Chapter III
Problem and Hypotheses

The perusal of literature in the preceding two chapters indicates that the pituitary hormone VP can enhance retention in both animal and human subjects when administered either before or after acquisition as well as prior to testing (Ader and de Wied, 1972; Lande et al., 1972; Rigter et al., 1974; de Wied, 1976; Legros et al., 1978; Oliveros et al., 1978; Asin, 1980; Cooper et al., 1980; Weingartner et al., 1981). The empirical generalization which has emerged from these studies is that this hormone modulates both the encoding and retrieval stages of memory processing (Kovacs et al., 1979).

The modulatory role of VP is further evident from studies in which the inhibitory effect of a number of amnestic agents has been attenuated by administration of VP prior to testing. For instance it has been demonstrated that amnesia induced by CO$_2$(Rigter et al., 1974), diethyldithiocarbamate—a norepinephrine synthesis inhibitor(Asin, 1980) and the protein synthesis inhibitors—puromycin and anisomycin(Lande et al., 1972; Judge and Quartermain, 1981) can be reversed by treatment with VP prior to testing.
VP has also been repeatedly used with success in the treatment of alcoholic, senile and Karsakoff's amnesia, Alzheimer's disease, schizophrenia and manic depressive psychoses (Oliveros et al., 1978; Legros et al., 1978; et al., Le Boeuf et al., 1978; Gold and Goodwin, 1978; Vranck et al., 1978; Legros et al., 1980).

In view of the immense practical importance of this hormone in reverting the amnesia associated with a number of psychological disorders, the present study was designed to investigate whether the amnesia due to depression could be eliminated by administration of VP. Morphine was administered to induce a depressive state in the animals. The problem for the present investigation was formulated as follows:

To investigate the antagonistic effect of vasopressin on morphine induced amnesia.

On the basis of the earlier researches, it was hypothesised that:
1. Immediate post training administration of morphine, an opiate agonist, would have an inhibitory effect on retention of an aversive learning task.
2. Post training administration of VP, would have a facilitative effect on retention of a passive avoidance task.
3. Administration of VP, five minutes after post training administration of morphine, would antagonize the morphine induced amnesia.

We may now pass on to the next chapter dealing with the design and methodology of this investigation.