, of particular interest, because whatever universality of judgments may exist is likely to be interfered with by special cultural norms and factors; such studies as have been carried out (*e.g.*, Eysenck, 1941; Child and Siroto, 1965; Iwao and Child, 1966; Child and Iwao, 1968; Child, 1968; Eysenck and Iwawaki, 1971) suggest some degree of universality. The present study compares preferences for polygonal figures of aesthetically trained and untrained students in Egypt and England; it is hoped that the results will throw some light on the general problem of cultural relativity in aesthetic preference judgments.

EXPERIMENTAL PROCEDURE

The material used was a set of 90 polygonal figures originally published by Birkhoff (1932) in an attempt to illustrate his "aesthetic measure" formula; many empirical studies have been

¹ We are indebted to the Social Science Research Council for support of this study.

carried out using these figures (Eysenck, 1968; Eysenck and Castle, 1970; a summary of published research is given by Eysenck, 1941.) For the British sample these figures were projected by means of slides, and rated on a seven-point scale, from 7 (the most pleasing) down to 1 (the least pleasing.) For the Egyptian sample, the figures were presented on specially prepared sets of sheets on which the polygons were printed in black and white (the slides too were in black and white, in contrast to Birkhoff's original figures which are in blue.) It is not thought that the method of presentation exerted any great influence on the judgments of the subjects; this conclusion is based on considerable though unsystematic experience with administering the test in both forms over many years. In each cultural group, subjects were divided into those who were receiving special aesthetic training in the visual arts, and those who were not; details regarding the training received by the British group have already been given (Eysenck and Castle, 1970), and the training received by the Egyptian artists would seem to have been rather similar as far as the courses taken are concerned; the contents of these courses, of course, are not likely to have been very similar, as teachers in each country tend to emphasize their own cultural tradition.

Subjects

The British group consisted of 369 male and 408 female art students, and of 176 male and 180 female non-art students. The Egyptian group consisted of 397 male and 300 female art students, and 54 male and 145 female non-art students.

No attention was paid in the analysis to sex differences, as detailed (unpublished) comparisons within British samples disclosed little in the way of differential preferences. A similar finding resulted from a correlational study of the 10 Egyptian groups from which results were received. Five of these groups were male, five female, coming from various colleges of fine art in Alexandria and Cairo, from the Institute of Art Education, and from the Higher Institute of Art Education, as well as from the University of Cairo. When their ratings of the 90 polygons were intercorrelated, and the resulting matrix factor analyzed, it was found that correlations between female samples, or between male samples, were no higher than correlations between male and female samples; it was further found that only one factor had an eigenvalue exceeding unity, thus demonstrating that only one factor was needed to account for all the intercorrelations. Had there been any sex-linked preferences, a second factor, separating the male from the female samples, would have been found. Table 1 shows the intercorrelations, as well as the factor loadings. It will be noted that the non-art (control) groups (3 and 7) have loadings which are no different from those achieved by the art groups; there is no evidence here of any such art *vs* control differences as became apparent in the British sample (Eysenck and Castle, 1970).

RESULTS

In conducting our comparisons between the Egyptian and the British sample, let us first consider the differences in the mean liking scores. These are as follows: Brit. Art. : 3.78, \pm .56; Brit. Cont. : 3.92, \pm .70; Egyp. Art. : 3.75, \pm .65; Egyp. Cont. : 3.69, \pm .71. These figures show that on the whole the polygons were quite well liked, almost equally well by the 4 groups, and an analysis of variance shows that neither main effects nor interactions are significant. The data do not disprove the null hypothesis as far as differential liking for polygons by Egyptian and British artists and non-artists is concerned.

We must next turn to the intercorrelations between the ratings of the four groups. Taking the groups in the same order as above, these are : 1 *vs* 2 = .68; 1 *vs* 3 = .72; 1 *vs* 4 = .72; 2 *vs* 4 = .55; 3 *vs* 4 = .93. These values suggest several conclusions. It is clear that in the Egyptian sample the artists and the non-artists differ very little in their preference judgments, while in the English sample the differences are much more pronounced (.93 as opposed to .68). This difference is statistically significant ($p < .001$). Furthermore, the British artists agree better

with the two Egyptian groups than do the British non-artists; this difference too is significant ($p < .05$). The figures suggest that British and Egyptian samples

TABLE 1
INTERCORRELATIONS OF RATINGS OF 90 POLYGONS
(5 male and 5 female Egyptian groups)

		2	3	4	5	6	7	8	9	10	Factor loadings
<i>Male groups</i>											
Coll. of Fine Arts (Alexandria)	1	.85	.64	.64	.68	.83	.60	.74	.86	.58	.79
Coll. of Fine Arts (Cairo)	2		.75	.79	.87	.85	.77	.83	.89	.81	.93
Faculty of Arts (Cairo)	3			.62	.73	.86	.91	.78	.81	.75	.86
Higher Institute of Art Education	4				.78	.70	.65	.72	.71	.79	.83
Coll. of Applied Arts	5					.79	.81	.88	.82	.88	.93
<i>Female groups</i>											
Coll. of Fine Arts (Alexandria)	6						.80	.87	.91	.79	.92
Faculty of Arts (Cairo)	7							.85	.83	.82	.89
Coll. of Applied Arts	8								.88	.87	.93
Coll. of Fine Arts (Cairo)	9									.82	.94
Inst. Art. Education	10										.91

share about 50 % of the variance, which means that there is considerable evidence against the hypothesis of complete cultural relativity as far as these aesthetic judgments are concerned; this finding agrees well with a similar conclusion drawn by Eysenck and Iwawaki (1971) from a comparison between a British and a Japanese sample.

The data suggest that the two samples disagree less in the absolute values given the 90 stimuli, but rather in the direction of the differences, and the size of the differences, which are apparent in the comparison of the art and non-art samples within each culture. When the differences between these group judgments were calculated for the Egyptian and the British samples, and summed regardless of sign, it was found that on the average the Egyptian art and non-art groups differed by .2011, the British art and non-art groups by .4256, with σ of .1686 and .3248 respectively; this difference is highly significant ($p < .001$), and demon-

strates that the British art and non-art groups show much more pronounced differences in their rating than do the Egyptian ones. This is of course only another way of looking at the correlations between art and non-art groups already given; it does, however, suggest a further step, namely the investigation of whether or not the *direction* in which British artists differ from non-artists is the same as that in which Egyptian artists differ from non-artists. Accordingly a D column was formed by subtracting the non-artists' ratings for each of the 90 polygons from that of the artists, first for the British sample, then for the Egyptian; these two D columns were then correlated. The correlation turned out to be $-.50$, which is highly significant and demonstrates that the British artists differ from the British non-artists in the *opposite* direction to that in which the Egyptian artists differ from the Egyptian non-artists.

An inspection of the items showing the greatest differences between artists and non-artists in the two cultures clarifies the issue to some extent. British artists prefer simple, British non-artists complex figures. There is some tendency for Egyptian artists to prefer complex, for Egyptian non-artists to prefer simple polygons, but this is nothing like as strongly marked as the reverse tendency in the British sample. If we take the 16 polygons showing the greatest differences between artists and non-artists, favoured by the artists, and equally the 16 polygons showing the greatest differences, but favoured by the non-artists (as shown in Fig. 11 and 12 in Eysenck and Castle, 1970), we find that the mean differences for the British groups are $.65$ and $-.86$; for the Egyptian groups, they are $-.21$ and $.21$ respectively. Thus the Egyptian values go in the opposite direction, but are much smaller than the British values. We may conclude that such small differences as there are between Egyptian artists and non-artists to show the artists preferring complex, non-artists simple polygons.

These diverse results may be due to changing formulations of "aesthetic merit" adopted by teachers; there is evidence in the American literature of preferences by artists for both simple (Brighouse, 1939) and complex (Barron and Welsh, 1952; Munsinger and Kessen, 1964) stimuli. It should also be noted that the terms "simple" and "complex" may be less unidimensional than is often supposed; Eysenck and Castle (1971b) have shown that the stimuli used by Barron and Welsh define 4 separate and independent factors, rather than measuring a single dimension as assumed by the designers of the figure preference test. Clearly, it cannot be assumed that the "complexity" measured by one test is identical with that measured by another, or that teaching in the visual arts will always adhere to identical rules and laws. The point is worth stressing because it might have been thought that training in the visual arts in Egypt would be similar to such training in the UK, and that consequently artistically trained Egyptian and British students would show similar preferences because of similarities of training. Clearly this is not so; if anything British and Egyptian artists are separated by such training as they receive!

British artists and controls produced very much the same factors when their respective ratings were submitted to factor analysis (Eysenck and Castle, 1970.) It seemed worth while to carry out similar analyses on the Egyptian data, in order to see whether the same (or similar) factors would emerge. Accordingly two groups were selected for intercorrelation of items and factor analysis. One group (A) came from the College of Applied Art; all were male, and the number

in the sample was 163. The other group (C) came from the Faculty of Arts, University of Cairo; all were female, and the number in the sample was 145. Analysis by principal components was followed by Promax rotation, as in the original paper, and an attempt was made to interpret and match the resulting factors with each other (*i.e.*, from sample A to sample C), and with the original British samples. Good matches were obtained for all the more clear-cut factors: A (rectangularity), B (simplicity), C (rotational symmetry), D (projections), E (elliptical), G (distortions), and H (variants of a triangle.) Factor F had presented some difficulties in the original samples, being a single factor (stars and crosses) in the control (non-artist) group, but dividing into two factors in the artist group. Both the Egyptian samples showed the latter pattern, *i.e.*, a separate star and a separate cross factor. Factors I, J, and K, which had only few high loading in the original analysis, and which were difficult to define, did not emerge at all well in the Egyptian data; it is not clear whether this presents us with a genuine difference between the two groups, or whether the three factors were artefacts in the British samples. Although no strict test of significance is possible, the data do not seem to disprove the null hypothesis, *i.e.*, that the groupings of preference judgments for polygonal figures of the kind used in our research are not essentially different in the two cultures, or at least in the samples tested by us.

Second-order factors were computed, as in the original study, but of the 4 and 5 factors extracted respectively from the A and C samples, only one proved capable of interpretation; this factor resembled the second of the higher-order factors extracted from the British analyses, and labelled there a simplicity-complexity factor. It is not surprising that these higher-order factors are not very meaningful; in the British groups too it was found that 2 out of 5 factors could not be interpreted, and with the relatively small number of subjects used in the present study it was not to be expected that the higher-order factors would be very clear-cut.

DISCUSSION

The data here given should not be over-interpreted; they clearly do not prove that cultural differences do not exist between Egyptian and British subjects, even for such simple stimuli as polygons. Egyptian students are unlikely to be entirely ignorant of European works of art; the art students in particular are certainly well acquainted with the better-known European paintings and sculptures. This acquaintance might very well have brought their judgments nearer to those of the British subjects. Yet we are doubtful if this explanation can account for all our findings; notably, it will be remembered that, if anything, the Egyptian subjects with training in visual arts disagreed with the British subjects with similar training on such important points as preference for simplicity or preference for complexity. Furthermore, the judgments of the Egyptian art-trained and non-trained groups were so similar that clearly training by itself could not have had much effect (other than perhaps to shift standards of preference slightly in the direction of liking for more complex figures.) Furthermore, one should not overestimate the influence of a few special courses in European painting and sculpture, as compared with the life-long immersion in the designs and art-

forms of a given culture; unpublished work with British children suggests that the general pattern of preferences is pretty well set by late adolescence, although we would of course not wish to suggest that these patterns are incapable of change. Perhaps a repetition of this study, using Egyptian children of various ages as a reference group, might throw further light on this point. Until such studies are carried out we can only conclude that there is little evidence in our data for large cultural differences in preferences for polygonal figures.

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