CHAPTER I
AN HISTORICAL INTRODUCTION TO THE PROBLEM

Review of Empirical Studies

One of the early analytic approaches to the problem was made by Bartlett (1932). In his fairly systematic attempt to find out a comprehensive framework in terms of which the relationship between affectivity and retention could be ascertained, Bartlett viewed the core of memory as an emotional attitude. He emphasized the role of this emotional attitude in determining the process of our memorisation in everyday life. It was also pointed out by him that our emotional attitude tended to influence and transform the nature of any memory item at the time of recall or reproduction. In recent times, Rapaport (1959) also, in his excellent survey of literature on the relation of memory to affective processes, covered a very wide ground in order to make a systematic analysis of diverse viewpoints and research findings.

Any survey of the experimental researches in this area should, however, refer to studies conducted much earlier than 1932 when Bartlett's book, Remembering, was published. In such a historical review Colgrove's (Rapaport, 1959, p.43) questionnaire study may be mentioned as the first empirical approach to the problem. Numerous other studies had been carried out during the first five decades of the twentieth century. For comprehensive surveys of most of the early studies, Meltzer (1930), Jersild (1931), Cason (1932), Moore (1935), Barrett (1938) and Gilbert (1938) may be referred to. As pointed out earlier, when viewed in the present-day context of experimental sophistication and operational rigour, many of the earlier studies may be characterised by their unreliable method, poor design and arbitrary procedural technique. And yet, a brief review of some of the experimental studies conducted during all these years may be quite pertinent insofar as it would provide a relevant perspective to our specific enquiry.
a large number of clinical case studies. Freud's theory of repression (1925) may briefly be stated as follows: There is an unconscious motive for forgetting any internal impulse or external event representing unacceptable instinctual desires whose manifestation causes pain and grief to the individual. As in the case of most of his theoretical propositions, Freudian theory of repression, too, has been widely criticised for lacking in formal scientific rigour and operational verifiability. It is generally admitted, on the other hand, that clinicians and psychiatric practitioners have very often found the basic principles of repression theory to be of practical validity and usefulness in treating mental disorders. It can also be observed from Freud's writings (1914) that his theory of repression, particularly because of its explanatory value, is a significant contribution to our understanding of various memory lapses. And yet, the functional usefulness of his theory as a predictive theoretical principle with regard to the selective retention of different affective experiences is questioned by many.

It is to be put on record, however, that Freud's pioneering work in this area stimulated the academic enthusiasm of the later psychologists who engaged themselves in the experimental investigation of the problem. This has resulted in a very large number of laboratory studies which provide a very relevant and wide background against which different facets of the problem can be studied and evaluated.

It is already pointed out that most of these laboratory studies carried out during last fifty years or so and reviewed later in this chapter were either against or in favour of the psychoanalytic theory of repression. But due to the inconclusive and inconsistent nature of their results, neither of the viewpoints could be established with reasonable certainty. Besides certain shortcomings of these experiments mentioned earlier, there are several other methodological difficulties in psychological experimentation which, perhaps, account for the inconsistency of the results obtained by various investigators. First, in an experiment designed to study the effect of affective tone of the material on retention, it had been found very difficult to isolate the variable of affectivity from other potent variables influencing learning and forgetting processes, such as, frequency, familiarity, relevance,
meaningfulness and so on. Secondly, it had been equally difficult to specify the exact extent and nature of affectivity of material to be retained. Inadequate control of the quality as well as quantity of the feeling tone of the materials as perceived by the subjects had, in many cases, given rise to ambiguous results that were difficult to interpret. Further, difficulties had been faced in determining how the materials used in a study actually affected the subjects.

In view of the procedural diversity of these studies McGeogh and Irion (1961) suggested three major categories in terms of which the experimental studies could be broadly classified. The first category includes those studies which used the method of free recall of experiences of everyday life. The subjects were instructed to recall every bit of their experiences during a certain period of time. They were also asked to rate these experiences as Pleasant (P), Unpleasant (U), and Neutral (N). The degree and direction of the difference between P and U experiences recalled were considered as the criteria of measurement. Results obtained in some of these experiments show that more pleasant experiences have been recalled (or reported) by the subjects as compared to unpleasant experiences (Henderson, 1911; Koch, 1930; Jersild, 1931; Stagner, 1931; O'Kelley and Steckle, 1940). Rapaport (1959) mentions somewhat similar experiments by Peters where the subjects were instructed to report the first experience that comes to their mind when presented with a stimulus word. "The subjects were instructed to answer seven questions on the feeling tone of the experiences. Peters found that 80% of the experiences were feeling toned; that 65% of these were P, 30% U, and 5% mixed (M)" (Rapaport, p.51).

There have been other experiments, however, where no such superiority of P over U was found. The results of these experiments indicated that either there was no significant difference between the recall of P experiences and that of U experiences or unpleasant experiences were recalled more as compared to pleasant ones (Wohlgemuth, 1923; Gordon, 1928; Cason, 1932; Menzies, 1935; Waters and Leeper, 1936). Thompson (1930) found mixed results in the same experiment.

Meltzer (1930) in his exhaustive survey of the experiments on the relationship between memory and feeling tone considers free recall of everyday experiences as superior to all other methods used in
laboratory experiments. According to Meltzer, use of materials not relevant to subjects' interests and artificial conditions of the laboratory make other experiments inapplicable to the study of feeling responses in real life situation. He insisted that artificial laboratory experiments could not throw any light on the relation of feeling responses to memory in everyday life. Thus, experiments using artificial laboratory conditions were considered by him as superficial and unrelated to the Freudian theory of repression. Meltzer asserted that only the method of recalling life experiences was a realistic method by which selective retention of P and U experiences had to be studied. Edwards (1942), too, shares the view championed by Meltzer. In his opinion, the laboratory studies have probably introduced an artificiality into the situation. As a result, they do not provide as fair a test of the theory as might be possible in a more natural setting. Studies of the retention of experiences from everyday life have perhaps more closely approximated this condition (p. 43).

Rapaport (1959), however, even recognizing the greater personal relevance of life experiences than "arbitrarily selected P and U words or P and U sensory material," (p. 69) raised certain doubts regarding the validity of this method. Among other things, he questioned "whether genuinely relevant, emotional experiences will be communicated by the subjects to the experimenter" (p. 69). Rapaport also expressed doubt whether truly affectively toned experiences could be adequately verbalized by the average subjects. Barrett (1938) supports the use of words rather than experiences since in the case of words it is much easier to control and measure the varying degrees of hedonic tone. Barrett argued that where negative results were obtained, one would not be certain whether the results were due to the relatively innocuous nature of the materials used or whether there were really no differences which might be related to qualitative differences of hedonic tone to be found at any point on the scale. If, however, differences could be established with simple, well-controlled methods one could feel confident of the results. (p. 16)

McGeoch and Irion (1961), too, are not in agreement with Meltzer and Edwards. They consider the method of free recall a hit-or-miss one, because the results may be influenced by several unknown variables, such as, temporary set, self-instruction on the part of the subjects,
and frequency of occurrence of the experiences. It is also proposed by McGeoch and Irion that the results are subject to influence from "whether the subjects are rating the experiences for their affective value at the time of having them or at the time of rating them". (p.385) Moreover, they, too, challenged the reasoning implied in most of these experiments that P & U experiences occurred equally in everyday life, and thus greater percentage of recall of P experiences indicated greater memory value for them. Actually, as pointed out by Henderson (1911), Flugel (1925), Thompson (1930) and several other investigators, it would be quite pertinent to see if the preponderance of P experiences recalled in quite a few of these experiments could be accounted for by greater P experiences in everyday life. Henderson also questioned whether all the unpleasant experiences as recalled by the subjects were actually reported by them. Thompson challenged the basic postulate of these experiments that in life P and U experiences were equally present. Flugel made an attempt to find out an answer to the question empirically and reported that a larger proportion of experiences in life were associated with pleasure as compared to those associated with displeasure. 1 Barrett (1938) thought that the favourable disposition of the subjects toward the past events of their lives might have led them to have a preponderance of P experiences. Gason (1932), too, suggested an 'optimism of judgement' for affective tone — a proposition which further questioned the validity of the method of free recall. Finally, according to Osgood (1962), "it is even possible that highly pleasant experiences are actively rehearsed during the retention interval, in which case the obtained results indicate not repression of the unpleasant but rather practice of the pleasant." (p.572) Incidentally, Meltzer (1930) and Koch (1930) in their experiments avoided the fallacious postulate that an equal proportion of P and U experiences occurred in everyday life.

1 Susukita (Bapaport, 1959, p.74) and O'Kelley and Steckle (1940) share Flugel's view that P experiences constitute a greater part of our life and, thus, are necessarily more numerous than U experiences. According to them, however, P events tend to be forgotten more quickly than U events.
Thus, the lack of control of a number of variables makes the results of most of the experiments in this category "too complicated to interpret confidently." (McGeoch and Irion, 1961, p. 385) After reviewing the studies conducted following this method, the main findings are summarised by Edwards (1942) in the following terms — (a) A predominant number of pleasant experiences are reported at the initial recall period. (b) At a subsequent period of recall, both extremely pleasant and extremely unpleasant experiences tend to be remembered more than neutral experiences. (c) Of the two kinds of extreme experiences, the pleasant ones tend to be remembered better than the unpleasant ones.

A second but more defensible procedure is the method of pairing of an affectively toned item (viz. sensory experience) with a relatively indifferent or neutral item (viz. verbal symbol, such as, nonsense syllable or number). A brief reference may be made to Ratliff's (1938) pioneering study in this category. In his experiment, the subjects learnt lists of numbers paired with sensory items, such as, sounds, colours and odours which were evaluated in terms of pleasantness and unpleasantness. The quality and quantity of the affective tones as well as the difficulty level of the numbers were controlled. The subjects were asked to learn the pairs to three correct repetitions. Immediate recall and two levels of delayed recall (after five and ten minutes) of numbers (response items in pairs) were taken on the presentation of the sensory cues (stimulus items in pairs). Results reveal that although the differences between the recall scores in response to P and U stimuli were in no case significant, the recall of responses was uniformly better and the reaction time faster in the case of P sound and colour stimuli than in the case of U sound and colour stimuli. In case of olfactory cues, however, opposite results were obtained. Unfortunately, this method had never become very popular among laboratory investigators.  

2Earlier to Ratliff's study Gordon (1925) conducted a somewhat similar experiment with odours which were arranged by the subjects in order of their affective value. Results of his study did not show any significant difference between P and U items in terms of memory value. Kenneth (1927) studied association values of certain odours and did not find any necessary relation of affective tone of olfactory stimuli to their memory value.
There were other experiments, however, which followed a method slightly different from that followed by Ratliff. In some of these studies unpleasant or disturbing sensory impressions were interpolated into the process of memorisation of indifferent verbal materials (Stone, 1925; Harden, 1930). The results of their experiments were rather inconclusive. Frank and Ludwigh (1931) found that recall was facilitated by interpolated P odours, whereas interpolated U odours inhibited recall. They explained the results in terms of retroactive inhibition. In a subsequent experiment, Frank (1931) attempted to find out whether the facilitating effect of P odours was actually due to the affective tones associated with them or it was attributable to the odours themselves. Under controlled conditions, the results were found to confirm the latter hypothesis. Unpleasant sensory impression interpolated by White (1932) was electric shock. His results, too, were inconclusive.\(^3\)

By the third and most widely used method, a list of items, verbal or non-verbal, selected apriori in terms of their affective tones, were evaluated by the subjects themselves as P, U and I. The subjects were later asked to recall, rehearse or recognise them. In some of the earlier experiments, however, the affective tone of the items was determined either by the experimenter himself arbitrarily (studies by Tait and Tolman - cited by Rapaport, 1959, p.79), by judges not included in the experimental group (Chaney and Lauer, 1929)\(^4\) or by having the words

\(^3\)There had been few other experiments where 'repression' was elicited by electric shock. MeGranahan's (1940) study is one of the representative experiments of this category. MeGranahan was basically concerned with verifying the repression theory. Although his experiment could not throw any light on the relationship between affective tone and memory value as such, he tried to formulate a supposedly alternative theory of repression as opposed to that suggested by Freud to explain his results. According to MeGranahan, the concept of repression may be applicable to situations where the subject's self-esteem and shame are involved and not necessarily to any unpleasant experience. He found that in case of some subjects fear or anxiety led to avoidance or repression of certain reactions, and in case of some others it failed to elicit repression.

\(^4\)It should be noted that Barrett (1938) found practically no difference between the PUI ratings of the words as assumed by previous experimenters as well as herself and their affective tones as perceived
rated first by the experimental group on the basis of which final selection of the words was made (White and Ratliff, 1934; White and Powell, 1936; Carter and Jones, 1937, for example). Attempts have also been made to determine the affective tone of the materials as measured by psychogalvanic reaction (Jones, 1929; Lynch, 1932; Stagner, 1933). Although items eliciting greater PGR reaction are generally found to be better recalled, the relation between PGR and affective influence on memory has not been properly clarified in these experiments. Thus, the relevance of these experiments to the study of the influence of the quality of affective tone on retention is questioned by many psychologists including Osgood (1962, p. 572).

However, the results of the experiments generally belonging to this category, too, are found to be very much conflicting. Many of the experiments show that, in some way or other, P-recall is greater than U-recall. (Thompson, 1930; Carter, Jones and Shock, 1934; White and Ratliff, 1934; Carter, 1935; Carter, 1936; White, 1935, White and Powell, 1936; Carter and Jones, 1937; Barrett, 1938; Sharp, 1938). Young (1937) conducted an experimental study where he attempted to determine the correlation between genuine affective experiences evoked by the words and the pattern of differential recall of P and U words. He found no definite relationship between the two variables and concluded that pleasant or unpleasant 'meaning' or words had little to do with the feeling of pleasantness or unpleasantness associated with them. Thus, according to Young, his negative findings indicate

and rated by her subjects. It was thus concluded that there was reasonably high social agreement regarding the affective tone of different verbal items.

5 In somewhat similar experiments using more meaningful materials (viz. names of people and objects, portraits, picture postcards, sonnets, etc.) categorised in terms of subjects' like and dislike some of the early experimenters (Fox, 1923, for example) concluded that liked materials were remembered better than disliked ones. Recently, Amster (1964) in his study on evaluative judgement of words and their recall found that "Good words were recalled significantly better than equally extreme Bad words, and second, words at both extremes were recalled significantly better than Neutral words." (p.470)
that the experiments of this type can hardly throw any light on the functional relationship between genuine affective experiences and their recall. There have been few other experiments where superiority of P-recall over U-recall has not been confirmed (Chaney and Lauer, 1929; Cason and Lungren, 1932; Balken, 1933; Silverman and Cason, 1934; Lanier, 1941a, 1941b)

Summarising the results of the experiments which have compared the memory for lists of words rated for affective tone, McGeoch and Irion (1961) state that in a majority of experiments retention tends to decrease in the order of P-U-N. It is also noted by them that the observed differences have been small, and there are cases where contradictory results have been obtained.

Although this method is most frequently used and also considered preferable, in terms of proper experimental control and manipulation, to other 'hit-or-miss' methods, McGeoch and Irion (1961) pointed out an inherent difficulty in most of the experiments conducted following this method. According to them:

"Items may not retain the same quality and intensity of affective tone when combined in lists or arranged in pairs. It is likewise unknown whether items judged to have certain affective characteristics in isolation will keep these attributes unchanged during successive presentations." (p.386)

One would also agree with McGeoch and Irion when they say that the data presented by Beebe-Center (1932) on affective habituation indicate otherwise.

As pointed out earlier, Meltzer (1930), Edwards (1942) and few others criticised this method for its artificiality and lifelessness. In reply, it was admitted by Barrett (1938) that the absence of any significant differences with respect to the influence of qualitative difference of affective tone would be difficult to interpret conclusively; but, it was pointed out by her, if any such differences were found in this simple, well-controlled experimental context, one could be quite certain about the general validity of the results.

It may be noted here that to control the influence of other factors except that of the quality of feeling tone, many of the later experimenters selected verbal items after having matched them in terms of primacy, recency, length, frequency of usage, meaningfulness, grammatical structure and such other variables. Stagner (1933) attempted to
show that influences of most of these factors on the results were not significant. Even the possibility that subjects' age might have influence on the differential recall of affective experiences was taken into consideration (Thompson, 1930; Beebe-Center, 1932; Carter, 1935; Gilbert, 1937). It was suggested by Gilbert that P words were recalled better than U words by people belonging to all age-groups, but the effect is more pronounced in case of adults than in case of children. Gilbert's viewpoint, incidentally, is quite consistent with the proposition earlier put forward by Peters (Rapaport, 1959, p.52) that subjects' tendency to avoid recall of U experiences increases with their age. However, this conclusion is not generally corroborated by other experimental results. It was also suggested by some (White and Ratliff, 1934; Gilbert, 1937) that delayed recall rather than immediate was a more dependable measure of differential recall.

A fourth method, not included by McGeoch and Irion (1961) in their classification may, however, be suggested. This refers to the method known as 'interrupted task technique.' Zeigarnik (cf. McGeoch and Irion, 1961, p. 390) in her pioneering experiments introduced the variable of interruption to determine its influence on selective retention. The procedure followed by Zeigarnik was to present a number of tasks to the subjects who were allowed to finish half of the tasks; in case of other half, however, they were interrupted before the tasks were completed. It was found that interrupted tasks were recalled to a greater extent as compared to the completed ones. Presumably, successful completion of a task is perceived by an individual as pleasant and incompleteness due to interruption evokes unpleasantness in him. Thus, the results in Zeigarnik's study show, in simple terms, that unpleasant items are remembered better than pleasant items in this particular experimental context.

Several other experiments were conducted to study the influence of interruption on resumption (or recall) of tasks. The results obtained by Marrow (1938) generally confirmed the Zeigarnik effect. Bogulavsky and Guthrie (1941), however, found results contrary to Zeigarnik phenomenon. In their experiment, more completed tasks were recalled by the subjects than were interrupted ones. Howlis (1941) observed that interruption as such did not clearly explain the phenomenon of resumption;
feeling of success or failure as induced by the experimenter at the point of interruption appeared to be the crucial variable. Pachauri (1935) suggested that the time allowed for performance of a task was an important variable. Zeigarnik effect, according to Pachauri, is primarily determined by the length of different tasks. Badley (1963), however, does not consider the time factor as an important variable having any influence on this effect. Prentice (1943) proposed that tension generated by interruption of certain tasks stabilized the traces of memory which, consequently, became less vulnerable to retroactive interference. Martin (1940) found that although more incomplete that completed tasks were remembered after two minutes, in a series of delayed recall completed tasks tended to be remembered better than incomplete tasks.

Osgood refers to a study conducted by Brown (cf. Osgood, 1962, p. 582) which while confirming the general validity of Zeigarnik effect shows that the "effect varies directly with the degree of motivation toward the tasks." This conclusion was later investigated more thoroughly by Rosenzweig in a series of experiments, the results of which were reported in a number of articles (1933, 1934, 1936, 1938). Rosenzweig's findings not only substantiated Brown's viewpoint, but further led Rosenzweig to propose that in case of high motivational involvement completed tasks tended to be recalled better.

Later, Rosenzweig (1943) conducted an experiment where two groups, each consisting of thirty adult subjects were given a series of Jigsaw puzzles to solve; but they were permitted to finish only half of them and were deliberately interrupted in case of the other half. One group (Informal Group) was instructed to help the experimenter find out the nature of the puzzles, whereas, another group (Formal Group) was made to believe that they were submitting to an intelligence test.

6 McGeoch and Irion (1961), too, note that "in part, the Zeigarnik effect is a function of 'success' and 'failure'. With instructions which lead the subjects to believe that interruption means a successful performance and completion a poor performance, the I/C ratio (incomplete-complete) drops considerably below 1.00, thereby reversing the results found under usual conditions (Marrow, 1938)." (p. 390)
After the test, recall of names of the puzzles used in the study was taken from both the groups. For the Informal Group, interruption to solving of a puzzle was not perceived as failure because of low motivational stress. For the Formal Group, however, interruption meant failure because of ego-involvement. It was found that the Informal Group recalled interrupted tasks better than those completed in consistency with Zeigarnik phenomenon. But, in the case of the Formal Group, more completed than interrupted tasks were recalled by the subjects. Rosensweig interpreted his results in terms of two different reaction patterns on the part of the subjects, namely, need-persistive (evoked in the Informal Group) and ego-defensive (evoked in the Formal Group). Further, Rosensweig considered the phenomenon of ego-defensive forgetting of failure as comparable to the Freudian concept of repression of unpleasant experiences. Glixman (1948, 1949) also induced failure through interruption and studied its effect on selective recall. In one of his studies, Glixman (1949) introduced three levels or degrees of stress. The results obtained by him supported the findings of Rosensweig (1943). It was found by Glixman that as the degree of stress increased, there was corresponding reduction in the recall of uncompleted tasks. Glixman (1948), however, contested the proposition put forward by Rosensweig that ego-defensive recall pattern was comparable to the psychoanalytic defense mechanism of repression. Glixman questioned the comparability of these two concepts and proposed that repression had to be considered only in terms of the absolute measure of decrement in recall of interrupted tasks.

Finally, Alper (1948), in a very comprehensive study, used the method of interruption to determine the patterns of interaction between the motivational contexts and the personality structures of the subjects as manifested in their recall. Two major patterns of selective recall were identified by her. The first pattern, labeled by Alper as Strong Ego, referred to the recall of more incomplete than completed tasks when self-esteem was not objectively threatened and the recall of more completed than incomplete tasks when self-esteem was objectively threatened. The second major pattern suggested by Alper was Weak Ego pattern. This includes those subjects who recalled more completed than
incompleted tasks in an objectively non-self-esteem-involving situation and a preponderance of incompleted tasks when threat to self-esteem was objectively present.

Experiments conducted using interruption technique, however, are no less conflicting in their results as compared to the experiments mentioned earlier where other methods have been used. Lack of adequate control of a number of variables involved in these experiments may perhaps account for the inconsistency of their results.

It should be noted that in some of the experiments already mentioned the investigators aimed at measuring incidental memory rather than intentional learning (Silverman and Cason, 1934; Barrett, 1938, for example). The incidental memory situation being more similar to our memorisation process in everyday life, the experiments conducted following this principle may be said to be more realistic than experiments involving intentional learning. It has been repeatedly emphasized by different investigators that intentional learning necessarily refers to a motivational involvement on the part of the subjects which is not present in case of incidental learning context; and it has been suggested that the former situation facilitates retention to a greater extent than does the latter.

It may be relevant to note that the effect of the variable of motivational involvement per se on retention has also been studied as separate from the problem of differential roles of incidental and intentional learning contexts. Experiments have been conducted to study the influence of ego-involvement on recall either in an incidental learning context or in an intentional one (Watson and Hartmann, 1939; Prentice (1943) conducted an experiment to determine the relative influences of 'intentional' and 'incidental' sets on learning and found that in terms of recall score intentional learning was superior to incidental learning. Prentice suggested increased ego-involvement as the determining factor in terms of which better learning in the former group could be explained. To test the hypothesis that degree of original learning was greater in intentional learning than in incidental learning, Biel and Force (1943) conducted an experiment where the incidental group required twice as many repetitions as required by the intentional group to reach the same criterion of mastery.
Edwards, 1941; Levine and Murphy, 1943; Alper, 1946; Heyer and O'Kelley, 1949). In most of these experiments subjects' ego-involvement was taken to be the experimental variable. It was generally found that on the whole ego-involvement (or some kind of motivational involvement of the subjects in the tasks as determined by their mental set or frame of reference) causes better retention as compared to a neutral or indifferent context.

However, the conclusion derived from the results of these studies that ego-involvement per se facilitates retention is severely criticized by Osgood (1962, pp. 578-581). According to Osgood, in Prentice's (1943) study there is a possibility "that the difference in retroaction could be a function of the degree of original learning, quite apart from 'intention' as such." (p. 579) Referring to the study by Bial and Force (1943) Osgood argues that the ego-involved and the neutral groups differ in original learning which accounts for their differential recall. The validity of the results of the experiment by Heyer and O'Kelley (1949) is questioned by Osgood because "the two groups, however, were not strictly equated on original learning" (p. 579). And again, criticizing the results of Levine and Murphy's (1943) study, he points out that "certainly the major factor, in this study at least, is the ease of learning." (p. 580) The investigation carried out by Alper (1946) on differential effect of ego-orientation and task-orientation, too, is criticized by Osgood. Alper's suggestion that ego-oriented traces are "more stable, less likely merely to sink or to assimilate with the general mass of memory traces, than are task-oriented traces" (p. 248) is challenged by Osgood. He proposes that due to anxiety produced inhibition

the 'true' learning of the ego-oriented group is not reflected in their immediate recall scores on day 1 — they had actually learned more than their measured performance showed. Ergo, they may have forgotten relatively as much as the task-oriented subjects, and the classical law of forgetting still holds. (p. 581)

It is to be pointed out that Osgood's contention that original learning in ego-oriented context though superior to that in the task-oriented context is not reflected in the subjects' immediate performance is also noted by Alper. She clearly states that

it seems reasonable to hypothesize the principle that ego-oriented
traces might have both immediate and recall superiority when ego-
orientation is unaccompanied by anxiety, or when the threat to
self-esteem is not intense enough to disrupt performance. (p. 246)

Then again, she points out that

an experimental technique which assured ego-involvement without
the arousal of anxiety rather than merely ego-orientation, should
result in statistically significant differences between both task-
oriented learning and ego-oriented learning, and task-oriented
retention and ego-oriented retention. (pp. 246-247)\textit{Italics mine}

Actually, we fail to understand the distinction made by Osgood
between 'original learning' and 'retention' in this particular context.
So long as the strength of memorisation is concerned, stronger reten-
tion necessarily implies better original learning in the first place.
Greater interest or attention (or, more generally speaking, greater
motivational involvement) leads naturally to clearer perception that
facilitates learning.\footnote{Goldin (1964) in his excellent theoretical discussion on
selective memory and the concept of repression notes that"an interesting
study by Caron and Wallach (1957) demonstrated that the measure of
selective recall following failure does not improve after the removal
of the failure'condition. They concluded that the selective recall
measure actually reflects a differential learning process under the in-
fluence of anxiety and not a recall process." (p.368) After reviewing
a large number of experimental investigations Goldin concluded that "as
an alternative to the psychoanalytic concept of repression and defense
the empirical studies have suggested a general process of selective
learning directed at the manner of integrating unfavourable information
into one's perceptions." (p. 372)}

If we conceive retention as the strength of
'impression' or 'imprint' of a percept in one's memory, it would
naturally follow that better learning is just as much an effect of the
degree of relevance of the materials to one's motivational frame as
retention is. Whenever the materials presented are, in some way or
other, more relevant to the motivational frame of an individual, they
stimulate his attention and interest to a greater extent as compared to
irrelevant or neutral items. Since greater interest, attention or
involvement generally implies stronger perception, the former materials
would leave a better and deeper impression in his memory than the
impression left by the latter kind of materials. That is to say, as
relevance of the material in terms of individual's motivation increases,
his cognition of the material also increases which, in its turn, leads
to its increased 'learnability' (and, consequently, to its greater
'retainability'). Actually, here one is merely interested to study the effect of the variable of 'relevance' or 'importance' on retention, keeping other factors, such as, time, number of trials, recency, association etc. as constant. Naturally, in this case, it is hardly meaningful to distinguish between the degree of original learning and the degree of retention. One should rather formulate the proposition in the following way: If a material is more 'relevant' to the subject in terms of his motivational involvement, he learns it better as compared to his learning of an irrelevant material, and thus, the former is retained by him to a greater extent than the latter is.

To conclude, even if there is difference in original learning, as repeatedly pointed out by Osgood, between ego-involved and non-ego-involved learning contexts, the proposition that motivational involvement results in better retention is not invalidated. When one talks of retention or memory, one definitely implies the extent to which an event is registered in one's mind. In the final analysis, the question is reduced

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9An interesting study by Alper and Korchin (1952) on retention of socially relevant material may be mentioned in this connection. The results of this study show that the male subjects remember both pro- and anti-female items to a greater extent as compared to the recall pattern of the female subjects. Apart from the factors suggested by the authors in terms of which the phenomenon can be explained, an additional factor of motivational relevance may be proposed here. Due to the natural interest in the opposite sex, male subjects' motivational involvement and perceptual keenness with respect to a report basically concerned with females might have been a contributing factor to their superior recall of the items. In other words, although a report on females would be motivationally more relevant to the females than to the males in terms of the factor of 'identification', 'interest in the opposite sex' would also operate as an additional influencing factor, and in terms of this factor the report would involve the motivational frame of the males to a greater extent as compared to that of the females. The effect of this particular factor of motivational relevance might partially account for the obtained results. In a subsequent experiment, Taft (1954) presented a passage, somewhat unfavourable, on the whole, to the Negro, to two groups of Negro and White delinquent subjects. Results showed "that Negro boys were 'on their toes' and recalled all emotionally toned (nonneutral) items, whether favourable or not, more accurately than did the Whites in the first recall. This would be an example of what Bruner and Postman have termed 'vigilance' in the area of perception. The superiority of the Negro boys in the immediate recall may be, at least in part, a function of their superior perception of the material." (p.27)
to whether it can be hypothesized that the materials or events that involve one's motivational frame are remembered better than those which are 'irrelevant' to this frame. If the hypothesis is empirically found to be true, it might of course be explained by the fact that attention-drawing or motive-stimulating quality of an ego-involving material leads to better perception, and thus is registered better in one's memory. Now, the phenomenon of better 'registration' itself (which, incidentally, is described by Osgood as 'original learning') is merely an intervening variable which accounts for the positive functional relationship between motivational involvement (independent variable) and retention as measured by recall (dependent variable). Thus, Osgood's contention that ego-involving materials are better retained because they are 'originally' learnt better is not at all in contradiction to the simple proposition that ego-involvement causes better retention. Better original learning merely refers to an intervening organismic process, directly initiated by the ego-involving quality of the materials, which leads to better retention.

Theoretical considerations

As pointed out earlier, the experimental enquiry into the functional relationship between retention and affectivity had been basically stimulated by a need of either proving or disproving the theory of repression proposed by Freud. A large number of alternative theories and explanatory principles have been suggested by different investigators in terms of which their experimental results could be interpreted. By a general classificatory system all these theoretical standpoints can be grouped into five major categories. It is to be

10 Rapaport (1959) in his review of the literature on the role of the selective factor in the process of registration emphasized specifically on the role of motivational involvement as one of the important determinants of perception. According to him, "in recent years it has become increasingly evident that perception and registration are active processes of the mind, and that the incoming stimulation is organized under the influence of the past experiences and strivings of the organism; thus the original passive receptive connotation of the concepts 'perception' and 'registration' has been changed to a more active one." (p. 122)
noted, however, that the categories proposed are not mutually exclusive; on the contrary, both conceptually and methodologically, they very much overlap each other. And yet, in terms of their differential orientations with respect to certain major aspects of the problem, the studies in this area may be broadly categorised on the basis of a workable classificatory system. In other words, studies included in different categories do not differ as much in terms of their basic theoretical approaches as in terms of their points of emphasis. The categories are as follows:

(a) The Hedonistic Standpoint, which suggests that P experiences are retained better than U experiences.

(b) The Contextual Standpoint, which suggests that mental set, context or frame of reference of the subject, rather than the quality of affect, as the crucial variable in terms of which the conflicting experimental findings in this area can be explained. In other words, it is proposed that quality of P-ness or U-ness does not have any influence on selective retention of affective experiences; instead, it is suggested, the conflicting retention patterns of P and U experiences are determined by the compatibility or incompatibility of such experiences with one's frame of reference.

(c) The Functional Standpoint, which suggests that the essential criterion which determines selective retention of affective experiences is whether forgetting or memorisation serves some functions or fulfils some needs of the individual. Investigators supporting this standpoint recognise the significant role of mental set, context or frame of reference of the subject in influencing selective retention. But, instead of considering the context itself as the crucial variable, they emphasize on the specific functional implications of retention of P and U experiences from the subject's point of view. Thus, it is proposed that under different motivational contexts, recalling or forgetting of affective experiences serve differential functions for the organism; and it is the function served, not the quality of feeling tone as such, which influences selective patterns of retention of affective experiences.

(d) The Differential or 'Personality Type' Standpoint, which tries to explain different patterns of selective retention of P and U experiences in terms different personality types and dispositions.
(e) The Quantitative Standpoint, which proposes intensity of feeling tone, irrespective of its quality, as the determinant of retention.

(a) The Hedonistic Standpoint:

The most important theoretical standpoint which proposes retentive superiority of pleasant experiences over unpleasant ones is the psychoanalytic theory of repression formulated by Freud (1925). According to this theory, forgetting of unpleasant experiences may be explained by a tendency on the part of the organism to avoid painful and anxiety producing memories. It is suggested that to avoid such pain and anxiety, the unpleasant experiences are pushed beyond the threshold of consciousness by the defense mechanism of repression. Due to this general tendency to forget the disagreeable by repressing it into the unconscious, pleasant experiences are supposed to be remembered better as compared to the unpleasant. Jones (1923) elaborated the repression theory to explain all forgetting in terms of repression. Extending the idea further, later psychologists belonging to the Freudian school proposed that the pleasant experiences being ego-satisfying tended to be remembered for a longer period of time as compared to the unpleasant. Jung (1919), too, in proposing the concept of complex indicators, basically accepted the role of repression in inhibiting the associative reactions to complex-related words. Carter

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11. Goldin (1964), however, notes that "in the experimental literature on repression Sears (1936) and Rosenzweig (1938) recognised that the presentation of an unpleasant stimulus is not sufficient condition for the initiation of a defense. In order for a defensive control to be initiated self-esteem or conscience habits must be in conflict with some positive drive." (p.366)

12. Rapaport (1959) points out in this connection that "'to avoid the awakening of pain through memory' and 'to forget the disagreeable' are two different matters. 'To forget the disagreeable' implies that what is forgotten is consciously disagreeable, since the term disagreeable obviously refers to conscious content; thus, it does not fit the Freudian conception of the unconscious motivation of forgetting and parapraxis." (p.145)
(1937), however, proposes the general factor of unpleasantness rather than any specific complex as the determinant of increased reaction time. Ratliff (1938) attempted to revive the thalamic theory of emotion proposed by Cannon (1929) to explain the superiority of recall of P-experiences over that of U-experiences. From a rather speculative standpoint, Ratliff tries to explain the phenomenon in terms of a repressive mechanism in the thalamus which operates on U-experiences.

Peters (Rapaport, 1959, p.52), however, explained his experimental findings in a different manner. Peters noted that personal significance of an experience was no less important than the factor of feeling tone associated with it so far as the question of retention was concerned. Although Peters did not attempt to clarify the concept of 'personal significance' or its relation to feeling tone, it would seem obvious that he was actually talking about relevance of an experience to an individual in terms of his motivational frame. Like many other later psychologists, Peters failed to recognise clearly that relevance and affectivity were two separate variables effects of which on retention might be considered as independent of and distinct from each other. On the other hand, Peters was one of the first investigators to suggest that there being a will not to remember U-experiences, their reproduction would be less frequent. Thus, fewer repetitions of U-experiences would cause greater degree of forgetting as compared to P-experiences. According to Peters, the established principles and laws of memory are quite adequate to explain the differential retention of P and U experiences and Freudian theory of repression is superfluous. The other major hypothesis advanced by Peters in explaining his results was that there was a general tendency to 'diminish the displeasure in consciousness', due to which U-experiences were forgotten quicker and more easily than were P-experiences of similar significance.

McGranahan (1940) in his experimental study on 'repression'

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13 It may be noted that the concept of a 'tendency to diminish displeasure in consciousness', though not elaborated by Peters, is basically quite consistent with and similar to the concept of 'reduction of cognitive dissonance' formulated by Festinger (1957). Incidentally, the Peters' concept of 'personal significance', too, in a somewhat indefinite way refers to the same basic idea implied in the concept of 'individual's frame of reference' as theorised by Edwards (1942).
elicited by electric shock questioned the general validity of the Freudian concept of repression. According to McGranahan, repression may be understood specifically in terms of activity of consciousness determined by the motive of self-esteem and not in terms of unconscious rejection of any unpleasant experience. Henderson (1911) and Meltzer (1930) reaffirmed the 'law of effect' in explaining their results. Flanagan as well as Sharp (Rapaport, 1959, p.90) showed that socially acceptable materials were recalled better than unacceptable ones and claimed that Freudian theory of repression had been experimentally verified by their results. In an attempt to simplify the repression theory, Sharp proposes that pleasant experiences are 'acceptable' to an individual because they are in harmony with his conscious behaviour. On the other hand, unpleasant experiences are inconsistent with an individual's modes of conduct and, thus, unacceptable to him. An acceptable experience would naturally evoke approach tendency whereas in case of an unacceptable experience, avoidance tendency would be elicited in the individual. Such approach and avoidance tendencies, according to Sharp, explain why P-recall is better than U-recall.

Jersild (1931) tries to account for the longer retention value of pleasant materials in terms of their rehearsal differential. He is inclined to believe that pleasant experiences are more often brought back to consciousness than are unpleasant ones. Jersild suggests that such repeated recollection of pleasant materials accounts for their longer retention as compared to unpleasant materials. Thus, Jersild assumes that during the retention interval P and U materials are not experienced with equal frequency. This viewpoint is quite similar to

\[14\] Jersild also emphasized on the role of affective intensity as one of the major determinants of selective recall of P and U events. He suggests in this connection that "the affective intensity of many unpleasant events will be reduced or alleviated by remedial influences which form a part of the total configuration to which the unpleasant state belonged." (p.287) This view, incidentally, is clearly consistent with the concept of 'reduction of dissonance' proposed by Festinger (1962, p.18) as well as with the concept of 'shift toward congruence' proposed and developed by Osgood (Osgood and Tannenbaum, 1955; Osgood, Suci and Tannenbaum, 1961, p.204). The similarity of Peters' proposition regarding 'diminishing displeasure in consciousness' (Rapaport, 1959) to these theoretical standpoints has already been pointed out.
that held by Peters as mentioned earlier. Another explanation for superiority of P over U recall was suggested by Stagner (1931) who interpreted rapid forgetting of U materials as compared to P materials in terms of retroactive inhibition. Stagner assumes that unpleasantness involves some kind of incomplete situation which evokes different competing but inadequate responses. These competing responses interfere with the correct recall of any previously experienced unpleasant material.

It may not be out of place to mention, however, that Stagner's explanation is quite contradictory to the findings and explanations of Zeigarnik (McGeoch and Irion, 1961, p.390). Results of Zeigarnik's experiments reveal that uncompleted tasks are recalled better than completed tasks. This phenomenon is generally known as Zeigarnik Effect. The reason for this effect lies in the experiencing of 'success' and 'failure' by the subjects. The experience of failure due to interruption in a task is certainly unpleasant, but according to Zeigarnik, it creates a state of quasi-need within the individual. Persistence of such a need or state of tension accounts for greater recall of uncompleted tasks as compared to pleasant ones. Thus, unpleasant experience involving incomplete situation would create a tension system leading to greater recall of the unpleasant than that of pleasant or successful experience. In view of their conflicting viewpoints explanations offered by Stagner and Zeigarnik are hard to be reconciled.

Finally, it may be relevant to note that some investigators enquired into the meanings of P-ness and U-ness as such from a theoretical standpoint. The functionalistic interpretation of feeling as advanced by Carr (1925) and later considerably developed by Peters (McGeoch and Irion, 1961) is one of the major contributions in this area. As McGeoch and Irion put it, "this hypothesis, known as the judgemental theory of feeling, considers pleasantness and unpleasantness to be nothing more than a manifestation of the normal reaction tendency of the individual." (p.387) Materials toward which an individual has a positive reaction (tendency of approach) are judged as pleasant, materials toward which he has a negative reaction (tendency of avoidance) are judged as unpleasant, and those toward which the individual has no
reaction are judged as neutral. Consequently, the materials to which the individual shows an approach tendency are remembered better than the other two kinds of materials. It may be noted that Sharp's (1938) simplification of Freudian theory is closely related to the above formulation.

The important implications of the judgemental theory of feeling as formulated by Peters is stated explicitly by Rapaport (1959) in the following way:

The third statement stresses that there are no conscious contents peculiar to P-ness and U-ness; but it permits the inference that there are qualities of experience which allow for certain judgements, and these judgements according to the second statement are the essence of P-ness and U-ness. This is expressed even more clearly in the first statement, according to which the motivating factors of reactions are the determinants of the judgements of P-ness and U-ness. These judgements are not a purely cognitive function, inasmuch they are dependent on factors related more or less indirectly to the deeper dynamics of personality which motivate action and reaction. Thus this statement of the intellectual, judgemental character of P-ness and U-ness does not imply that they have no relation to their original 'affective' source, although this relation remains an indirect one. P-ness and U-ness are thus rendered a derivative of a general 'emotional factor' on the level of judgement. (p. 60)

While admitting the theoretical significance of the postulates of the judgemental theory of feeling, one would like to point out, however, that they do not really add much to our understanding of the concept of affective experience. Actually, an individual's affective experience can hardly be studied empirically except in terms of his reported judgements indicating his approach (implying P-ness) or avoidance (implying U-ness) reactions. Thus, it seems to have little operational significance to distinguish between the essence of a positive or negative affective experience as such and the quality of experience which determines the judgement of P-ness or U-ness. In other words,

15°(1) Pleasantness and unpleasantness are dependent indirectly on reactions and determinants of reactions; (2) Pleasantness and unpleasantness are judgements; (3) there are no conscious contents peculiar to pleasantness and unpleasantness" (Rapaport, 1959, p. 60).
who noted the influence of 'emotional set' on retention of affective materials. In her experiment mentioned earlier she observed that a group of subjects anticipating an examination remembered U-materials better than P-materials. She conducted experiments to study the effects of such 'mental sets' in more detail and concluded that superiority of P-recall found in most of the experiments including her own might be explained in terms of a 'happy frame of mind' on the part of the subjects. The view expressed by McGeoch and Irion (1961) is quite consistent with this proposition. According to them, "a current irritability may condition selection and emphasis of U items and a current expectancy of good fortune may condition an emphasis on P items." (p.387)

Edwards (1942), in his pioneering study, developed the concept of 'frame of reference' as also its influence on selective retention from a comprehensive theoretical viewpoint. Seeking to resolve the differences in interpretation of the role of affectivity in remembering and forgetting, Edwards restated the problem of differential forgetting of affective materials. According to Edwards, the quality or extent of affect is not the crucial variable influencing retention in these studies. Differential retention of affective materials has to be explained in terms of whether the materials learned conform to the individual's frame of reference, i.e., his system of evaluation including his attitudes and values. Edwards, therefore, suggests that if we could determine an individual's frame of reference, we would be able to predict which experiences will tend to be forgotten and which will tend to be remembered. Edwards' own study (1941) on memory for political views lends support to his hypothesis. Kannungo and Das (1960) conducted an experiment the results of which are claimed to support Edwards' viewpoint. They aimed at demonstrating how learning and recall were influenced by the social frame of reference of the subjects. It was found that stereotypes relating to one's own caste were better remembered than those relating to some other caste.

However, a brief critical review of Edwards' frame of reference theory is considered necessary. In developing his thesis, Edwards puts forward elaborate arguments to contest the assumption implied in Freudian
theory of repression that all pleasant experiences are in harmony with the ego's desires while all unpleasant experiences are in conflict with them. According to the alternative theoretical principle proposed by Edwards, any experience that is in conformity with an individual's own frame of reference will be more likely to be retained by him, whereas, all that is in conflict with this frame will have greater probability of being forgotten. In other words, compatibility with one's frame of reference causes better retention than does incompatibility.

Although Edwards did not specifically define his concept of 'frame of reference', it would be pertinent to point out that this frame has to be considered essentially as a motivational concept. An individual's frame of reference at any particular point of time is determined by his interests and opinions, attitudes and motives, needs and desires, and values and orientations as also by his cognitive systems. Some of these values, desires etc. may be described as basic and relatively more stable related to an individual's psychological make-up as well as temperamental and personality structure. Others may evolve out of his immediate mental and environmental conditions. These two sets of motives, of course, are very much interdependent. Thus, an individual's frame of reference at any particular point of time necessarily refers to a set of values, desires etc. and his reactions, affective or otherwise, are directly determined by these motivational forces.

Actually, what are described by Edwards as compatibility and incompatibility with one's frame of reference do not mean anything other than conformity and conflict with the attitudes, opinions, values and desires held by an individual at any particular situation. Now, it would seem obvious that anything that conforms, as a whole, to the set of values or desires described as an individual's total frame of reference is necessarily compatible with this frame and will naturally evoke, on the whole, a pleasant emotion. On the other hand, any experience that is in conflict with the motive elements in this frame is necessarily incompatible with this frame and will result in unpleasant emotion. McGeoch and Irion (1961), too, note in this connection that "of course, on the whole, experiences which agree with one's frame of
The concepts of compatibility and incompatibility have been misconceived by Edwards insofar as he failed to recognize an individual frame of reference as a motivational concept. As a result, he overlooked the necessary and inevitable relationship between compatibility with one's frame of reference and pleasant emotion as well as between conflict with this frame and unpleasant emotion. Edwards intends to refute the Freudian concept of repression of unpleasant experiences by suggesting his frame of reference theory. And yet, by affirming that experiences compatible with one's frame of reference are retained better than the incompatible ones, unknowingly he restates the same Freudian proposition that pleasant experiences are retained better than unpleasant experiences.

It may be pointed out here that almost all the illustrations put forward by Edwards specifically refer to some conflict situations. For instance, as an illustration of his contention that pleasant experiences may be in conflict with a frame of reference, Edwards suggests that "in our own culture this is probably true with respect to certain aspects of sexual behaviour." (p.50) Now, speaking in more concrete and explicit terms, it is a well-known phenomenon that although fulfillment of a sexual desire is a pleasant experience, still people refrain from indulging in prohibited sexual act in order to conform to the social values contained in their frames of reference. This may be interpreted, in terms of Edwards' arguments, as a positive evidence of the fact that an unpleasant experience (unfulfilled sexual desire, in this case) may as well be quite compatible with one's frame of reference (conforming to one's social conscience, in this case) of an individual.

We, however, assert that sexual desire is not something unrelated to one's total frame of reference; on the contrary, it is as much a part of this frame as his social conscience is. They are merely two conflicting desires ingrained in his complex motivational frame. Since fulfillment of one desire necessarily thwarts the other, an individual would simultaneously feel pleasant emotion for his fulfilled
desire and unpleasant emotion for the frustrated one.

It may also be hypothesized at this point that if the more intense desire is fulfilled at the cost of the other desire of less intensity, the intensity of pleasant emotion will be greater than that of the unpleasant one. To elucidate, if, in the stated example, the urge to conform to one's social ethical conscience is more intense than prohibited sexual desire, then, in indulging in that act one would experience, on the whole, an unpleasant emotion, not a pleasant one as suggested by Edwards. On the other hand, although unfulfilment of the sexual desire will result in dissatisfaction and unpleasantness, yet this specific desire, being less intense in comparison to the social ethical urge, might result in comparatively less intense feeling tone. The unpleasantness associated with the specific frustration may be overshadowed by the more pronounced sense of satisfaction associated with the fulfilment of a more intense drive, i.e. to conform to one's social ethical principles.

Actually, none of the illustrations put forward by Edwards could confirm beyond doubt the co-existence of either compatibility and unpleasant emotion or incompatibility and pleasantness. The concepts of compatibility and pleasantness (as also of incompatibility and unpleasantness), if not identical, are definitely inseparable. It should be noted that an individual's frame of reference refers to a highly complex pattern of motivational forces or elements. Thus, an apparently compatible experience may also involve some incompatible elements from an individual's motivational standpoint. In view of these underlying conflicting or interacting motivational forces operating in most of the situations, including those referred to by Edwards, it would be rather superficial to identify the experiences as wholly compatible or incompatible. To do so is to risk the illogicality of oversimplification. The main point is whether among all the conflicting motives the one that is most intense at any given situation is fulfilled or not. If fulfilled, the experience, on the whole, will necessarily be both compatible and pleasant in terms of an individual's motivational frame of reference. If not, it would be, on the whole, both incompatible and unpleasant. In view of this inevitable positive relationship between the dimensions of compatibility-incompatibility and pleasantness-unpleasantness, Edwards' formulation of compatibility
with one's frame of reference as the effective determinant of retention does not appear to be quite rigorously substantiated. Nor does it appear to be an improvement over the Freudian theory of repression. Actually, Edwards' proposition that "in fact, theoretically, either pleasant or unpleasant experience may be related to a frame of reference in at least four ways"\(^\text{17}\) (p.50) is not confirmed by the illustrations given by him. Edwards has rightly pointed out that in case of non-ego involved frames experiences may be indifferent or neutral. And yet he failed to see why this is so. We assert, however, that the emotional neutrality would be simply due to the fact that these experiences are neither compatible nor incompatible with an individual's motivational frame of reference. Had there been no necessary relationship between these two dimensions, i.e. compatibility-incompatibility and pleasantness-unpleasantness, the non-ego involving experiences might as well result in any kind of emotion at any point on the pleasant-unpleasant continuum. Incidentally, we do not see how a pleasant or unpleasant experience "may not involve, in any great degree, a frame at all" (p.50).

In our opinion a neutral situation which does not involve any of the motivational forces which constitute an individual's frame of reference can not possibly evoke in him any emotion, whether pleasant or unpleasant. And, on the other hand, any experience which is perceived as pleasant or unpleasant by an individual necessarily presupposes an involvement on the part of the individual in terms of his motivational frame.\(^\text{18}\)

\(^{17}\)"(a) They may harmonize with the frame; (b) they may conflict with the frame; (c) they may not involve, in any great degree, a frame at all; (d) in the case of non-ego involved frames (such as familiar perceptual-motor frames) they may be indifferent or neutral." (p.50)

\(^{18}\)The converse of this proposition, of course, is not necessarily true. That is, a motivational involvement does not necessarily presuppose an affective response on the part of an individual. In terms of mental set, orientation, or interest, an individual may be inclined to perceive an event more clearly and attentively as compared to some others; but unless and until the percept involves the element of compatibility or incompatibility with his motivational frame, the individual's affective response would not be elicited. Only when the motivational
To conclude, we hold that instead of four alternatives suggested by Edwards, there are only two alternative relationships possible between the variables of pleasantness-unpleasantness and compatibility-incompatibility.

(a) The experience, on the whole, is compatible with a frame and pleasant.

(b) The experience, on the whole, is incompatible with a frame and unpleasant.

Involvement stimulates some positive or negative (or ambivalent) attitude or reaction tendency on the part of the individual, the experience becomes an affective one. And that any affective experience is likely to be retained better than a neutral or indifferent one is noted by many investigators including Rapaport (1959). According to Rapaport, "the studies using hedonic tone established introspectively, but occurring incidentally, tended to show a facilitating effect of any hedonic tones, whether P or U." (p.62)

Besides, as pointed out earlier, motivational involvement also refers to the factor of 'cognitive relevance', the effect of which on retention can be studied as apart from the role of quality of feeling tone. To say that an event involves one's frame of reference may merely mean that the event has cognitive relevance for the individual. The element of affectivity is introduced only when the experience is perceived by the individual in terms of its compatibility or incompatibility with his motivational frame. Finally, it has been proposed earlier that anything that involves one's motivational frame will have greater probability of being remembered as compared to those which do not involve this frame because of the greater cognitive relevance of the former. And yet, even among those events which involve one's motivational frame there may be variations in terms of compatibility and incompatibility which result in differential affective responses on the part of the individual. And, assuming the presence of motivational involvement as well as of the elements of compatibility and incompatibility, the effects of these affective responses per se on retention can be studied. Actually, when one talks about the relation between affectivity and retention, one is merely interested in determining the influence of a single variable, i.e. affectivity (or more precisely, quality of affective tone), as distinct from all other variables, on retention. There may be a host of other variables, such as, cognitive relevance, repetition, recency etc. that might affect the process of memorisation, but our particular concern here is to isolate this specific variable from others and to determine its relation to selective retention. To be precise, the question we intend to answer may be formulated in the following manner: What is the relationship between affective tone of experiences as perceived by an individual and their retention, if all other variables are properly controlled? Or, in other words, if the materials to be retained are similar to each other in terms of relevance, repetition, recency etc., differing only in quality of feeling tone (i.e. pleasantness and unpleasantness), what would be the selective pattern of retention by an individual?
It should also be noted that the question of compatibility or incompatibility is relevant only when, in the first place, an event involves one’s motivational frame of reference. And since the events that involve this frame have greater cognitive relevance for the individual as compared to neutral or indifferent events, the former are likely to be retained better, on the whole, than the latter. That is why in Kanungo and Das’ (1960) study, the stereotypes attributed to one’s own caste were, on the whole, better remembered than those attributed to the other caste. And yet, it would be a pertinent question to ask: even among the experiences of equal relevance (i.e. experiences which involve one’s frame of reference to the same extent) which affective experiences are likely to be retained better — the pleasant (or compatible) experiences or the unpleasant (or incompatible) ones? And then again, if the quality of feeling tone per se is not found to be a determinant of selective retention, the role of other aspects of an affective experience, such as, intensity, has to be probed into.

(a) The Functional Standpoint:

The motivational implications of the contextual approach were not explicitly enquired into by Edwards and his followers. There were other investigators, however, who considered the role of context or frame of reference as intimately related to the concept of motivational as well as functional orientation of the subjects. According to them, whatever may be the context, the selective recall of affective experiences has to be studied specifically in terms of its functional implications for the subjects. In other words, the subjects’ selective recall is determined, according to them, not merely by their context or frame of reference, but, ultimately, in terms of whether recall or forgetting of an experience serves some functions or fulfills some needs on their part. In Taft’s (1954) words: "The act of recalling and forgetting should be considered from the functional point of view, i.e. in terms of the function which it performs for the organism." (p.27)

Devin (Rapoport, 1959, p.95) emphasized on the dynamic role of "tension systems" which he identified as forces generated by some
physiological needs or quasi-needs in the organisation of the psychological life space of an individual. Prentice (1944), too, shared Lewin's view regarding tensions and quasi-needs in terms of which the resumption of interrupted activities could be explained. Pachauri (1935) summarised the details of experiments conducted by Osviankina, Zeigarnik and McKinney in this direction. Osviankina's study throws significant light on the concept of tension system as such while the other two on its relation to retention. Osviankina showed that when the subject was interrupted in certain tasks and was allowed to complete the others, there was a clear tendency on his part to resume the interrupted tasks.

According to her, interruption of the performance sustained the tension system due to which the subject was motivated towards completion of the tasks. This finding, corroborated by many other investigators (Harrower, 1932, for example), is generally considered as a confirmation of the well-known Gestalt principle of 'closure'.

Zeigarnik, in her famous experiment, demonstrated the influence of the variable of interruption on retention. Zeigarnik's findings clearly indicated that interrupted tasks were better recalled than completed ones. This phenomenon has since come to be known as

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19 In another study, McKinney (1933), in a somewhat different manner, introduced emotional tension as an experimental variable by setting an inadequate time-limit for certain tasks given to the subject. McKinney advanced an 'emergency theory' which is based on Cannon's physiological theory of emotion, to explain his results. McKinney proposes that "as long as the emotion is just a mild but persistent stimulus it may act as a director or energizing force for ideational activity, but as soon as an emotion becomes so strong that impulsive behaviour is unavoidable, it retards rather than directs activity" (p.112).

Baddley (1963), however, is of opinion that "until it has been shown that interruption per se is the crucial factor it is perhaps wiser to regard the Zeigarnik effect as a purely empirical relationship rather a demonstration of Gestalt principles" (p.64).

McGeoch and Irion (1961), note in this connection that "it is possible, also, that in many cases, the interruption may have caused the subjects to note the interrupted task more clearly, to wonder why it was interrupted, to estimate how much they had done, and, in general, to react to it in a way which made it more meaningful and enhanced its retention value." (p.394)
Zeigarnik Effect. McKinney showed that even in terms of relearning the interrupted tasks were superior to completed tasks. Zeigarnik, however, also noted individual differences with respect to this phenomenon. In case of emotionally tense or excited subjects the advantage of interrupted tasks over completed ones in terms of recall was reduced to minimum.

According to McGeoch and Irion (1961)

The results of this extensive series of experiments are not wholly consistent, and the differences between conditions are seldom large, but the implications are that interruption is followed by a higher degree of retention if the interruption occurs before the activity has been brought to a level of performance which could be interpreted by the subjects as completion. (p.393)

While summarising the bearing of the Lewinian experiments on the problem of emotion and its relation to memory Rapaport (1959) notes that the finding that facts pertaining to undischarged tension-systems are remembered better than those pertaining to discharged tension-systems may be interpreted as supporting a general motivational theory of remembering. The relation of this finding to emotion depends on the role attributed by any theory to emotional factors in motivation. . . . Tension-systems do not always make for better retention.

Rapaport (1959) sums up the experimental findings as well as the conclusions of Zeigarnik in the following manner: "Zeigarnik discussed three types of forgetting; (a) forgetting of material not connected at the time to a psychic tension system (as in completed tasks, where the corresponding tension system has been discarded); (b) forgetting attributable to a lack of solidity of the boundaries of the tension systems (as in emotionally excitable individuals); (c) forgetting due to 'isolation' of the tension system from the rest of the field (as in the case of the intention of Ehrenbaum's subjects, where structural reasons made for isolation, and in the case of the Zeigarnik tasks 'experienced as failures, where emotional factors made for isolation'. (p.96) Incidentally, Zeigarnik considers this phenomenon of 'isolation' as very similar to the Freudian concept of repression.

Rosenzweig and Mason (1934), Rickers-Ovsiankina (1937) and Abel (1938), too, noted the role of different personality characteristics in determining differential patterns of recall. In Rosenzweig and Mason's study, 'proud' children were found to recall the completed tasks more than did children not rated to be in the same category. Rickers-Ovsiankina concluded on the basis of experimental results that normal subjects tended to resume the interrupted tasks to a greater extent than did the schizophrenics. Abel observed, on the other hand, that subjects with greater neuro-circulatory efficiency recalled interrupted tasks to a greater extent as compared to those with less efficiency.
remembering; those to which the experience of failure becomes attached are frequently 'isolated' from the rest of the field. Although, phenomenologically, similar to Freudian 'repression', this finding cannot be construed as proof, disproof, or basis for revision of the Freudian theory. (p.99)

Rosenzweig (1941, 1943), however, on the basis of results obtained in a series of experiments, suggested that Zeigarnik effect would not be apparent under all conditions. According to Rosenzweig, contrary to the phenomenon observed by Zeigarnik, under the condition of high motivational stress the subjects would tend to recall completed tasks better than incompletely completed ones.

It was almost during the same period as Edwards' formulation of the 'frame of reference' approach, Rosenzweig (1941, 1943) developed his eclectic psychobiological standpoint with respect to the problem of retention of affective experiences. According to Rosenzweig, there are two types of reactions, namely, need-persistive and ego-defensive. Under condition of low motivational stress induced by the environmental situation (mild experience of failure) need-persistive reactions predominate, whereas, under high stress condition produced by ego-threatening situation (intense experience of failure) ego-defensive reactions tend to predominate. Rosenzweig's experimental study of repression (1943) tends to support his theory. In this study, in the case of the Informal Group, the effect of completion vs incompletion on recall was studied under low motivation stress. In the case of the Formal Group, on the other hand, the effect of ego-success vs ego-failure under high stress condition was studied. The results for the Informal Group were similar to Zeigarnik effect; that is, incompletely completed tasks were recalled more than completed tasks. Rosenzweig proposed that this was due to low stress need-persistive reaction. For the Formal Group, however, more completed tasks were recalled as compared to incomplete ones. The explanation of this result, according to Rosenzweig, lies in the defensive

Goldin (1964) notes in this connection that "it has been demonstrated that failure produces deficit in performance only when it occurs in an area which has motivational relevance for the subject. (Vogel, Raymond and Lazaras, 1959)" (p.367)
forgetting of the unpleasant (uncompleted) tasks — a viewpoint which supports the Freudian theory on an experimental basis. Rosenzweig, thus, attempts to resolve Zeigarnik effect (where incompletely and, therefore, unpleasant tasks are recalled more than completed and, therefore, pleasant tasks) with the finding that P-recall is greater than U-recall in a particular experimental context in terms of two different reactions (need-persistive and ego-defensive) to failures. He proposed that in a situation which involved the pride or ego of the subject, felt failure would lead to repression, whereas in an informal situation where no such involvement was present, the undischarged tension systems would act as the major determinant of retention.

Taft (1954) introduced ego-stress by using the frame of reference technique. A passage somewhat unfavourable, on the whole, to the Negroes was presented to two groups of Negro and White delinquent subjects. Thus, the motivational involvement on the part of the Negro subjects was ensured by using material the content of which directly referred to the defensive response areas of their personality. It was found that Negro subjects recalled all affectively toned items, whether favourable or not, to a greater extent than did the Whites in the first recall. Taft proposed that due to their "vigilance", the Negroes perceived the material better and, thus, the superiority of their recall was a function of their

Rosenzweig's theoretical formulation has been precisely stated by Rapaport (1959) as follows: "interruption experienced as failure made for 'isolation', or forgetting of the interrupted tasks; but informal interruption made for better retention, as a result of undischarged tension-systems." (p.97)

It may be noted that Rosenzweig's findings under ego-defensive context were quite consistent with those of Koch (1930) who found that in a context of competition for academic grades, high (pleasant) grades were best remembered and the low (unpleasant) grades worst. Rosenzweig's concept of need-persistive reaction, on the other hand, seems to be consonant with the explanation offered by Freeman (1930) of the resumption of interrupted tasks in terms of tension as well as concepts, such as, competition, reinforcement etc. Bogulavski and Guthrie (1941), however, propose that tension generated by interruption per se does not lead to better recall, but the tension produced during the performance of a task is the causal factor behind resumption or superior recall.
the latter, it could be concluded straightaway that ego-orientation led to better recall. In case of Rosensweig's study, however, in each of the two different contexts, some of the tasks had positive or pleasant affect and some other had negative or unpleasant affect associated with them because of completion and interruption respectively. In Rosensweig's study, too, if the effect of the variable of interruption is ignored, the total number of recalls in ego-oriented situation would be found to be slightly greater than that in the other context. Although the slight superiority of ego-oriented recall is not at all significant, it is at least not in the opposite direction to that found by Alper. Incidentally, Rosensweig attempted to explain the apparent lack of sufficient difference between total recalls between finished and unfinished tasks in the formal group by putting forward a hypothetical proposition which, though tentative, may not be considered as implausible. In summarising his findings, Rosensweig states:

It is found that in the informal group approximately 55 percent of all finished tasks and 63 percent of all unfinished tasks undertaken were recalled; while in the formal group 62 percent of all finished tasks and 60 percent of all unfinished tasks undertaken were recalled. This means that while nearly the same number of tasks were recalled under both informal and formal conditions (59 percent as compared to 61 percent), the loss in the recall of unfinished tasks by the formal group was less than the gain in the recall of finished ones (3 percent as compared to 7 percent). The interpretation may then tentatively be made that the subjects in the formal group were still recalling the unfinished tasks by virtue of a fairly strong need-persistive tendency and that their preponderance of finished tasks in recall had to manifest itself over and above this tendency." (p.70)

A significant proposition was also put forward by Alper to explain the less-than-expected difference between task-oriented recall and ego-oriented recall in her study. According to her:

An experimental technique which assured ego-involvement without the arousal of anxiety rather than merely ego-orientation, should result in statistically significant differences between both task-oriented learning and ego-oriented learning and task-oriented retention and ego-oriented retention. (pp.246-247)

Actually, in Rosensweig's study, in terms of the single variable of ego-involvement, ego-oriented recalls, on the whole, were slightly
greater than task-oriented recalls; and yet, when the interaction between the two variables, i.e., ego-orientation vs task-orientation and completion vs interruption, was probed into, it was found that more completed than incompleted tasks tended to be recalled under ego-oriented condition, whereas more incompleted than completed tasks were recalled under task-oriented condition. In fact, there is no contradiction between Alper's results and those obtained by Rosenzweig. Although his results did not confirm Alper's contention that greater ego-involvement, on the whole, caused better retention, they did not contest the contention either. Besides, Rosenzweig tried to show, by introducing the variable of completion-interruption, that the patterns of recalls of completed and incompleted tasks under two different contexts were in opposite directions to each other. Osgood asks, "Is the interruption technique the essential difference?" (p.584) We would like to point out that not as a mere technique but as another independent variable, 'interruption' is the crucial factor which distinguishes Rosenzweig's findings from those of Alper. Osgood confused the issue to the extent he failed to distinguish between the effect of the variable of ego-orientation vs task-orientation on retention as directly studied by Alper and the effect of completion vs interruption as studied by Rosenzweig under those two contexts or orientations.

Lewis (Lewis, 1944; Lewis and Franklin, 1944) followed up the study of interruption by formulating a number of questions and conducted a few experiments in this area. His systematic research on the problem led to results quite consistent with Rosenzweig's experimental findings. Two different kinds of orientation, i.e., task-orientation and ego-orientation were induced by Lewis in two different groups of subjects. The difference between the two sets of instruction given to the two groups was as usual meant to create the variations in attitude. It was found that in the task-oriented group the Zeigarnik effect was quite conspicuous. In ego-oriented situation, on the other hand, the effect was just the reverse, the completed tasks being remembered better than interrupted ones. In interpreting the results, Lewis proposed that in the former case the interruption caused an unresolved tension system which merely referred to the incompletion of tasks; In the latter case, however, "interruption meant, primarily, a loss of ego-status, and only secondarily, a suspension of the
tension system of task completion." (pp.198-199) The similarity between his interpretation and that offered by Rosenzweig is quite clear.27

Osgood rejected the explanatory principles offered by Lewis and others for their "circularity of explanation". To quote him:

The conflicting results within the same series using the same general method gave rise to alternative explanatory devices. Certain subjects are said to recall completed tasks better because they derived 'ego-enhancement' from them. How do we know the subjects felt 'ego-enhancement'? Why, because they recalled more completed tasks! With the Zeigarnik problem, one can select his own hyphenated catch phrase to suit his results: 'ego-defense', 'task-orientation', 'ego-enhancement' and many others wait like bonnets in a young lady's wardrobe for use when the suitable occasion arises. Circularity is practically unavoidable here because the supposedly independent variable (ego-state) is not independently measurable. (p.585)

We, however, do not share Osgood's view for a number of reasons. Before stating them we would like to express our agreement with one very important observation made by Osgood. We, too, think that uninhibited use of catch phrases and abstract conceptualisation not only lead to terminological confusion but also, on many occasions, involve futile speculations because of their inherent lack of operational validity or, even, verifiability. This proposition is relevant not merely to the particular context of our study, but to the general tendency prevalent among many of the theoretical psychologists. Many of them, with an unrestricted abandon, use a wide variety of terms to denote more or less the same concept; the concept itself, too, on many occasions, is an abstract one derived purely from a speculative standpoint having no operational demonstrability. Another tendency in the area of academic discourse which adds to the disaster is to use the same term to mean different things in different contexts. The ultimate logical consequence of all this is a complete breakdown of academic communication.

27 According to Rosenzweig, "subjects in the formal group were expected to recall finished tasks - in this case, the successful ones - more frequently than unfinished or unsuccessful ones, the assumption being that with the arousal of pride and accompanying ego-defense in case of failure, the individual's needs for inviolacy would take precedence over the task-tension making for recall of unfinished tasks" (p.68)
All said and done, however, we would like to note the following points with respect to the particular explanatory principles vehemently criticised by Osgood.

First, it should be noted that although expressed in different language forms, concepts, such as, tension due to 'loss of ego-status' (Lewis), anxiety due to 'threat to self-esteem' (Alper), 'Arousal of pride and accompanying self-defense' (Rosenzweig) etc. refer basically, at least from a conceptual standpoint, to the same psychological set or orientation on the part of the subjects. As induced by different investigators in this area mainly through instruction, this set, generally speaking, is assumed to evoke some kind of defense on the part of the subjects with respect to their self-esteem. Actually, without indulging in the not-too-fruitful analysis of the comparative merits of these diverse terminological as well as linguistic preferences of different investigators, it would be reasonable and pragmatic to note that, essentially, all these hypothetical concepts refer to the same basic phenomenon of defending one's ego against some kind of threat or test. Of course, as Osgood points out, treating this factor of 'ego-defense', which is neither measurable nor controllable, as an independent variable would be futile and meaningless from an operational viewpoint. A hypothetical state within the organism, which is only indirectly inferred, should not for any logical reason be used as an explanatory principle to interpret certain empirical findings. To do so would certainly involve circularity of reasoning. But, if this phenomenon of 'ego-defense' is conceived as an intervening variable - which it should be - between the independent and manipulable variable of different sets of instructions given to two different groups of subjects and the dependent variable of differential patterns of recall with respect to 'success' and 'failure' (or, more generally, to P and U items), the fallacy of speculative as well as circular explanation can be avoided.

One should not overlook the crucial point here that, in order to understand the functional relationship between the stimulus and the response variables, experimental researchers have the responsibility to conceptualise and suggest, even in terms of apparently abstract hypothesis, an intervening process which might provide a link between the two.
Although, from an operational standpoint, it is not absolutely essential to conceptualise such intervening phenomenon, it is not inconsistent with the operational principles either. Conceptualisation of this kind merely attempts to suggest some theoretical possibility as also to indicate some possible line of exploration which, if followed up, might lead to further addition to our knowledge about the particular behaviour phenomenon under study.

Besides, it may be noted in our specific context that even if one does not hypothesize any organismic intervening variable, one can definitely distinguish between two sets of instruction used by different investigators presumably to induce two types of affective attitude on the part of different groups of subjects. These instructions clearly differ from each other at least in terms of the importance given to the successful performance of the tasks by the subjects. Even without insisting that there is any qualitative difference between two sets of instruction (such as, ego-involvement vs task-involvement, ego-orientation vs task-orientation, need-persistence vs ego-defense etc.), it would be quite reasonable to suggest that they differ at least in terms of degree of importance given to task-achievement. Thus, the differential degrees of importance or significance of successful performance of the tasks as perceived by the different groups of subjects exposed to two different instructions may readily be identified as the independent variable. The effect of this variable on the dependent variable, i.e. selective pattern of recall of P and U items, may be directly studied. Now, even if Osgood's objection to the idea of using a hypothetical psychological concept like 'ego-defense' to relate one variable to the other is justified, the relationship between the independent and the dependent variables can still be studied in strictly empirical terms.

And yet, it may be argued from a conceptual standpoint that in a context where the instruction makes the subjects perceive the successful performance of the tasks presented to them to be a matter of serious concern for them (independent variable) a whole chain of organismic events might follow. First, there might be stronger sense of ego-defense
and accompanying tension on their part; this might lead, on the whole, to a process of rationalization due to which there will be stronger cognition, better learning as well as more frequent rehearsal of P-materials. Finally, as a consequence of this whole process, it may be argued, P-materials are retained better, as measured by recall, than U-materials (dependent variable). All the intervening links proposed here are clearly hypothetical, but since we do not have much empirical data to work upon regarding the intervening organismic process to explain the relationship between the two variables, to suggest some plausible hypotheses, even on an abstract level, could be of some theoretical significance.

One should, incidentally, take note of an important point related to the phenomenon of interruption. It is generally overlooked by most of the investigators in this area that whatever may be the contexts (i.e. whether ego-orientation or task-orientation) in which the tasks are presented to the subjects, two separate but simultaneous needs or desires on the part of the subjects are involved. They are: the completion desire (identified as closure motive by Gestalt psychologists) and success or achievement motive. These two motives are separately recognised by most investigators while studying the effects of interruption in either of the contexts of task-orientation and ego-orientation. But, the simultaneous presence of both these motives in either of these contexts was not precisely taken into consideration by most of them. Rosenzweig (1943), however, notes quite correctly that "the forgetting of the pleasant experiences is complicated by a tendency for them to persist in memory because of their being incomplete." (p.71) He did not clearly recognise the fact that, just like other investigators in this area, he, too, was dealing with the effects of

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28 Rosenzweig, (1943) however, mentions some introspective reports of the subjects belonging to two different groups, namely, formal and informal. These reports strongly indicate that the subjects in the latter group are more relaxed and calm as compared to those belonging to the former. While those in the latter group were in a 'take-it-easy' state of mind, those in the former clearly express tension and anxiety which sometimes almost bordered on desperation. Lewis (1944) too, tried to verify the subjects' differential ego-states indirectly from subjects' introspections, facial expressions etc.
The results of the experiments which show that interrupted tasks are retained better than completed ones may be tentatively explained, at this point, by the hypothesis that thwarted 'closure-desire' leads to an unpleasantness which is more intense as compared to the intensity of pleasantness caused due to fulfilment of this desire.

It may be argued again that in the ego-oriented context, the success and failure mean much to the subjects because of the fact that success in this context is a more dominant desire as compared to closure drive. Thus, from the very beginning they develop a defense mechanism (repression or rationalization, whatever it might be) to counteract the anxiety associated with failure. Whether explained in terms of repression of U experiences or relatively greater intensity of pleasantness (associated with success) as compared to that of unpleasantness (associated with failure), the completed tasks are found to be remembered better than interrupted ones. It may even be possible that in order to 'diminish the displeasure in consciousness' or 'reduce the dissonance' the subjects take recourse to the defense mechanism of rationalization. That is, they perceive their success as 'a matter of much importance' and their failure as 'a matter of not so importance', thereby increasing the intensity of pleasantness associated with success and decreasing the intensity of unpleasantness associated with failure. This differential intensity of affective values, consequently, might account for the superior recall of P over U materials.

But all these propositions, at this stage, are merely hypothetical. Yet, it should be noted, at least as a theoretically possible explanatory principle, that in ego-defensive situation the success might act as a much stronger motivational force than closure motive and, thus, the element of incompleteness per se might become a relatively less important consideration on the part of the subjects in this context.

(d) Differential, or Personality-type Standpoint:

Some investigators considered personality type as an important variable in terms of which selective retention of P and U experiences might be explained. Generalised superiority of P-recall over U-recall is questioned by them and it is proposed, in some way or other, that whether P or U
experiences are retained better is determined by the personality type or disposition of the individual concerned.

One of the early advocates of this standpoint was Kowalewski (Rapaport, 1959, p. 43) who coined the concepts memory optimism and memory pessimism to explain the results of his questionnaire study. The group which remembered P-events better than U-events was considered by him as belonging to the first memory type, whereas the group favouring U-events was identified with the other memory type. According to him, the majority of people are memory optimists. Washburn (Rapaport, 1959, p. 53), along with her pupils, conducted a number of experiments which were influenced by Kowalewski's concepts of differential memory types. She, however, suggested that these two personality types may be discriminated in terms of differential reactions to P and U experiences. Meltzer (1930), too, found individual differences in the recall of pleasant and unpleasant experiences. Although most of his subjects recalled pleasant experiences better than unpleasant experiences, thirty-six percent of them recalled more of their unpleasant experiences. Meltzer proposed three different personality types, namely, 'optimists', 'pessimists' and 'indifferents' to account for differential patterns of selective recall of affective experiences. O'Kelley and Steckle (1940) investigated the role of personality differences in selective recall and concluded that P and U experiences appeared to be forgotten equally by the memory optimists, whereas memory pessimists tended to forget P events more quickly.

That different personality characteristics may determine differential patterns of recall is also suggested by the findings of Rosenzweig and Mason (1934). It is found that children rated as 'proud' tend to recall more completed than incompletely completed tasks, whereas in the children rated low in pride, the reverse trend is observed. Alper (1948)

30Rapaport (1959) also reports a follow-up study by Susukita who basically agreed with Kowalewski's conceptualisation. (p. 74)

31In another experiment, however, conducted on the same group of 'proud' children, Rosenzweig (1938) found that the older children rated
suggests that "although the authors had not intended to arouse self-esteem needs, it is likely that their instructions did do so and that the situation was not directly comparable to the informal setting of Zeigarnik's experiments." (p.128)

The findings of another experiment by Rosenzweig (1943) on adult subjects were quite consistent with the above results. In this experiment, pride was aroused by making the subjects work in an 'intelligence test task' context and it was found that they recalled more completed than incompleted tasks. It was noted by Rosenzweig, however, that recall patterns of some of the subjects were in the reverse direction. This phenomenon was interpreted by him in terms of personality traits, a variable which, according to him, overrode the general influence of the experimental context. Taft (1954) notes in this connection that it is highly probable that differences in the findings of the various studies... are attributable to the type of Ss used. For example, some types of personality typically repress emotionally distressing experiences while others typically recall them. (p.26)

That personality characteristics have an important role to play in determining subjects' nature of response to 'incompletion' is also noted by Rickers-Ovsiankina (1937) who found that, as compared to Schizophrenics, normal subjects had a greater tendency to complete a task. Abel (1938), from a different standpoint, tried to relate between personality types and selective recall. The results of this experiment show that interrupted tasks are better recalled by subjects with greater neurocirculatory efficiency as compared to those with less.

There have been other studies by Pachauri (1936), Cartwright (1942) and Rosenthal (1944) where it has been suggested that selective

as 'proud' tended to repeat their failures, whereas younger children rated low on pride their successes. The interpretation offered by Rosenzweig was that older children being more egoistic or proud were much more sensitive to failures as compared to younger children who were less affected by failures.

32 "Personality traits of a subject may override the environmentally imposed conditions of an experiment." (Rosenzweig, 1943, p.67)
pattern of recall may be determined by the subject's personality type. Belmont and Birch (1951), too, suggested that the role of defense mechanism in learning and recall would be a function of the individual's personality.

One of the most comprehensive studies in the area, however, was carried out by Alper (1946, 1948, 1952). On the basis of her findings Alper (1948) questions the general validity of Rosenzweig's functionalist proposition. Alper argues against the generalised concept of an ego-threatening situation where the ego necessarily defends itself by recalling its successes, as also of a non-self esteem-involving condition under which the ego does not require to defend itself and incompleted tasks are necessarily recalled more than completed tasks due to lack of anxiety. She asserts that

some S's need to protect their self-esteem by recalling their successes even in objectively non-self-esteem arousing conditions; other do not. Again, some S's seem incapable of protecting self-esteem when it is objectively threatened. They behave as if overwhelmed by their failures and, in the failure situation, unable to forget them. (1948, p.129)

Summarising the results of her experiment, Alper concludes that there are two major patterns of selective recall and suggests the possibility of two additional patterns. According to her theorisation:

The first pattern may be labeled the Strong Ego pattern. This includes those S's who recall a preponderance of incompleted tasks when self-esteem is not objectively threatened and a preponderance of completed tasks when self-esteem is objectively threatened. (p.130)

Ambition and pride are suggested as the major personality characteristics of the individuals belonging to the Strong Ego pattern. As noted by Alper, the pattern of selective recall of the strong ego under task-oriented or non-stress condition would be consistent with Zeigarnik's findings. Rosenzweig (1943), on the other hand, has suggested that subjects can protect their self-esteem by recalling the completed tasks; and his findings under two different experimental contexts are in agreement with the selective recall pattern of the Strong Ego as suggested by Alper. From a conceptual standpoint, Alper tries to explain the response characteristics of the subjects belonging to this personality category. She suggests
that since they can counteract failure they need not react to every situation as a potential threat to self-esteem; they need not constantly be on the defensive. Thus, when told by the experimenter that the materials are being tested, they can accept these task-oriented instructions without self-esteem involvement, and task-tensions rather than self-esteem tensions are aroused, as Zeigarnik would hypothesize. (pp. 130-131)

Yet, when the materials are presented as an intelligence test, incompletion and completion are proposed by Alper to be experienced in a context of failure and success, respectively, and self-esteem tensions rather than task-tensions are aroused, as Rosenzweig would hypothesize. Since these subjects have objective evidence of their "poor" performance under stress, self-esteem must be supported. It can be supported immediately in the failure situation by recalling the tasks one has managed to complete. (p. 131)

The second major pattern of selective recall suggested by Alper is the Weak Ego pattern:

This consists of the recall of a preponderance of completed tasks where there is no objective threat to self-esteem but of incomplete tasks when such threat is experimentally induced. This pattern is the reverse of the first and is characteristic of individuals with low frustration-tolerance for failure. (pp. 131-132)

The personality structure of these individuals is characterised by 'low self-confidence and low ego-strength', and 'low self-esteem thresholds'. Alper notes that in terms of personality characteristics, they are comparable to the 'proud' children studied by Rosenzweig and Mason (1934).

Explaining their response pattern, Alper suggests that even when the situation is not objectively a failure situation, they react, subjectively, as if potentially it were. Yet just so long as the failure threat is not objectively present, weak ego S's are not disorganized by the subjective failure. Again, like the "proud" children, weak-ego adults support their low pride thresholds by recalling their successes (completed tasks). When the external situation is clearly a failure situation, however, they cannot counteract the failure either on the performance level or on the memory level: under stress their performance breaks down and they recall failures (incompleted tasks). (p. 132)

Alper further argues that the recall of incompleted tasks under conditions of competitive failure by individuals with weak self-esteem organization is dynamically very different, then, from the recall of incompleted tasks by Strong Egos...
under objectively non-stressful conditions. The recall of the latter group is consistent with Zeigarnik's task tension and Rosenzweig's need-persistive theory, while the recall of the former suggests a mechanism of defense which is more accurately described as ego-offense rather than ego-defense. It is only under conditions where the threat to self-esteem is seen as potential but not as actual that weak egos can protect their tenuous self-esteem by recalling successfully completed tasks; (pp.132-133)

The third pattern suggested by Alper refers to the behavior of a narcissistic subject:

It consists of the superior recall of completed tasks both when self-esteem is, and is not, objectively threatened. This pattern may be characteristic of insecure, narcissistic individuals who are under a constant need to support self-esteem. Such individuals may achieve a semblance of ego-strength, yet their strength seems actually to cover considerable ego-weakness. They differ from the strong egos both in selective recall and in performance. (p.133)

The fourth pattern of selective recall, which is suggested by Alper as a logical possibility rather than as a demonstrated fact, "would consist of the superior recall of incomplete tasks both when self-esteem is, and is not, objectively threatened." (p.133) The individuals belonging to this category may be characterized by 'high ego-strength' as well as 'high self-esteem thresholds':

Such an individual would not necessarily experience either the non-competitive or the competitive failure of the laboratory situation as a threat to self-esteem. Accordingly, task tensions could predominate under both conditions, and under both conditions incompletely tasks would be recalled. (p.133)

Finally, Alper reports an experiment conducted by her where the subjects were selected in advance on the basis of two major personality patterns, i.e. the Strong Ego and the Weak Ego, and the direction of their selective recall was predicted. The results of this experiment are claimed to have verified the relationships formulated by Alper.33

It should be noted that Alper's theoretical postulates regarding

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33"Strong Ego S's recalled incompletely tasks in the nonstressful laboratory setting and completed tasks in the objectively self-esteem threatening setting; Weak Ego S's showed the reverse pattern. The differences found were statistically significant." (p.134)
selective memory patterns for completed and incompleted tasks as a function of personality type attempt to provide us with an accommodating as well as generalised framework in terms of which diverse and conflicting experimental findings in this area may be explained. The present author has taken the liberty of extensively quoting her with a view to emphasizing on the comprehensive nature of her theoretical standpoint. She has recognised the differential effects of task-tension and ego-tension (or need-persistence and ego-defense, as proposed by Rosenzweig) on selective recall. But without studying the functional role of this variable in isolation, she also considers the variable of personality type to determine the interaction between the two variables. In her theoretical formulation all the possible patterns of interaction between two experimental orientations and four personality types have been accommodated. Thus, her standpoint, in a way, integrates the functional and personality type standpoints within a comprehensive conceptual framework. In her words:

It is the context in which completion or incompletion takes place and not the incompletion or completion per se, then, which gives a memory trace stability and makes it available for later recall. And, . . . whether the context is 'success' or 'failure' would in large part seem to be determined by the personality structure of the individual S. (p. 131)

(e) Intensity Standpoint:

Some investigators have questioned any differential retention of pleasant and unpleasant materials. Instead, they propose intensity of feeling tone, irrespective of its quality, as perceived by an individual, as the determinant of retention of an affective experience. It has been argued by many psychologists that memory or retention must be understood in terms of some kind of memory traces. One of the early advocates of such a standpoint was Lipmann (Haraport, 1959, pp. 54-58). According

It should be noted, incidentally, that recall can not be taken as the surest measure of retention; but, in the absence of any other valid measure, researchers had to depend on recall performance of the subjects as an indicator of their retention. It must be recognized, however, that whether understood in terms of repression, neural inhibition or some kind of cortical censor or barrier, there may be memory traces which can not be recalled by an individual. In other words, that which
to Rapaport, "his idea of memory is that forgetting is a 'disappearance of traces', and that vividness of memory is a matter of 'intensity of traces.'" (p.54) In his survey of association experiments in the area of crime detection, Lipmann emphasized on the significant role of 'interest tone' (which he used as a substitute for 'emotional tone') in determining the intensity of memory traces. Lipmann suggests that interest-toned perception complexes leave especially intense traces. The greater intensity exerts its effect in that: 1. The traces disappear less rapidly; 2. They are revived more easily; 3. They are not pure memory but reminiscence images when revived, i.e. in their revival a conscious reminiscence of the whole interest-toned perception complex is reproduced. (cf. Rapaport, 1959, p.54)

Although he does not concern himself with differential effects of pleasant and unpleasant interest tones, Lipmann certainly implies that experiences involving greater interest tone on the part of the subject lead to more intense memory traces and, thus, are retained better as compared to neutral or less interest-toned experiences.

Jersild (1931) conducted an experiment where more P and U experiences were reported by the subjects. While interpreting his findings, Jersild proposed that "the affective intensity of many unpleasant events will be reduced or alleviated by remedial influences." (p.287) One of the major implications of Jersild's explanatory standpoint may be stated in simple terms in the following way: In order to be relieved of unpleasantness an individual tends to reduce its intensity which, in consequence, leads to relatively greater forgetfulness for the unpleasant as compared to the pleasant experiences. It may also be noted that his concept of subjective reduction of affective intensity is quite consistent with Festinger's idea of reduction of cognitive dissonance. Cason (1932) is recalled must have certainly been retained in the first place by an individual; but the fact that an individual fails to recall an experience does not necessarily lead to the conclusion that it is not retained by him. Disappearance of memory traces certainly results in non-recall, but the former may not necessarily be inferred from the latter.

Rapaport also reports Wuerdemann's study where one of his major conclusions was that "experiences of great feeling intensity and depth are remembered better than those weak and superficial in feeling" (cf. Rapaport, 1959, p.65).
concerned. To clarify the point further, it has been shown that in task-oriented context U tends to be recalled better than P and in ego-oriented context this direction gets reversed; but it has not been attempted to verify whether under two different experimental contexts, the respective intensities of P and U experiences also get changed. We would like to hypothesize that in the former context U is perceived as more intense by the subject than P and in the latter context P is perceived as more intense than U by him. Confirmation of this hypothesis would lead to the conclusion that the conflicting patterns of selective recall under two different contexts could be explained by the intervening variable of intensity which acts as the immediate antecedent determinant of retention.

Extending the intensity hypothesis to Alper's theoretical framework, it may even be argued that the different patterns of interaction between the variables of context and personality type also lead to differential patterns of affective intensity with respect to P and U materials. Here again, intensity, as experienced by the individuals for whatever subjective and/or objective reasons, may be proposed as the immediate determinant of selective retention.

Thus, we would like to formulate our general hypothesis in the following way: Other factors remaining constant, intensity of feeling tone, irrespective of its affective quality as perceived by an individual in whatever contexts, is the immediate antecedent determinant of selective retention. The implications of this general hypothesis have been studied specifically in three different experimental situations as reported in the following chapter.