CHAPTER 11

Novelty and Human Aesthetic Preferences

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It is a view widely held and well supported by evidence that novelty evokes curiosity and fear in animals, both at the same time (Russell, 1973). Repeated exposure to a novel stimulus object can overcome the subject's fear of it, and may result in exposure learning (Sluckin, 1972), that is, in a development of an attachment to, or a preference for, the object. There is no reason to believe that in this regard human beings are exceptional. In animals, fear of a given figure is incompatible with attachment behaviour directed to it. In human beings, too, what is feared cannot at the same time be preferred. As novelty wears off, however, and fear wanes, the initial unfavourable view of a given stimulus object will diminish, and may well gradually turn into liking; but the unfavourable attitude can later return as a function of satiation and boredom (Sluckin *et al.*, 1980). Thus, one of the factors influencing favourability, or aesthetic preferences, is the position of the stimulus object on the novelty/familiarity continuum.

As Berlyne (1971) points out, novelty can refer to several distinct states of affairs. When a stimulus is unlike anything encountered before, we are dealing with absolute novelty — strictly speaking, a very rare occurrence. Novelty in most cases is really relative novelty, that is, unprecedented combinations of previously experienced elements. Further, novelty may be short-term, in the sense that the stimulus is different from stimuli experienced only recently, say, during the last few minutes or hours. However, novelty may also be long-term — an experience of a kind not encountered for a very much longer period. In all cases novelty is said to be arousing to some extent. Whether it is specifically fear-arousing, and therefore'off-putting', will depend on the kind and intensity of the novelty in question. Although some novel stimuli will be disliked, others — at a given time relatively novel to the subject, but previously highly familiar — will be well liked (having now lost their boringness associated with excessive familiarity). For this reason, works of art viewed, or heard, at infrequent intervals may be aesthetically highly satisfying.

Familiarity, too, can vary in character. Generally, although some elements of a configuration may be very familiar, others may be less familiar or unfamiliar.

This can occur in any sensory modality: a photograph can contain both familiar and unfamiliar elements; a well-known melody may be heard with new rhythms or harmonies. It has been traditionally said that such variation, or unity-in variety, is at the root of aesthetic appreciation. Indeed, variations on a familiar theme may be just what is needed to prevent favourability, which initially rises as novelty wears off, from ever setting on a path of decline.

It is, of course, difficult to consider aesthetic preferences in real-life situations with reference only to novelty/familiarity ignoring the influence of such factors as complexity and interestingness of what is being judged or appreciated (Berlyne, 1974b). However, it was clear from early on to some investigators that if experimental studies were to make progress towards a better understanding of everyday human likes and dislikes, experiments had to be so designed as to relate favourability to novelty/familiarity and to keep initially other factors constant as far as possible. This is what investigators such as Cantor (1968) and Zajonc (1968) set out to do in the early days of the 'new experimental aesthetics'.

We therefore begin by providing a brief historical review of studies concerned with relationships between novelty/familiarity and aesthetic preferences; both experimental findings and explanatory theories will be considered. We then turn to our own work. To start with, some comments will be offered on experimental procedures in this field of research. Next, we review our studies of preferences for such things as letters of the alphabet and words. We continue by dealing with preferences for surnames and Christian names; in relation to the latter we shall introduce our preference-feedback hypothesis. We subsequently consider at some length the question of aesthetic appreciation of music — a topic not often tackled by experimental psychologists. Finally, an attempt is made to arrive at some broad conclusions; in the process we refer to different stimulus categories that evoke likes and dislikes, and also refer to changing fashions in aesthetic preferences.

11.1 Novelty, Familiarity and Liking: an Introductory Review

In an influential monograph, Zajonc (1968, p. 1) examined evidence related to the hypothesis that 'mere repeated exposure of the individual to a stimulus is a sufficient condition for the enhancement of his attitude toward it'. This hypothesis can be traced to William James (1890, p. 672) and Gustav Theodor Fechner (1876, pp. 240–243), although Zajonc was the first to subject it to careful empirical investigation. His review of existing evidence and his own experimental work suggested that the relationship between exposure and liking is best described by a rising but decelerating curve in which liking is a logarithmic function of exposure frequency. The *mere exposure* hypothesis asserts that the effect of exposure on liking — other things being equal — is always positive, although the effect may be more pronounced for novel than for relatively familiar stimuli.

This hypothesis contradicts certain widely held beliefs, such as those implied

by the proverbs 'familiarity breeds contempt' and 'absence makes the heart grow fonder', but an impressive body of empirical evidence has accumulated in support of it (see Harrison, 1977; and Stang, 1974, for reviews). As we shall see, however, the existing evidence is not all consistent with the mere exposure hypothesis, and recent theoretical and empirical work, including our own, suggests that the underlying functional relationship between novelty/familiarity and liking may be non-monotonic, rising only at relatively low levels of exposure and declining at higher levels.

In his original monograph, Zajonc (1968) devoted a great deal of attention to correlational evidence in support of the exposure hypothesis. The most important correlational evidence was based on the relative frequencies of usage of antonym pairs, i.e. words of approximate opposite meaning, in the Thorndike–Lorge (1944) word count. Several previous researchers had noticed that words with positive affective connotations have higher frequency counts, in general, than negatively toned words. *Happiness*, for example, occurs more than 15 times as frequently in written English as *unhappiness*; *beauty* is 41 times as frequent as *ugliness*; *love* is almost 7 times as frequent as *hate*; *find* is 4.5 times as frequent as *lose*; and so on. A similar relationship between frequency and favourability has more recently been found in French, German, Spanish, Russian, Urdu, and other languages (Harrison, 1977; Zajonc, 1968).

In order to investigate this phenomenon more closely, Zajonc asked 100 subjects to indicate which member of each of 154 antonym pairs expressed 'the more favorable meaning'. The subjects nominated in 82% of cases the one with the higher Thorndike–Lorge frequency count. It seems odd, however, to deploy this type of evidence in support of the mere exposure hypothesis. The implication is that the positive connotations of words like *happiness* and *beauty* are a consequence of their frequent usage, and this in turn implies that the connotations of such words were relatively unfavourable before they became frequent in the language; another improbable implication is that words like *ugliness* and *hate* would lose their unfavourable connotations if they were used more frequently. But the correlation of frequency and favourability among words can be explained without recourse to the mere-exposure hypothesis. Instead of assuming that exposure causes increased favourability, it seems more reasonable to postulate that favourability causes increased exposure. There is, in fact, evidence (Boucher & Osgood, 1969; Osgood, 1964) showing that people tend to pay greater attention in their thought and speech to positive than to negative aspects of their conceptual universe. This predilection for positive concepts, which Osgood called the *Pollyanna effect* (alluding to the optimistic heroine of a series of children's novels), provides a more natural explanation than the mere exposure hypothesis for the correlation of word frequency and favourability.

Some of the other evidence presented by Zajonc can be reinterpreted in a similar way. High school students were asked to rate on a seven-point scale how much they liked various trees, fruits, vegetables and flowers, and their preferences were found to be nearly proportional to the logarithms of the frequencies of these items in the Thorndike–Lorge word count: correlations ranged

from 0.80 to 0.89. The three best liked fruits, for example, were (in descending order) *apple*, *cherry* and *strawberry*, and their average preference ratings were 5.13, 5.00 and 4.83, respectively. Rather than demonstrating that exposure leads to increased liking, however, these data may simply provide further evidence for the Pollyanna effect: there may be a tendency for popular trees, fruits, vegetables and flowers to be spoken and written about more frequently than those that are less popular.

In order to establish a causal link between exposure and liking, Zajonc reported some controlled experiments, and his experimental design and methodology have served as a model for numerous subsequent investigations. Nonsense words like *iktitaf* and *civadra*, diagrams resembling Chinese ideographs and photographs of human faces were used as stimuli in these early experiments. The subjects rated each of the stimuli belonging to one of the above classes for assumed favourability of meaning (in the case of the nonsense words and ideographs) or liking (in the case of the faces) after 0, 1, 2, 5, 10, or 25 exposures. Stimuli and exposure frequencies were counterbalanced in Latin square designs to avoid confounding effects. In each case a strong, positive and nearly linear relationship was found between log-transformed exposure and rated favourability of meaning or liking. These findings have been replicated in numerous subsequent experiments (Brickman *et al.*, 1972; Hamid, 1973; Harrison, 1969; Harrison & Crandall, 1972; Harrison & Zajonc, 1970; Harrison *et al.*, 1974; Janisse, 1970; Matlin, 1974; Moreland & Zajonc, 1976, 1977; Zajonc *et al.*, 1971). The external validity of the mere-exposure effect has been extended through field experiments in which subjects were asked to rate the favourability of nonsense words previously placed in their mailboxes a predetermined number of times (Rajecki & Wolfson, 1973) or inserted in newspaper advertisements (Zajonc & Rajecki, 1969). The effect has been found even when the stimuli were live human beings and exposure was manipulated by varying the number of interpersonal encounters (Saegert *et al.*, 1973). Most experiments have involved a maximum of only a few dozen exposures, although Zajonc *et al.* (1974) reported a steady increase in liking of Chinese ideographs up to 243 exposures.

Some investigations have, however, yielded results at variance with the mere-exposure hypothesis. Berlyne (1970) reported that simple representational and abstract works of art were rated as progressively *less* pleasing as frequency of exposure increased. Cantor (1968) and Cantor & Kubose (1969) found that children gave more positive ratings of liking to unfamiliar than to familiar geometric patterns taken from the Welsh Figure Preference Test. Using line drawings of familiar objects and simple meaningless patterns, Faw & Pien (1971) found that both adults and children liked both types of stimuli better when they were novel than when they were relatively familiar. Siebold (1972) familiarized children with both simple and comparatively complex geometric patterns, and found that both kinds of stimuli were better liked when they were novel to the subjects than after familiarization. All of these findings are in direct opposition to the predictions of the mere exposure hypothesis. To complicate the picture further, several studies (reviewed by Crandall *et al.*, 1973) have

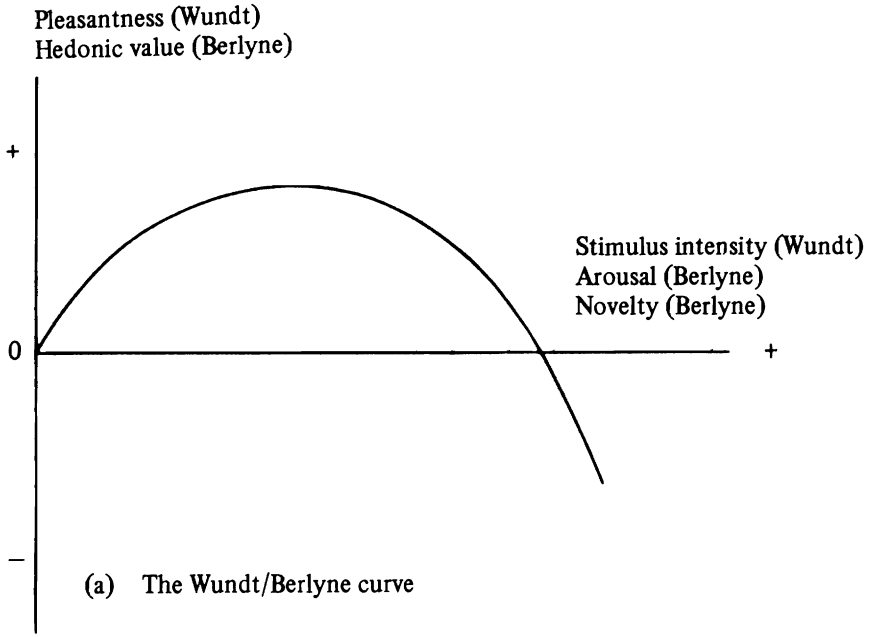
reported an initial increase in liking with moderate degrees of familiarization, followed by a decline with increased familiarization. Our own studies, discussed later in this chapter, have confirmed this finding with several classes of stimuli.

Several theories, all but the most recent of which are discussed and critically evaluated in Harrison (1977), have been proposed to explain the empirical evidence on familiarity and liking. Some of these theories have fared badly in experimental tests, and others seem either inadequate to account for the full range of empirical evidence or are deficient on other grounds. The most persuasive theories share the common assumption that the universal relationship between familiarity and liking takes the form of an inverted U, with liking rising at low levels of familiarity and then declining. Various factors have been proposed to account for the parameters of this hypothesized function. The peak of the curve may occur at very high levels of familiarity under certain conditions, leading to a monotonic increase in liking — a mere-exposure effect — across the limited range of exposure that it is possible to investigate in experiments based on the methods pioneered by Zajonc. Under different conditions, the peak may occur at very low levels of familiarity, yielding a monotonic decrease in liking across most of the exposure range as found in some of the studies mentioned in the previous paragraph.

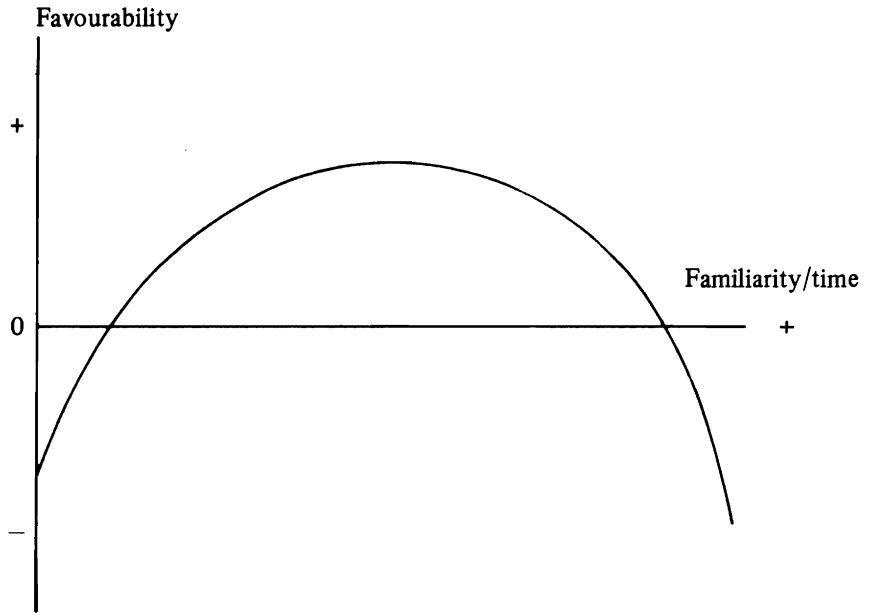
The inverted-U curve, in the form originally suggested by Wundt and later adapted by Berlyne (1971) and others, is depicted in Fig. 11.1(a). According to Berlyne, the *hedonic value* of a stimulus is a function, which rises to a peak and then falls, of a person's *arousal*; and arousal is hypothesized to be directly related to the novelty of the stimulus. We have indicated elsewhere (Sluckin *et al.*, 1980) that the notion of zero novelty implies total familiarity. However, such complete familiarity can never, strictly speaking, be achieved; rather, familiarity may be regarded as increasing, with continued exposure to the stimulus, *ad infinitum*. Complete unfamiliarity, on the other hand, is more easily conceived of; it occurs with nil exposure to the stimulus. Fig. 11.1(b) shows favourability as a function of familiarity, the latter increasing from zero to infinity. In this formulation, a strange stimulus is assumed to be initially somewhat unattractive rather than of neutral affective value; this is consistent with a great deal of empirical evidence, in spite of the widespread belief that there is something inherently attractive about novelty (Harrison, 1977).

The most influential theories concerning the relationship between familiarity and liking are the response-competition and two-factor theories. These theories will be discussed briefly in the following paragraphs. We shall also say a few words about the recently proposed scheme theory.

According to response-competition theory (Harrison, 1968; Matlin, 1970), an unfamiliar stimulus usually contains elements reminiscent of a diversity of previously encountered stimuli, and these elements generally elicit mutually incompatible or antagonistic cognitive and behavioural tendencies. The coexistence of mutually incompatible response tendencies in a person confronted with an unfamiliar stimulus is held to result in an aversive drive state leading to negative affect and to a dislike of the stimulus. Subsequent exposure leads to cognitive restructuring: one class of response tendencies typically gains



(a) The Wundt/Berlyne curve



(b) The hypothesized curve linking favourability to familiarity/time

Fig. 11.1 Inverted U-curves. (Reproduced from W. Sluckin, A. M. Colman and D. J. Hargreaves (1980) *British Journal of Psychology,* 71, 163–169, by permission.)

dominance over the others as the stimulus is fitted into a meaningful conceptual framework, and incompatible tendencies are weakened or suppressed. The reduction of response competition alleviates tension and negative affect, and leads to increased liking — or, strictly speaking, decreased disliking — for the stimulus.

In its original form, response-competition theory provides an explanation for the mere-exposure effect but fails to account for the negative and inverted-U effects found in some experiments. The theory has therefore been modified to take account of these findings. Saegert & Jellison (1970) proposed that an *intermediate* level of response competition is maximally pleasurable, so that beyond a certain point increased exposure, by reducing response competition below the optimal level, leads to a decline in liking. The number of exposures required to reach the critical point should be relatively small if the stimulus is simple, since in that case few associative response tendencies will be elicited. If, on the other hand, the stimulus is complex, the optimal level of response competition should be reached only after a relatively large number of exposures, since many potentially antagonistic response tendencies will initially be elicited by it.

Two-factor theories are based on the assumption that exposure produces a pair of opposing tendencies that in combination may result in positive, negative, or inverted-U effects. Berlyne (1970, 1971) suggested that exposure generates both a *habituation* or *reduction of uncertainty* effect leading to increased liking, and a *satiation* or *boredom* effect whose influence on liking is negative. When a stimulus is unfamiliar, habituation predominates and exposure therefore leads to increased liking. Once a stimulus has become familiar, however, satiation gains ascendancy and further exposure leads to decreased liking. If the stimulus is simple, the habituation phase will be completed after relatively few exposures and the predominant trend will be a decline in liking; but if it is complex, the peak of the favourability curve may never be reached through laboratory exposures. A slightly different two-factor theory has been proposed by Stang (1974, 1975): according to this version the opposing tendencies are *progress of learning* and *satiation*.

According to Stang's theory, repeated exposure is accompanied by learning about the stimulus, and as learning progresses the stimulus becomes more pleasing. Once the stimulus has been learned, an unpleasant state of satiation, or boredom, is hypothesized to develop, causing the pleasingness of the stimulus to decline. If this theory is correct, conditions of repeated exposure that favour learning and minimize satiation (e.g., spaced exposure of complex, novel stimuli) should produce familiarity-favourability functions resembling learning curves; but conditions favouring both learning and satiation should produce inverted-U functions (Stang, 1975).

The most recent theoretical contribution is Eckblad's (1981, pp. 83–89) scheme theory. According to this theory, the process of learning new perceptual schemes for recognizing, classifying and discriminating among unfamiliar stimuli is inherently pleasurable, but repeated exposure to stimuli that are already recognizable in terms of existing perceptual schemes generates neutral

or negative affect, manifested by inattention or boredom. The location of the peak of the curve, according to scheme theory, depends on the degree of recognizability of the stimuli. The larger the number of exposures required to build up the schemes necessary for recognizing the stimuli, the later the peak of the curve. When the requisite schemes are more-or-less complete, liking passes its maximum and begins to decline.

Response-competition, two-factor, and scheme theories all postulate a universal inverted-U function linking familiarity and liking. The parameters of the curve are assumed to depend, among other things, on the complexity or recognizability of the stimuli. Monotonic mere exposure effects, such as those discussed earlier in this section, are assumed to represent only the rising part of the underlying inverted U. Using the traditional experimental procedures pioneered by Zajonc (1968), initially unfamiliar stimuli can be exposed only a few hundred times at most, and the peak of the curve may often lie beyond the reach of such investigations. Our own research methodology discussed in the following sections, on the other hand, allows a vastly wider range of familiarity, from complete novelty to literally millions of exposures, to be investigated.

11.2 Experimental Procedures

Experimental findings and conclusions in studies of aesthetic preferences are to a degree determined by the methods used in the experiments. We have already seen that if the type of stimulus material chosen is generally unfamiliar to the particular group of subjects, then the less strange the stimuli the better they will be liked; and the risk is that a generalization will be formed that liking is simply an ever-increasing function of stimulus familiarity. What may be more important is that experimental procedures for assessing aesthetic preferences — e.g. whether pair comparisons or rankings are used — could influence results. Likewise, experimental findings can be affected by the choice of familiarity measures — whether a subjective scale of familiarity is used, or an objective measure of time or frequency of exposure of subject to the stimulus is employed. Our own experimental studies have tended to differ procedurally, sometimes slightly and sometimes radically, from previous relevant investigations. Therefore, it seemed worthwhile to focus attention in the first place on the methodological aspects of our work, and only afterwards report our findings stage by stage.

We have refrained from adopting the well-known 'before-and-after' procedure of testing attitudes. In some of our work we have used stimuli with which our experimental subjects would be familiar to varying degrees as a result of everyday experience outside the laboratory. In the case of each stimulus we obtained an assessment of our subjects' familiarity with it, and we proceeded to assess their liking for it. Thus, we tested each subject for favourability not twice, before and after an experimental exposure to the stimulus, but only on a single occasion. There are two advantages in this method. One may be called procedural: a once-only testing session is simple to organize and enables the

experimenter to 'round up' relatively large numbers of subjects without worrying about getting them back for a second testing session or exposing them to tedious repetition. The other advantage may be described as methodological: prior real-life experience of stimuli can provide for a very wide range of stimulus familiarity; this is important if our main aim is to study liking as a function of familiarity.

In some of our more recent studies we have assigned our subjects in a random manner either to a group in which each subject rates stimuli for familiarity or to a group in which each subject rates stimuli on a scale of liking. Technically this is a between-subjects experimental design. It has been used occasionally in earlier studies (Harrison, 1969; Moreland & Zajonc, 1977). The advantage of this design over the within-subjects one is that judgments of familiarity and favourability cannot mutually influence each other. Such influence could 'contaminate' findings when the subjects have some ideas, as many might have, as to how familiarity and liking are related.

In some of our experiments stimulus familiarity was inferred from the stimulus type. For example, nonsense syllables were considered to be unfamiliar stimuli, uncommon words were classed as somewhat familiar, and very common words as very familiar stimuli. In other experiments we used the subjects' own subjective assessments of stimulus familiarity. Other workers preferred in the past to rely on objective measures of familiarity, such as those based on the duration of exposure of the subject to the stimulus. However, subjective measures indicate the subject's familiarity with the stimulus in the most direct manner. Further, it has been shown (Harrison, 1977) that at least in some situations subjective assessments are better than objective measures of familiarity at predicting aesthetic preferences.

11.3 Preferences for Letters and Words

It is somewhat surprising that people should have preferences among ordinary letters of the alphabet — that they should like some and not others. However, whenever presented with a card displaying two letters children in our own investigations have always readily said which of the two they liked the better; and their replies have turned out to show a consistent pattern. An early study involved the use of capital Roman-alphabet and Cyrillic-alphabet letters as stimuli (Sluckin *et al.*, 1973). The subjects were 147 children recruited from schools in Louisville, Kentucky, USA, at a time when one of us (W.S.) was on a research assignment at the University of Louisville. One group of subjects ranged in age from 4.3 years to 6.6 years, with a mean age of 5 years 1month. The other group ranged from 9.4 years to 11.11 years, the mean age being 10 years 7 months. Very briefly, each subject was tested individually by the pair comparison method; he/she had to say which of the two things shown on a card he/she liked the better. 72 cards were presented to each subject in a random order. The Roman and Cyrillic letters, and examples of cards used, are shown in Fig. 11.2.

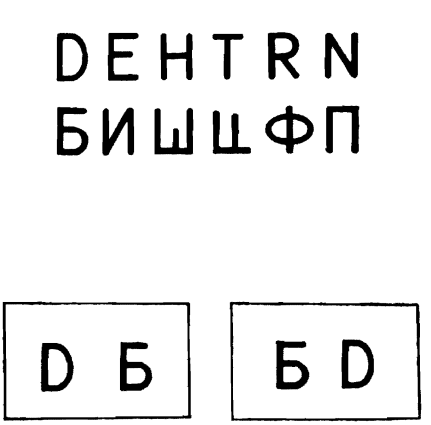


Fig. 11.2 Roman and Cyrillic letters and examples of cards used. (Reproduced from W. Sluckin, L. B. Miller and H. Franklin (1973) *British Journal of Psychology*, 64, 563–567, by permission.

The younger children were at the stage of just learning to read whereas the older children were already well able to read. Thus, the younger group were fairly familiar with ordinary Roman letters, and the older children were very familiar indeed with such letters. The Cyrillic letters were, from the point of view of all the children, simply letter-like shapes. All in all, we found that the younger children very strongly preferred the Roman-alphabet letters. Since the two sets of letters had been fairly alike with regard to straight and curved line components, the most probable reason for our finding was that the letters that were preferred had been quite familiar, whereas the non-preferred Cyrillic letters had been unfamiliar to the younger children. The older children also liked better the familiar shapes than the strange ones, but this preference was much less marked than in the case of the younger children. The conclusion from our study was that the liking of children for letters was *initially* a direct function of familiarity, resulting from exposure of the children to the letters. However, much more exposure to letters did not lead to an increased preference for them over the letter-like shapes and, on the contrary, extra exposure resulted in a reduction of preference for the familiar shapes. There could also, of course, be less fear of novelty with increasing age in children; or both effects, less neophobia and a decline in the liking for highly familiar stimuli, could occur all at once as children advance in age.

Some years later some of us set out to investigate the preferences of children and young adults for common words, uncommon words and nonsense words (Colman *et al.*, 1975). Two separate experiments were conducted. In the first of them, the subjects were (a) 15 6- to 7-year-old children, (b) 15 10- to 11-year-old children, both from a primary school in Northamptonshire, and (c) 17 18- to 20-year-old Combined Studies students from the University of Leicester. All the stimuli were consonant-vowel-consonant trigrams. Eight words were used, *viz.* BAG, TAP, LEG, PEN, LID, DOT, JUG and CUP; and eight non-words,

viz. YAD, VAB, FEP, KEB, MIB, JOM, VUD and CUG. Every possible combination of word and nonsense syllable was printed in lower-case letters on a separate card, once with the word on the left and once with the word on the right, adding up to 128 cards altogether. The children were tested individually for preference as between the two stimuli on each card. In this experiment all the groups of subjects showed a preference for words over non-words. Most probably this simply reflected a preference for the familiar stimuli over the unfamiliar ones.

In the second experiment in the study mentioned above, the subjects were (a) 20 7-year-old children, (b) 20 9- to 10-year old children and (c) 20 18- to 21-year-old students. The stimuli this time were six very common words, *viz.* APPLE, WINDOW, TRUMPET, BOTTLE, RABBIT and TEACHER, and six relatively uncommon words (roughly matching the common ones), *viz.* GUAVA, CORNICE, CORNET, CARAFE, WOMBAT and MENTOR. The pair-comparison method, as between common and uncommon words, was used again. The results were this time markedly different from those of Experiment I (but not altogether unexpected). Children in both groups preferred common to uncommon words, but young adults showed a significant preference for the uncommon words. It looked as if the uncommon, less familiar words were perhaps more interesting to the young adults; at any rate, they were certainly more pleasing.

The results of both experiments may be brought together to make sense in the manner shown in Fig. 11.3. Within the Cartesian coordinates one graph represents the way familiarity and favourability are related in the case of children. Broadly, the more familiar the stimuli — progressively non-words, uncommon words and common words — the more they are liked. The other graph represents the relationship between familiarity and favourability for young adults. Here the very unfamiliar stimuli (non-words) and the very familiar ones

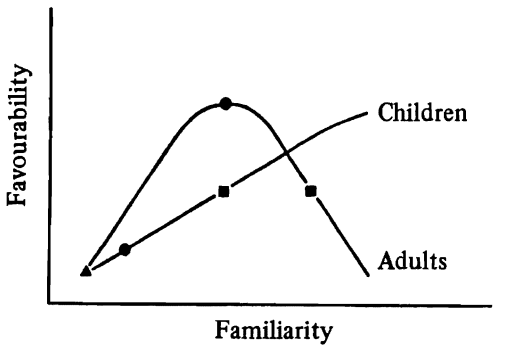


Fig. 11.3 ▲, Non-words; ●, uncommon words; ■, common words. (See explanation in text.) (Reproduced from A. M. Colman, M. Walley and W. Sluckin (1975) *British Journal of Psychology*, 66, 481–486, by permission.)

(common words) are liked less than the stimuli of intermediate familiarity (uncommon words); thus the relationship for adults is, at least partly, of the inverted-U kind. It may be surmised that in the case of children even the common words are not yet familiar enough to have reached the peak of the inverted-U curve; a great deal more exposure to words may be needed before some of them can become so ordinary and boring as to diminish in their aesthetic appeal.

Several years later we set out once again to investigate people's likes and dislikes of words as a function of the experienced frequency of their occurrence (Sluckin *et al.*, 1980). The method of investigation this time was quite different. Our subjects, 33 adults, ranging in age from 19 to 43 years, had to rate either the familiarity of each one of 100 words on a five-point scale or the liking for each of the words, also on a five-point scale. Thus, the between-subject design, mentioned in a previous section, was used. Seventeen subjects were randomly assigned to the familiarity condition and sixteen to the favourability condition. The words were selected randomly from a dictionary, but those regarded as emotionally charged were discarded. Naturally, some objectively very uncommon words were judged by our subjects as entirely unfamiliar; and at the other end of the scale, some words were judged by our subjects as very familiar indeed. On the scale of liking, the distribution of ratings was pretty even, ranging from words disliked to words liked.

In Fig. 11.4 each dot represents the position of each word in relation to the familiarity and favourability co-ordinates. An inspection of the scatter diagram shows that on the whole unfamiliar words were rated low or lowish on favourability; very familiar words were on the average marginally less well liked than the moderately familiar words. A full statistical analysis confirmed this impression. The straight rising line in the figure shows the fairly steep average increase of liking for words up to the familiarity rating of 2.5 chosen by inspection. Then, at the high levels of familiarity there is some decline, albeit less steep, in favourability as a function of familiarity. Our published paper gives a full mathematical analysis of the data that shows clearly that our results fit a theoretical inverted-U function. Our data so far do not allow any clear-cut inference as to the parameters of the inverted-U curve — how its shape in any given circumstances may depend for instance on such factors as the complexity or discriminability of stimuli. We shall offer, however, some comments on this matter in the concluding section of this chapter.

11.4 Preferences for Names and the Preference-Feedback Hypothesis

Once a new word or phrase has gained a foothold in the language, it tends to win rapid popularity, so much so that sometimes the 'newcomer' turns into a cliché and begins to be shunned. We wondered to what extent something similar occurs in the case of names. Before looking more closely at this, it seemed desirable to start by investigating simply the relationship, at any given time,

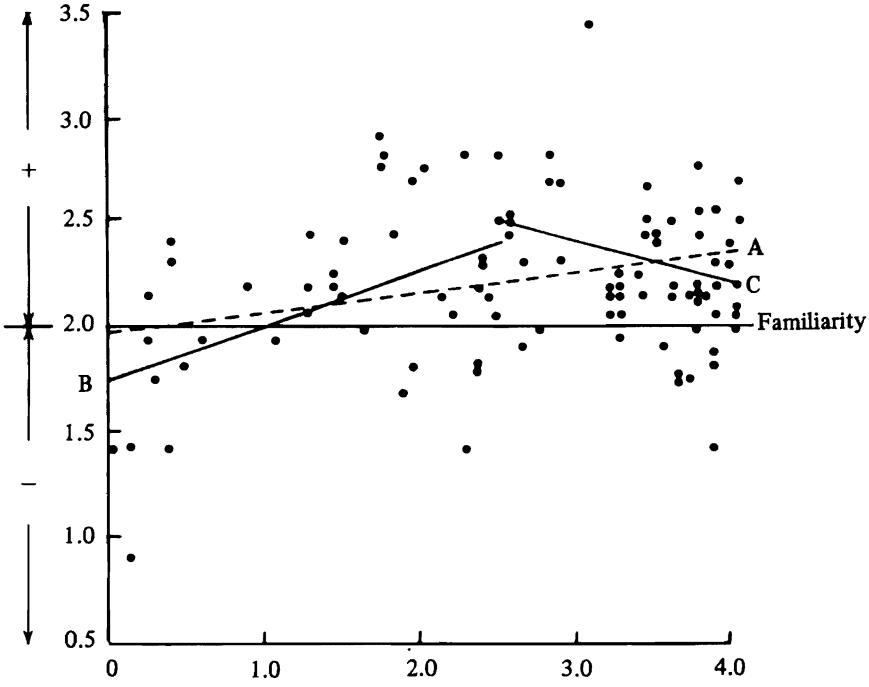


Fig. 11.4 Scattergram of mean familiarity and favourability ratings for 100 words, with regression lines (A) for the whole sample, (B) for those words with familiarity < 2.5 and (C) for those words with familiarity > 2.5 (Reproduced from W. Sluckin, A. M. Colman and D. J. Hargreaves (1980) *British Journal of Psychology*, 71, 163–169, by permission.)

between experienced familiarity with, and liking for, Christian names among various populations.

As it happens, the first opportunity for such research arose when one of us (W. S.) was on Study Leave in 1978 in Melbourne, Australia. We were able before long to collect similar data in Leicester. In the two experiments we used in all 160 subjects. In each case there were 40 men and 40 women. Their ages ranged in Melbourne from 18 to 50 (median, 22 years) and in Leicester from 15 to 68 (median, 34 years). Briefly, 40 subjects in Melbourne and 40 corresponding subjects in Leicester rated their own familiarity *either* with 100 randomly chosen male Christian names *or* with 100 similarly chosen female Christian names. Likewise, 40 other subjects in Melbourne and 40 in Leicester rated their liking for the same male and female names (Colman *et al.*, 1981a).

The results of the two studies are summarized in Fig. 11.5. Significant and strong positive linear relationships between familiarity and favourability were found for male and for female names, whether judged by males or females, both

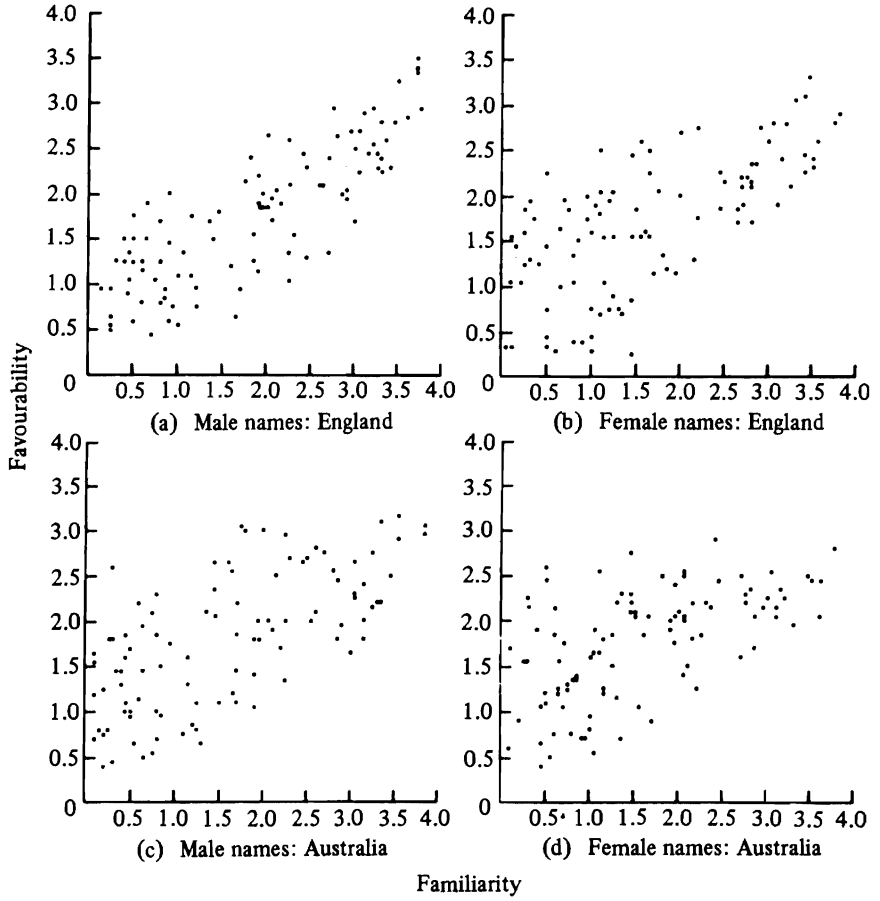


Fig. 11.5 Scattergrams showing the mean ratings of familiarity and favourability (liking) for male and female Christian names given by English subjects and Australian subjects. (Reproduced from A. M. Colman, D. J. Hargreaves and W. Sluckin (1981) *British Journal of Social Psychology*, 20, 3–5, by permission.

in Melbourne and in Leicester. To illustrate, among the four best liked male names in Australia were David and Peter; and these two were also among the four most familiar names. In England the best liked names were David, Peter and Richard in that order; and these three were among the four most familiar names. Names such as Cedric and Fulbert were both unfamiliar and disliked in Australia. Further similar examples could be quoted; full details will be found in Hargreaves *et al.* (1979) and in Sluckin *et al.* (1979).

It may at first sight be thought that the essentially straight-line positive

correlations between familiarity and favourability could be explained in terms of the mere-exposure hypothesis. A closer analysis of the situation leads to a different explanation. First we may note that in the case of words, favourability is a function of familiarity and that, up to a point, favourability rises with familiarity. In the case of Christian names the causal relationship is partly reversed and, therefore, more complex. The best-liked names tend to be given most often to newborn infants; and so these names gradually become the most frequently-occurring and familiar of all the names. Thus we have a self-regulating mechanism in name-giving. It ensures that no names are given so frequently as to bring about an antipathy for them; and no single name can become so prevalent as to become markedly disliked. The preference or lack of preference for names eventually influences the frequency of their occurrence and, hence, their familiarity. This feedback of preference accounts for the non-existence of the inverted-U relationship in the case of Christian names. Thus, the positive linear correlation, such as we have found, can be satisfactorily explained in terms of our preference-feedback hypothesis.

The case of surnames is different. They are not commonly chosen at will. Therefore, like ordinary words, they may be expected to obey the inverted-U law. It seemed to us worthwhile to put this prediction to an empirical test. We carried out an investigation, using 80 subjects who rated either their familiarity with, or their liking for, 60 surnames randomly selected from a telephone directory (Colman *et al.*, 1981b). We were unlucky that comparable data gathered by one of us (D.J.H.) while on Study Leave in Chicago, USA, were later lost (strictly speaking, stolen!) in New York, with other belongings.

The results, showing the relationship between familiarity and favourability, are displayed in Fig. 11.6. Very unfamiliar names — examples being Bamkin, Bodle, Nall, Codling — were disliked. At the other end of the familiarity range were Smith and Brown; they, too, were disliked. The best liked names were of intermediate familiarity, for example, Shelley, Cassell, Burton. A regression analysis shows that a large and highly significant proportion of the variance is accounted for by an incremental quadratic component. Further, the overall non-linear relationship for surnames is well exhibited by a piecewise linear-regression analysis. Thus, the linear component of the trend in the lower third of the familiarity scale is strongly positive with a slope of 0.82; in the upper third the linear trend is quite strongly negative, with a slope of -0.43; the middle third of the familiarity scale shows not much departure from the horizontal, the slope being somewhat negative (-0.18).

11.5 Aesthetic Appreciation of Music

Though musical theorists (e.g. Meyer, 1956) have long debated various important issues concerning the aesthetic and affective response to music, the experimental psychologist is better equipped to carry out objective, empirical tests of the hypotheses proposed. Berlyne's (1974a) distinction between 'synthetic' and 'analytic' approaches in experimental aesthetics, perhaps more

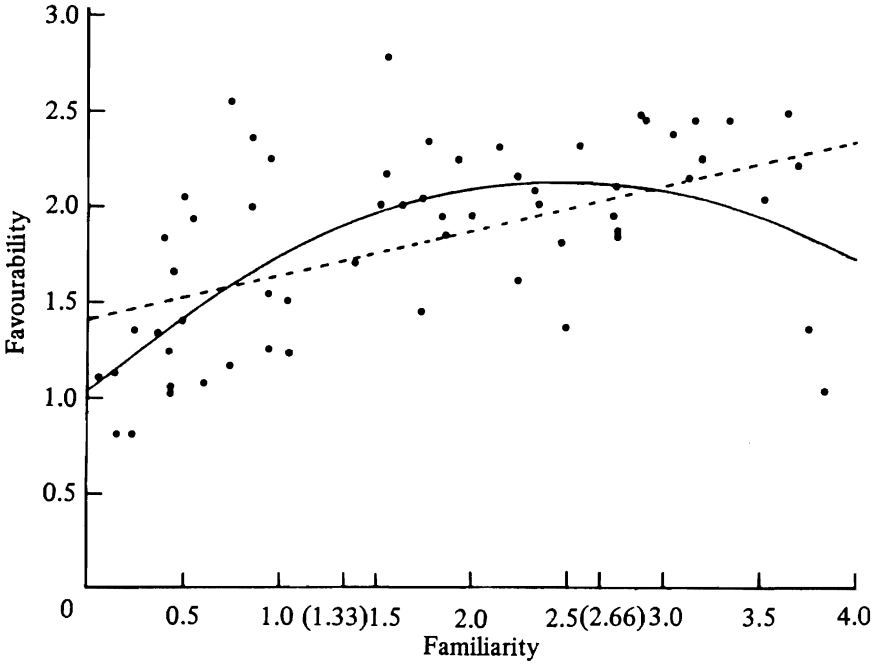


Fig. 11.6 Mean familiarity and favourability ratings (ranges 0–4) of 60 randomly selected surnames, showing least square linear regression line (FAV on FAM) and least square parabola. ——, least square parabola; -----, least square line. (Reproduced from A. M. Colman, W. Sluckin and D. J. Hargreaves (1981) *British Journal of Psychology*, 72, 363–369, by permission.)

appropriately called experimental and naturalistic respectively, has clear parallels in research on the psychology of music. The experimental approach is that which characterizes most of the work that has been described in this chapter so far, as well as most of the 'new experimental aesthetics'. It consists of presenting subjects with simple, often artificially contrived stimuli in which specific independent variables are manipulated, and investigating the effects on specific dependant variables. Research in which this approach has been applied to music has been extremely scarce and limited in scope, and as Radocy & Boyle (1979) point out, this approach holds much promise for the systematic evaluation of the aesthetic response to music.

The naturalistic approach, on the other hand, uses stimuli drawn from real-life works of art and represents an attempt to study them under relatively lifelike conditions. The two approaches may be thought of as being at opposite ends of a continuum; many studies, including our own research on music (Hargreaves & Colman, 1981; Hargreaves *et al.*, 1980), fall somewhere in between, drawing on techniques characteristic of both approaches. In this section we shall review

some research on the role of novelty in the aesthetic response to music. We shall look first at those studies that are closest to a purely experimental approach in their manipulation of the novelty of musical stimuli; then at empirical studies of the effects of repetition of music, which use a mixture of experimental and naturalistic techniques.

A straightforward application to music of the inverted-U theory, as we have developed it so far, raises a new set of theoretical problems, since musical events are ordered in the dimension of time; this applies both *within* the duration of a single musical piece and *between* different playings of the same piece. Focusing on the latter, familiarity with a given piece might be thought of as an inverse function of its novelty, in terms of the number of times the piece has been heard. Thus we may dislike a piece when we hear it for the first time; with further playings liking rises to a peak, and then declines. The existence of inverted-U curves of this type could easily be demonstrated by observing the changes in position of popular songs in the 'charts' over a period of several weeks. This phenomenon is a good example of the cyclical vogues that will be discussed in the last section of this chapter.

Another inverted-U theory of musical preference, which concentrates on likes and dislikes for different pieces at a given point in time rather than changes in liking for individual pieces over time, has been developed by Davies (1978). Davies' account derives from Berlyne's work, which we mentioned earlier, and has much in common with our own views; we shall attempt a brief summary here. The initial premise is that people tend to like music that provides them with information, i.e. that reduces their uncertainty about subsequent events. They tend to dislike music that is very familiar to them, as it contains no new information; similarly, they tend to dislike very unfamiliar music, since extreme novelty gives rise to uncertainty about future events. People therefore tend to prefer pieces of music that, for them, contain an intermediate amount of information, i.e., music that is moderately familiar to them. Davies draws next on Berlyne *et al.*'s (1968) suggestion that the information conveyed by a stimulus is related to its *subjective complexity*, and this concept is central in making predictions about people's liking for different pieces. The amount of information conveyed by a piece is a function both of its objective complexity, and of the familiarity of the listener with music of that type; the subjective complexity of a piece thus summarizes the levels of both of these interacting variables. The inverted-U curve that emerges from this conceptualization is one with subjective complexity as the abscissa; people's liking is greatest for music with intermediate levels of subjective complexity.

It is possible to carry out precise experimental manipulations of the objective complexity, or information content, of musical elements, and empirical researchers in this area have done so in various ways. Davies (1969) constructed tone sequences that vary in objective uncertainty levels in an analogous way to Miller & Selfridge's (1953) 'statistical approximations to language'. He presented a group of musicians from different musical disciplines with either a single written note or several written notes in a sequence, and asked them to write one more note that might reasonably follow. By passing the sequence on to

the next musician, then the next, and so on, Davies was able to generate musical material varying in predictability; sequences in which each note was based on the preceding one, or on three, or five, or seven notes were constructed. Crozier (1974) and Vitz (1966) also manipulated the informational content of tonal sequences, and investigated the effects on subjects' ratings of pleasantness and other variables. Vitz found an inverted-U relationship between the two; pleasantness ratings increased with 'stimulus variation' up to a moderate amount, and then declined. He also found that his more musically sophisticated subjects preferred sequences with larger amounts of stimulus variation than did subjects with little training and interest in music.

Heyduk (1975) obtained preference ratings for four piano compositions that were specially constructed to represent different degrees of complexity, and presented one of them to his subjects 16 times. His findings support an inverted-U-type 'optimal complexity' model of musical preference. Further, he found (Heyduk, 1975, p. 84) that:

> . . . the affective consequences of repeated exposure varied depending upon whether the repeatedly exposed composition was more or less complex than the subject's preferred complexity level.

Now this finding is an important corollary of the subjective complexity model that was outlined earlier, and it corroborates Vitz's (1966) results. Generally speaking, repeated exposure to a piece of music tends to reduce its subjective complexity. When the initial subjective complexity of the piece is too high, further listening will tend to increase liking for it, as this will reduce its complexity, which will move nearer to the subject's optimum level. When the initial level is too low, however, repeated exposure will tend to decrease liking for the piece, since its subjective complexity moves still further away from the subject's optimum level. This model should enable us to predict, to some degree, how a person's musical preferences might change and evolve: the characteristics of any individual inverted-U function relating liking to novelty will depend on the objective complexity of the piece, and the musical experience of the listener.

The 'repeated exposure' paradigm employed by Heyduk has been used extensively in research in the new experimental aesthetics, and Heyduk adopts a typically experimental approach to the stimulus material. We shall now briefly review some research that uses the same experimental paradigm, but which is essentially naturalistic in its use of 'real-life' musical pieces as stimuli.

Verveer *et al.* (1933), like Heyduk, found an inverted-U curve for liking with repetition over time. They repeatedly played the same two 'jazz selections' to groups of undergraduate psychology students in two testing sessions one week apart. The subjects' pleasantness ratings (on a 20-point scale) tended to increase to an affective peak at an optimal degree of familiarity; further repetition produced a decline in pleasantness. After an intervening time interval, however (one week in this case) the ratings rose again. The authors suggest that some apparently discrepant results in this field may be resolved by distinguishing between the contrary effects of *continuous repetition* and *repetition at intervals*.

Neither Krugman (1943) nor Mull (1957), however, found any evidence for an inverted-U curve. Krugman played recordings of classical and swing music once a week for 8 weeks to 7 undergraduate subjects, and found that their pleasantness ratings tended to increase over this period for both types of music. Mull played modern serious music (selections from Hindemith and Schoenberg) to 16 music students during two sessions of 1 h each, in two successive weeks; she also found a general increase in liking for the music over this period, though she concluded (Mull, 1957, p. 161) that 'neither of the compositions studied was generally much liked, even at the end of the familiarizing process'.

No clear effects of type of music have emerged so far; according to the theoretical model outlined in the last section, more complex pieces of music should be more likely to show an increase in liking with repetition than should less complex pieces. Schuckert & McDonald (1968) may have found such an effect in their study of 20 pre-school children. They obtained initial preference judgements from the children on jazz as well as classical pieces, and then systematically exposed each subject to the less preferred musical type in four different play situations. A re-test for shifts in preference showed that although the magnitude of the preference shift was not statistically significant, twice as many children shifted their preference from jazz to classical music as in the opposite direction as a result of the exposure. Whether or not this demonstrates that the classical piece used (*Liebestraum*, as recorded by the Boston Pops Orchestra) had greater subjective complexity for the children than the jazz piece (*Blue Rondo*, by Dave Brubeck) is unclear; the authors suggest that the greater rhythmicity of the latter may partly explain their results.

This kind of research has clear practical implications for so-called 'plugging' effects in music broadcasting. Although a certain amount of research on this topic was carried out under the auspices of the Office of Radio Research at Columbia University (Lazarsfeld & Stanton, 1944), it is rather surprising that there has been virtually no further interest in it since the Second World War. Wiebe's (1940) study of the effect of radio plugging on students' opinions of popular songs is one of the very few in this area to incorporate some degree of experimental control. In summary, he found that plugging did not affect the liking ratings of initially well liked songs, but that it did slightly increase the ratings of those songs that were initially less well liked. The explanation of these results by the subjective complexity model would be that the initially well liked songs were of lower subjective complexity to the students, though of course this would be virtually impossible to test retrospectively.

We may conclude this section by characterizing the aesthetic appreciation of music as an area in which empirical evidence lags well behind theoretical speculation. Music is a complex area of study, and musical stimuli tend to be less convenient to handle in the laboratory than stimuli such as shapes, letters, words or names. It is probably for this reason that no consistent findings emerged from the repetition studies reviewed above. These studies used various different samples of subjects, types of music, experimental procedures, and methods of analysis. Nevertheless, it may well be that some form of inverted-U

theory provides the most useful, general framework for integrating what appear at first sight to be diverse and even contradictory findings. There can be little doubt that this applies to the research reviewed earlier, though a good deal of empirical flesh remains to be put on the theoretical skeleton.

11.6 Conclusions

As we mentioned early on in this chapter, there has been no dearth of interesting theories concerning the inverted-U relationship between novelty/familiarity and aesthetic preferences. Both the modified response-competition theory and the two-factor theory, as well as the more recent scheme theory, have their appeal. However, they do not readily generate conflicting predictions, and hence empirical findings have not the power of differentiating between then. Therefore, for the present, theorising about the underlying causes of the inverted-U relationship remains tentative.

We have seen earlier how Christian names and surnames differ with regard to the relationship between familiarity and favourability. Much more generally, this difference between, respectively, a positive rectilinear and an inverted-U relationship is characteristic of two broad categories of naturally occurring stimuli (Colman *et al.*, 1981b). Category A, which includes Christian names, is one in which exposure to the stimuli depends largely on voluntary choice. This is very well exemplified by musical pieces that we choose, or do not choose, to listen to. Examples somewhat comparable to Christian names include garments and shoes of different styles. Category B comprises stimuli such as surnames, but also, typically, letters of the alphabet, words, geometrical shapes and so on, that is, cases where frequency of exposure is essentially outside the subject's voluntary control. The two categories are in reality two ends of a continuum of stimuli, because the *degree* of voluntary control of exposure that is achievable will vary with the nature of the stimulus.

Individuals will differ, of course, with regard to the extent of their familiarity with the various stimuli within Category B. Some of these stimuli can be so ubiquitous in any given culture that they are on the descending section of the inverted-U curve. For instance, we have found that some words, and even surnames, are in that position. Stimuli in Category A, however, are prevented from reaching the requisite high levels of familiarity, because voluntary choice on the part of the individuals reduces the extent of their exposure to excessively frequently occurring stimuli, such as particular pieces of music, or clothes that are frequently worn, or even Christian names that are regarded as common. This cutting down of exposure by choice reduces sufficiently the popularity of any given stimulus to prevent it from becoming overly unattractive. This self-regulation, or preference feedback, accounts for the absence of the inverted-U relationship between familiarity and favourability for stimuli in Category A.

Over a period of time the self-regulating mechanism just referred to appears to be responsible for the fluctuations in popularity of, for example, hair styles, shoe styles and the like. A given style ceases to be aesthetically pleasing when it is

very common, but begins to return to favour when it is relatively uncommon. Thus we witness the rise and fall of fashions; what is in vogue today will not be so in a few years' time, but may return in a decade or two. Of course, this is only a very partial account of fluctuations of popularity. Some fashions disappear never to reappear again, perhaps because they have been found to be incompatible with more modern living conditions, or because they have been condemned by some authority, and so on. Rather than old stimuli re-emerging, some entirely new stimuli may emerge as aesthetically pleasing, perhaps for prestige reasons to begin with, then rapidly becoming favourites of many. But, this is not to say that the preference-feedback mechanism does not go some considerable way towards explaining the fluctuations of fashion.

In the case of changing positions of popular songs in the 'charts', such cycles have a fairly short periodicity. The greater complexity of most serious music would lead us to predict that if similar curves exist, their periodicities should be much longer. Farnsworth's (1969) studies of the changes in eminence rankings of the great composers made by members of the American Musicological Society in 1938, 1944 and 1951 are of interest in this connection. Although the question of cyclical vogues was not directly under investigation, Farnsworth found some interesting and marked average shifts in preference over the thirteen year period. The 1951 rankings correlated 0.95 with those obtained in 1944, and 0.85 with those obtained in 1938.

We may return now to Category B stimuli where, provided the range of familiarity is wide enough, the inverted-U relationship between familiarity and favourability obtains. The interest here centres on the parameters of the U-curve, e.g., the factors influencing the height of the peak of the curve, the position of the peak on the familiarity scale, and the symmetry or asymmetry of the curve. There is evidence to suggest that, as far as the position of the peak is concerned, maximal favourability tends to occur early with stimuli that are subjectively simple, highly discriminable and predictable. On the other hand, the peak of favourability tends to be reached late on the scale of familiarity with stimuli that are subjectively complex, poorly discriminable and, perhaps, relatively unpredictable (Colman & Sluckin, 1976). This would indicate which things are likely to have a quick appeal but soon become boring, and which are slow in becoming attractive but are longer-lasting in their aesthetic appeal.

As we mentioned at the beginning of this chapter, neither novelty nor familiarity is a unitary entity. On the contrary, each can refer to several distinct situations. Therefore, when we talk about a quantitative novelty-familiarity continuum we oversimplify matters; we do not do justice to the qualitative complexity of the continuum. Empirical studies do sometimes take this complexity into account; research work has, for instance, been carried out on the effects of massed and distributed exposure (see Stang, 1974). In this chapter, however, we have focused on the fundamentals of the relationships between novelty/familiarity and liking, whereby a tacit assumption is made that novelty/familiarity is unidimensional.

It is sometimes believed that novelty, as such, is aesthetically attractive. Empirical studies do not bear this out. On the contrary, perhaps because

novelty tends to evoke wariness, novel stimuli are not generally liked as much initially as they are liked later, when their novelty has worn off. Of course, the understanding of human aesthetic preferences is only very partially illuminated by the study of the novelty-favourability relationships. Nevertheless, as this chapter has attempted to show, a close experimental and theoretical analysis of these relationships can be quite revealing.

11.7 Synopsis

Much of the so-called new experimental aesthetics is concerned with liking as a function of novelty/familiarity. The mere-exposure hypothesis, suggesting that liking is the result of 'mere repeated exposure' of the individual to the stimulus, is critically discussed. The view is then considered that, more generally, the relationship between novelty/familiarity and liking takes the form of an inverted U. Theories purporting to explain this relationship are then briefly described. Next, our own experiments on letters, words and surnames, which show results consistent with the inverted-U function are reported. However, for a certain category of stimuli, where the preference-feedback effect is in evidence, the relationship between novelty/familiarity and liking is more like a positive rectilinear one. This is well illustrated by our findings concerning preferences for Christian names. This brings us to the topic of vogues. A survey of studies of aesthetic appreciation of music highlights, among other features, the presence of cycles of fashion of varying periodicities. The chapter ends up with some tentative general conclusions about aesthetic preferences in relation to novelty.

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