# MANIFEST DREAM CONTENT, SEX-ROLE ORIENTATION, ARCHETYPES AND THE MENSTRUAL CYCLE : AN EXPERIMENTAL INVESTIGATION

A thesis submitted to the Department of Psychology, University of Cape Town, in fulfilment of the requirements for the degree of Master of Science in Psychology.

Claire Barbara Osborn B.Sc. (Cape Town)
B.Sc. (Hons.) (Unisa)

Rondebosch
South Africa
September, 1984.

"Those who attribute far too much hidden meaning to dreams should be treated with contempt since they have no insight into the structure of a dream and they are accusing the gods of malice and ill will."

Artemidorus

ACKNOWLEDGEMENTS

To my supervisor, Phillip Faber, my sincerest appreciation and thanks for his generous and invaluable help and time in clarifying my original vague ideas.

A special word of thanks to Phillip Faber and Graham Saayman who spent many hours rating dream reports. Thanks are also due to Mark Foreshore and Frank Bokhorst for their help in choosing appropriate statistical techniques. I wish to extend my gratitude to Mr A. Reynolds for his assistance in solving technical problems in the laboratory.

I am especially grateful to my subjects, who subjected themselves to four nights in the laboratory, without whom this study could never have taken place.

I would also like to extend sincere thanks to Carole Abromovitz and Felicity Harris for their support and encouragement during the course of the research project.

## ABSTRACT

Previous research has found that dream content may vary as a function of the menstrual cycle. Parameters which have been found to fluctuate with the menstrual cycle include sexual and aggressive content of dreams, dream unpleasantness, the frequency of dream recall and maternal and heterosexual dream content. This research also investigated the possibility that agency, communion and archetypality may fluctuate across the menstrual cycle. In addition to this the effect of sex-role orientation was investigated. There were consequently two groups of subjects, one with a masculine sex-role orientation and another with a feminine sex-role orientation. The subjects were 14 women aged between 21 and 28, who did not take a contraceptive pill, who had regular menstrual cycles, and who did not suffer from any severe form of psychopathology. Dream reports were obtained from both home diaries and REM awakenings. Basal body temperatures were recorded daily to enable the phase of the menstrual cycle to be accurately determined.

The following significant results emerged from the home dreams : physical aggression and manifest sexuality were at a maximum premenstrually for both the masculine and feminine groups ; verbal aggression was at a maximum during the premenstrual phase in the feminine group ; communion peaked in the pre-ovulatory phase of the dream reports from the masculine group ; maternal dream content was at a maximum in the pre-ovulatory phase for the

masculine subjects while it was high in both the pre-ovulatory and premenstrual phases of the feminine subjects; archetypality during the pre-ovulatory and premenstrual phases was higher than during the post-ovulatory or menstrual phases. In addition to this, it was found that the feminine group had significantly more archetypality and physical aggression in their dream reports, and were better dream recallers than the masculine group. Dream recall did not fluctuate across the phases of the menstrual cycle. Heterosexuality, hedonic tone and agency also failed to produce any significant variation as a function of menstrual cycle phase.

Dream recall, agency, manifest sexuality, heterosexuality, hedonic tone and archetypality did not show any significant variation according to menstrual cycle phase in the REM awakening dreams. The following significant results emerged from the REM awakening dreams: verbal and physical aggression were at a maximum during the premenstrual phase for the feminine group; maternal dream content was highest at ovulation in the feminine group. Furthermore, the feminine group had significantly more physical aggression and agency in their dream reports than the masculine group, while the dreams of the masculine group were higher on communion than the feminine group.

The archetypal dreams from the home sample of dreams were amplified following Jung's technique of dream amplification. It was found that the archetypal dreams at pre-ovulation and premenstruation were associated with motifs of the Mother

Archetype. The results were interpreted with reference to Jung's theory of the Dual Mother Archetype and Neumann's theory concerning the Great Mother Archetype.

# TABLE OF CONTENTS

## METHODOLOGY

## RESULTS

APPENDICES

# LIST OF TABLES

## LIST OF FIGURES

Figure | Page

## 1.0 AIMS AND OBJECTIVES OF THE PRESENT INVESTIGATION

Since Benedek and Rubenstein (1939), investigated the possible effects of the menstrual cycle on dream content, considerable research has been carried out on this topic. Over the years many factors have been considered to fluctuate with the menstrual cycle. Factors which have been investigated in relation to menstrual cycle phase are dream recall (Baron, 1976; Benedek and Rubenstein, 1939; Cohen 1973; Edelstein, 1981; Garfield, 1974, Sheldrake and Cormack, 1974; Shultz and Koulack, 1980; Trinder et.al., 1973; and Van de Castle, 1971), dream unpleasantness (Baron, 1976; Benedek and Rubenstein, 1939; Edelstein, 1981; and Swanson and Foulkes, 1967), dream hostility (Baron, 1976; Benedek and Rubenstein, 1939; Benedek, 1952; Edelstein, 1981; Hertz and Jensen, 1975; Katzenstein, 1975; Lewis and Burns, 1975; Shultz and Koulack, 1980; and Sirois and de Koninck, 1982), maternal dream content (Baron, 1976; Benedek and Rubenstein, 1939; Benedek, 1952; Katzenstein, 1975; and Van de Castle, 1971), manifest sexuality (Edelstein, 1981; Katzenstein, 1975; Lewis and Burns, 1975; Shultz and Koulack, 1980; and Swanson and Foulkes, 1967), and heterosexual dream content (Baron, 1976; Benedek and Rubstein, 1939; Benedek, 1952; and Edelstein, 1981).

It may be thought, that after such a body of research, that some general agreement would have been reached regarding the nature of any such changes in manifest dream content associated with the

menstrual cycle. This, however, is unfortunately not the case. A review of the literature reveals that the area is fraught with considerable disagreement and contradictory findings. Furthermore, an examination of the various methodologies utilised by the various investigators reveals that the field of research has been marred by a lack of sound methodology. One of the major aims of this thesis is therefore to devise a rigorous methodology to test the contention that manifest dream content does indeed change in accordance with menstrual cycle phase and to establish the nature of such changes.

A number of theories have been put forward to explain the origin of the menstrual taboo e.g. the horror of blood, castration anxiety etc (Weideger, 1977). These theories, however, have a number of problems which affect their credibility. For this reason an attempt is being made to formulate a new theory concerning the origin of the menstrual taboo. The menstrual taboo appears to be a universal phenomenon (Drucker, 1965; Frazer, 1959; Harding, 1971; Hays, 1972; Stephens, 1961; and Weideger, 1977). It is also accompanied by a considerable degree of negative affect as can be ascertained in a review of negative attitudes towards menstruation (e.g. Atcheson, 1977; Hays, 1972; and Weideger, 1977) and negative self-attitudes (e.g. Bardwick, 1974; Baron, 1976; Chernovetz et.al., 1979; and Weideger, 1977). Jung (1980 c, and 1981 e), has set four criteria whereby an

archetypal theme may be identified. Hobson (1973), summarises these criteria as follows:

(1) the theme is a typical phenomenon in the material of many individuals

(2) it must occur in many parts of the world and in different times

(3) the meaning must be similar whenever it occurs

(4) the images must not have been acquired through education, language or religion.

The archetypal taboo appears to satisfy these criteria, especially with respect to the universality of the taboo and its concomitant negative affect. Kluger (1975), devised a dream scale which could differentiate between archetypal and "everyday" dreams in terms of four categories, namely: mythological parallel, rationality, everydayness and affect. This scale will be used to test the hypothesis that archetypal dream content will fluctuate according to menstrual cycle phase.

The work of Daly (1943), Neuman (1974), and Jung will be discussed. Daly (1943), a Freudian, contends that the menstrual taboo is related to the incest taboo in that it serves as a reinforcer of the latter taboo. Jung's (1981c,d and e), viewpoint concerning incest and the dual nature of the mother archetype will be contrasted with Daly's (1943 viewpoint. The work of Neumann (1974), on the Great Mother Archetype will be discussed and an attempt will be made to relate it to the menstrual taboo. Jung's (1976a), technique of dream amplification will be utilised to investigate the extent to which the dual

nature of the Mother Archetype may be relevant in providing a fuller understanding of the psychological foundations of the menstrual cycle.

It should be noted however, that the results of this latter aspect of the research project will not be dealt with in great depth as it would be beyond the scope of this thesis. They will be dealt with in future research and in an article intended for publication.

## 2.0 EXPERIMENTAL RESEARCH ON DREAMS AND THE MENSTRUAL CYCLE

### 2.1 Dream Recall

Baron (1976), in a study involving 18 non-neurotic women over two complete menstrual cycles found that the number of dream reports was greater in the premenstrual than pre-ovulatory phase of the menstrual cycle. Her study, however, was marred by the fact that she determined the phase of the cycle via self-reported menstrual calendars from the subjects and no attempt was made to empirically verify cycle phase by hormonal assay, basal body temperature, or vaginal smears. In spite of this, her findings were supported by Sheldrake and Cormack (1974), in their study of 7 women in which it was also found that women generally recall more dreams during the premenstrual phase. This study was flawed by the fact that cycle phase was determined by merely asking subjects to state the phase of their menstrual cycle on their dream reports. As a result of this procedure it is debateable as to whether or not the subjects were blind to the purpose of the research or not.

In contrast to the above findings, Garfield (1974), found dream recall to be highest at midcycle and lowest premenstrually, while Benedek and Rubenstein (1939), found that the greatest number of dreams were recalled at midcycle and the lowest number were recalled during menstruation. Both of these findings are very

suspect, however. Garfield (1974), only had one subject and that was herself. Furthermore, she retrospectively examined her dream diary to see if there was any relationship between cycle phase and dream recall and she was estimating cycle phase from her menstrual calander. Cycle phase was accurately determined by a gynaecologist in the Benedek and Rubenstein (1939) study, but the results cannot be unequivocally accepted as all of the subjects were in psychoanalysis with Benedek.

There are studies such as those by Edelstein (1981), Shultz and Koulack (1980), and Trinder et.al. (1973), which have failed to establish the existence of any significent relationship between menstrual cycle phase and dream recall. None of these studies, however, determined cycle phase empically and all used menstrual calendars with the exception of Edelstein (1981), who used hormonal assay. This latter study, however, had only 6 subjects 3 of whom were taking a contraceptive pill. Shultz and Koulack (1980), also gave the Menstrual Distress Questionnaire (Moos, 1968) to the subjects before the study began which may have affected the subjects' blindness and influenced their results. Cohen (1973), in a study involving 54 undergraduate females who were classified into three phases of the menstrual cycle such that there were 8 menstrual subjects, 15 premenstrual subjects and 31 ovulatory subjects, found that there was little

difference in the percentage of content reports for the menstrual (54%), ovulatory (53%) and premenstrual (51%) phases. There was, however, a difference for contentless (recall having dreamed but being unable to recall the content) reports. It was found that the menstrual, ovulatory, and premenstrual groups produced 21%, 28% and 45% contentless reports respectively and 25%, 19% and 4% dreamless reports respectively. In other words, across the three phases of the menstrual cycle there was no change in content reporting, an increase in contentless and a decrease in dreamless report percentages. Although contentless and dreamless reports are usually lumped together as failure to recall dreaming, they appear to be qualitatively distinct psychological events. If one were to lump the dreamless and contentless reports together, as is usually done, the figures obtained in this case would be 46% 47% and 49% for the menstrual, ovulatory and premenstrual phases respectively. In other words, as Cohen (ibid) found, the distinction would make no real difference to dream recall in this study because there was no change across the cycle.

Hartmann (1966), in his study involving 7 non-neurotic women found that there is an increase in D-sleep (dreaming sleep) in the premenstrual phase. This would be interpreted as explaining why Baron (1976), and Sheldrake and Cormack (1974), found an increase in dream recall at this point in the cycle, the

rationale being that the more D-sleep a person has, the reater the chances of recall. It would not, however, explain the findings that indicate that dream recall is not a function of the menstrual cycle, or those indicating that dream recall increases at midcycle.

Another factor which appears to influence dream recall is that of sex-role orientation. Schechter et.al. (1965), found that individuals with a commitment to the humanities have better dream recall than those with a commitment to engineering. Cohen (1973), carried out a study involving 47 male and 52 female undergraduate students who were classified as either masculine or feminine on the Personal Attributes Questionnaire (Spence et.al., 1975). It was found that feminine subjects, irrespective of gender, have significantly better dream recall. In another study, Cohen (1973), had 27 male and 32 females who were classified as masculine or feminine by the Fe scale of the California Psychological Inventory (Gough, 1957). Again it was found that for both male and female subjects, those with a predominantly feminine sex-role orientation had significantly higher dream recall than those classified as masculine. No previous study has related these findings to a study of dreams and the menstrual cycle and it would appear that sex-role orientation may in the future be an important variable to control in such studies.

All of the studies discussed so far can be criticised with the studies of Garfield (1974), and Benedek and Rubenstein (1939), receiving the most discredit. In addition to this, Edelstein (1981), and Shultz and Koulack (1980) only had data based on REM periods in the sleep laboratory. If, as was the case, subjects are awakened from each REM period then it may be the case that any differences in recall across the three nights at three different phases of the cycle may be obscured.

## 2.2 Dream Unpleasantness

Benedek and Rubenstein (1939), found in a group of 15 women who were psychoanalytic patients, that they had more"terrifying" dreams near menstruation. Since the subjects were Benedek's own patients it is possible, however, that her expectations in terms of dream content and unpleasantness may have influenced her subjects' reponses or Benedek's interpretations of the dreams. Baron (1976), in her study of 18 non-neurotic women over two complete menstrual cycles found that dream unpleasantness was at a maximum premenstrually. This did not quite agree with the findings of Swanson and Foulkes (1967), who in their study of 4 non-neurotic, university women with regular menstrual cycles, found that self-rated dream unpleasantness was at a maximum during menstruation. In this latter experiment the investigators were concerned that subjects may have been aware of the purpose

of the experiment and therefore administered a post-experimental questionnaire which revealed that only one of the subjects had any awareness that the menstrual cycle was being investigated.

The above three studies all place maximum dream unpleasantness near or during menstruation. Besides other criticisms mentioned it is noteworthy that only Benedek and Rubenstein (1939), empirically determined menstrual cycle phase, the other two studies utilising self reports from the subjects to determine the phase of the cycle. One study has failed to find any relationship between dream unpleasantness and the menstrual cycle. Edelstein (1981), in her study of 6 non-neurotic women, 3 of whom were taking a contraceptive pill found that dream unpleasantness did not change across the cycle but this may be due to the smallness of her sample. The bulk of the research to date, nevertheless, would still seem to indicate that dream unpleasantness is at a maximum premenstrually or menstrually.

Sex-role orientation has also been found to effect dream unpleasantness. Cohen (1973), in a study involving 27 men and 32 women found that this was so. Subjects were classified on the Fe scale of the California Psychological Inventory as either masculine or feminine. It was found that subjects with sex-role orientation contrary to stereotype had significantly more

unpleasant dreams than subjects with sex-role orientation congruent with stereotype ($p<0,05$). It was also found that the relationship between unpleasantness and sex-role congruence was limited to dreams involving some form of aggression. Thus for congruent sex-role orientation subjects whose dreams did not involve any aggression, the difference between net unpleasantness and between role congruent versus role incongruent groups was not significant. Those subjects with sex-role orientation contrary to stereotype had a 75% net unpleasantness in their dreams versus the 25% net unpleasantness of those subjects with congruent stereotype and this was highly significant ($p<0,025$). On the basis of this study it would appear that women with a masculine sex-role orientation would have a greater overall dream unpleasantness than women with a feminine sex-role orientation. It would also be expected that feminine women would experience an increase in unpleasant dreams as dream aggression increases.

## 2.3 Dream Hostility

There have been many studies attempting to link dream hostility with phase of the menstrual cycle. Benedek and Rubenstein (1939), in their study of psychoanalytic patients found an increase in aggressive dream content premenstrually. Benedek (1952), in her study of 15 neurotic women found increased hostility during

menstruation. Both studies results are questionable as all subjects were neurotic and the variables were ill-defined. In addition to this, Benedek's study was also marred by the fact that cycle phase was determined by reports given to her by the subjects of the dates of their menstrual periods.

In spite of these shortcomings, there have been a number of studies providing some support for these early studies. Several studies have found an increase in dream hostility during menstruation. Hertz and Jensen (1975), in a study involving 15 non-neurotic women matched with a control group of 15 women on age, socioeconomic class, education and ethnic group, found that when dreams were rated using an adaptation of the content category system of Langs et.al. (1960), and Langs (1965; 1966), that there were more references in dreams to attacking or harming others during menstruation. Swanson and Foulkes (1967), in their study found that when dream hostility was rated on the Overt Hostility Scale (Ben-Horin, 1967), that hostility was also at a maximum during menstruation. Moos's (1969), findings were also in confirmation of such a relationship.

Some studies have also found evidence of some increase in dream hostility premenstrually. Lewis and Burns (1975), found that dream hostility rose to a peak during the post-ovulatory phase but the validity of this study is questionable as

it only involved one subject. In a more recent study by Sirois and de Koninck (1982), which investigated 33 women across two menstrual cycles who kept dream diaries, it was found that hostility increased menstrually and premenstrually but that it was slightly, although not significantly, higher during menstruation.

There are, however, a few studies which have failed to establish any relationship between menstrual cycle phase and dream hostility. Baron (1976), in her study of 18 normal women across two complete menstrual cycles found no difference with respect to aggression when the pre-ovulatory and premenstrual phases were compared. Shultz and Koulack (1980), in their study of 10 non-neurotic undergraduate students also failed to find any variation in dream hostility during the menstrual cycle. Katzenstein (1975), in her study of 50 non-neurotic women, half of whom were taking a contraceptive pill, failed to find any significant variation in dream hostility but found significantly more themes of mutilation during the menstrual and premenstrual periods. Edelstein (1981), also failed to obtain any significant results. It was found, however, that amongst the women not taking a contraceptive pill, there was a premenstrual increase in physical aggression premenstrually and at ovulation although the premenstrual increase was greater.

Only two of these studies, those of Benedek and Rubenstein (1939),

and Edelstein (1981), determined cycle phase empirically, the former via vaginal smears and the latter via hormonal assay. All the other studies relied on reports given to them by the subjects to determine this important variable. It is also dubious as to whether or not all subjects in these studies were blind in terms of the purpose of the study. Shultz and Koulack (1980), for instance gave the Moos Menstrual Distress Questionnaire (Moos, 1969) to all potential subjects prior to the beginning of the study. In spite of those reservations the bulk of the research points towards an increase in dream hostility during the pre-menstrual periods with possibly greater hostility during menstruation itself.

It appears that sex-role orientation, a factor which none of the previous studies controlled for, may influence dream aggression. Cohen (1973), in a study involving 27 males and 32 females who were classified as masculine or feminine by the California Psychological Inventory (Gough, 1957), found that masculine subjects irrespective of gender had significantly more dreams involving physical aggression than feminine subjects when measured by the Physical Aggression Scale (Foulkes and Rechtschaffen, 1964). He found, however, that there was no difference between masculine and feminine subjects for verbal aggression as measured by the Verbal Aggression Scale (Foulkes and Rechtschaffen, 1964).

## 2.4 Maternal Dream Content

The majority of studies which have investigated maternal dream content and the menstrual cycle have found significant results but they are not all in agreement concerning the nature of these changes or the cycle phase in which they occur. Baron (1976), found maternal themes more likely to occur in the progesterone half of the menstrual cycle. Katzenstein (1975), found that parturition appeared in greater frequency in dream reports during the menstrual and premenstrual phases. In addition, it was found that womb symbols showed a trend toward greater frequency at ovulation. Van de Castle (1971), in a study of 50 first year nursing students, found that menstruation was associated with dreams of more babies and children,more anatomical and room references. If "rooms" are accepted as symbolising womb, the increase in the two scores may, as Van de Castle suggests, represent an awareness of uterine functioning. Benedek (1952), in her study of 15 psychoanalytic patients found that the post-ovulatory phase was associated with a predominance of "maternal ideation" which she interpreted as a preparation for motherhood. Whether or not her interpretation is correct, her findings are in general agreement with some of the other research findings. One study which found contradictory results was that of Benedek and Rubenstein (1939), who found that at ovulation there was an increase in dreams of babies, and fear of having babies. In addition to these findings, there is that of Edelstein (1981), who failed to find any significant variation of maternal themes across the menstrual cycle but she did find an increase in maternal

dream content as rated by the Maternal Dream Scale during the premenstrual phase, albeit a nonsignificant increase. A quick review of these findings indicates that maternal dream content most probably increases during the menstrual and premenstrual periods.

## 2.5 Manifest Sexuality

Swanson and Foulkes (1967), found ratings of manifest sexuality, as measured by the Manifest Sexuality Scale (Foulkes and Rechtschaffen, (1964), to be at a maximum during menstruation ($p < 0,05$). They interpreted their findings as representing a compensation for the lack of waking sexual expression at menstruation as their 4 subjects reported that menstruation was the time of lowest sexual expression for them. This result was supported by Lewis and Burns (1976), who found that manifest sexuality, as rated by the Whitman Dream Rating Scale (Whitman et.al., 1961), was at a peak during menstruation ($p < 0,05$), although their result is based on only two subjects. It was also found that manifest sexuality was lowest post-menstrually and high again in the post-ovulatory phase although not as high as during the menstrual period.

Several studies failed to establish the existence of any significant relationship between manifest sexuality and phase of the menstrual cycle. Shultz and Koulack (1980, Edelstein (1981), and Katzenstein (1975) all obtained results which failed to reach significance.

While her results were not significant, Katzenstein (1975), found that manifest sexuality was highest during the premenstrual phase. To sum up, it would seem as if manifest sexuality peaks during the menstrual phase, although Katzenstein's (1975) finding, although not significant should not necessarily be ignored.

## 2.6 Heterosexual Dream Content

Heterosexual dream content has been investigated by several researchers. Benedek's (1952), study of 15 neurotic patients indicated that there is a relationship between menstural cycle phase and the nature of the objects towards which sexual wishes were directed in dream content. At ovulation the dream objects were predominantly cross-sexual whereas during the premenstrual phase the object choices tended to be infantile or pregenital in character. Benedek and Rubenstein (1939), found evidence of an increase in heterosexual themes in dream content in the premenstrual and pre-ovulatory phases. The major problem with both of these studies is that their variables are so badly defined that one is not quite sure exactly what they mean by the term heterosexual. In addition no rating scale was applied to the dreams allowing considerable room for subjective bias to influence the researchers findings. In addition of course there are still the problems of neurotic patients and the fact that in both cases the subjects were Benedek's patients. In spite of these criticisms, one study has provided some tentative support for these early findings. Edelstein (1981), found that

heterosexual dream content as measured by the Heterosexual Dream Scale (Whitman et.al., 1967) was highest at ovulation and again high premenstrually but her results did not quite reach significance. Baron (1976), who also used the Whitman et.al. (1976) scale, found that heterosexual dream content was highest in the preovulatory phase and moderately high in the premenstrual phase but her results also failed to reach significance. The research to date would appear to indicate the existance of two peaks in heterosexual dream content, one in the premenstrual phase, and another in the pre-ovulatory phase which may be higher than the premenstrual one.

## 2.7 Agency and Communion in Manifest Dream Content

Cohen (1973) investigated the effect of sex-role orientation on dream content. Subjects were divided into two groups on the basis of sex-role orientation using the Fe scale of the California Psychological Inventory (Gough, 1957). A communion/agency dream rating scale was developed based on Bakan's (1966) model of agency and communion. The agency subscale was composed of three subcategories, including (a) "surgency" (e.g. self-expansion, assertiveness etc.), (b) "instrumentality" (e.g. mastery, problem solving etc), and (c) "libido" ("raw" sexuality). The Communion subscale was composed of three subcategories, namely: (a)"active social cooperation" (e.g. altruism, helping etc.), (b) "passive social connectedness" (e.g. reunion, receiving support etc), and

(c) "eros" (e.g. expressions of warmth, sympathy etc). An adaptation of this scale for the purposes of this study can be found in appendix 14. Each group of male (N=27) and female (N=32) subjects produced two home dreams which were rated on this scale. It was found that masculine men received significantly higher ($p<0,05$) agency scores (1,87) than the feminine men (1,08). The feminine men received significantly higher ($p<0,05$) communion scores (2,08) than the masculine men (0,67). The pattern, however, was somewhat different for women. The masculine women received higher agency (1,4) scores than the feminine women (0,82) although the difference did not reach significance. The masculine females, however, received higher communion scores (1,33) than the feminine females (1,00) but this result was also not significant.

The pattern for men is reasonably straightforward. The results indicate that dream agency/communion simply reflects sex-role orientation. Cohen (1973), interpreted this as reflecting the existence of continuity between waking experience and dream content. This theory would appear to possibly be true with respect to agency in women, but it does not appear to be the case with respect to communion. In other words, the relationship between sex-role orientation and dream agency and communion appears to be more complex in women. Unfortunately no further research has been carried out in an attempt to explain this phenomenon. Research presented in sections 2.3 and 2.5.

indicates that sexuality and aggression, for example, fluctuate with menstrual cycle phase. Both aggression and sexuality are included in Cohen's (1973), agency/communion scale. It is therefore possible, since Cohen did not control for phase of the menstrual cycle, that his results were influenced by the menstrual cycle phases of his subjects. It is of course also possible that agency and communion operates differently for men and women. It may even be the case that agency and communion as conceptualised by Bakan (1966), and measured by Cohen (1973), themselves fluctuate with the phase of the menstrual cycle. No attempt, however, was made to explain this curious phenomenon in the female subjects and further research is obviously required to clarify the issue.

## 3.0 THE NATURE AND ORIGINS OF THE MENSTRUAL TABOO

### 3.1 Attitudes and Beliefs Concerning Menstruation

A relevant and important issue which arises in any discussion of the menstrual cycle is that of the extent to which the purported effects of the menstrual cycle are innate and the extent to which they are socially conditioned. The word "purported" is used advisedly because althought the menstrusl cycle has long been regarded as having powerful effects, there is little agreement concerning the precise nature of these effects. Kopell et.al.

(1969, p.189), sxpress what appears to be general consensus when they state that "it is generally accepted that some women, if not all, are subject to changes in mood and behaviour that occur in relation to the phase of their menstrual cycle.". It is,however, debateable as to whether or not such a statement can be unequivocally accepted due to the numerous contradictory findings which have been reported.

Since Frank (1931), Rees (1953 a,b) and Greene and Dalton (1953) described the premenstrual tension syndrome there have been many papers confirming that in some women there are marked psychological, physical, and behavioural changes occurring with the paramenstruum. One of the problems with the terms premenstrual tension and premenstrual syndrome is that the terms have never been accurately defined. The term, according to Beumont e. al. 1975, p431) "refers to a cluster of symptons, both psychological and physical, which appear episodically in relation to the phases of the menstrual cycle." It is hardly surprising that there is controversy concerning the prevalence of a condition which is so poorly defined.

The symptons reported most frequently are feelings of tension, irritability, depression, headaches, and swelling of the breasts and abdomen. It is particularly noteworthy that these symptons appear to be very widespread. Janiger et.al (1972), looked at premenstrual symptons among Turkish, Japanese, Nigerian, American, Apache and Greek samples. Symptons of the prementrual tension syndrome were present in all of these cultures. Several symptoms showed variation in frequency between the cultural groups e.g. the paucity of breast complaints in the Japanese and a very high frequency of headaches in the Nigerian sample. This latter finding verifies that of Ferguson and Vermillion (1975) who found a similar incidence of premenstrual symptoms among Negro and Caucasian populations of Miami except for the significantly higher frequency of headaches amongst the blacks.

Many studies have reported significant results linking the paramenstruum with one or another of the symptons associated with the premenstrual syndrome. Benedek and Rubenstein (1939), found tension to be highest premenstrually. Altmann et. al. (1972), Mc Cance (1937), and Moos (1968) found both tension and irritability to be highest during the menstrual and premenstrual phases. Parlee

(1982), found tension and irritability to be greatest premenstrually. Shainess (1961), found tension and irritability to be highest premenstrually and showing a sharp and significant drop during menstruation. Ratings of depression have been found to be highest premenstrually by a number of investigators (Coppen and Kessel, 1963; Dalton,1972; Ivey and Bardwick, 1968; Moos, 1968; Parlee, 1982; Reynolds, 1969; and Smith and Sauder, 1969). Beaumont et.al. (1975), however, found that depression was at its highest during both the menstrual and premenstrual periods, while Shainess (1961), found that it peaked during menstruation. May (1975), in a study of menstrual cycle mood shifts, differentiated between one group of women who experienced depression and negative affect premenstrually, and another group whose low point in mood occurred during the menstrual phase. Neither reports of somatic symptoms nor background variables differentiated between the two groups, however, attitudes towards sexuality did. The premenstrually depressed women appeared to have a more positive view of sex than did the menstrually depressed group, who seemed to have been raised more religiously, although no difference in current religious values or practices were found.

Anxiety and hostility have also been found to vary according to menstrual cycle phase. Bardwick (1974), in a literature review reports that least anxiety is reported at midcycle. Benedek and Rubenstein (1939), Beumont et.al. (1975), Gottschalk et.al. (1961; 1962) and Shainess (1961), all found that reports of anxiety were

greatest premenstrually. According to Bardwick (1974), the least hostility is reported at midcycle. Benedek and Rubenstein (1939), and Shainess (1961), found that reports of hostility were greatest premenstrually Gottschalk, et. al. (1961; 1962) found reported hostility high during both the premenstrual and menstrual phases. The general trend of these self-report studies would seem to receive some support from an experimental study by Schonberg (1976). This was an experimental study involving 45 subjects who attempted to train a learner, remotely, via closed circuit television. Females in the premenstrual phase utilised the highest levels of shock punishment on their subjects. These results were interpreted as indicating that women in the premenstrual phase are more aggressive in reaction to frustration.

One of the most frequently reported phenomena by women in the paramenstruum is that of water retention. Wilcoxon et.al. (1976), and Beaumont et.al. (1975), found that women reported increases in breast tenderness, pain, water retention and swelling of the hands and feet in the menstrual and premenstrual periods. Coppen and Kessel (1963), found that these phenomena were significantly higher during the premenstrual phase.

The premenstrual phase may also coincide with the exacerbation of many specific diseases e.g. asthma (Turiaf et.al., 1949),

migraine (Greene, 1963), and glaucoma (Dalton, 1967). Premenstrual distress has been implicated in serious social and domestic difficulties attributing to significant loss of employment time (Billig, 1953), demonstrable increases in psychiatric emergencies (Jacobs and Charles, 1970; Glass et.al., 1971), mental hospital admissions (Dalton, 1959; Janowsky et.al., 1969; Kramp, 1968; and Mall, 1958), accidents (Dalton, 1960; Mackinnon and Mackinnon, 1956; and Whitehead, 1934), crimes (Cooke, 1945; Dalton, 1960, 1961; Moos, 1969; and Morton et.al., 1953), and suicide rates (Dalton, 1964; Glass et.al., 1971; Mackinnon and Mackinnon, 1956; Mandell, 1967; Moos, 1969; Wetzel et.al., 1971 (a), (b); and Zacco et. al., 1960). Buckle et.al., (1965), and Holding and Minkoff (1973), however, failed to find any relationship between suicide rates and menstrual cycle phase.

The association of states of psychosis with the premenstruum has been well documented (Dalton, 1959, 1964; Janowsky, 1966; Janowsky et.al., 1967, 1969; Krasowska, 1960; Mall, 1958; Ota and Mukai, 1954; Vercesi and Gatti, 1963; Verghese, 1963; and Williams and Weekes, 1952). Attempts, however, at correlating psychotic states with the premenstrual syndrome are few (Rees, 1958; and Torghele, 1957) and not very successful. The relationship appears complex with many variables uncertain (Rees, 1958). Does the premenstrual syndrome in its most severe aspect reach psychotic proportions as is the belief of Stieglitz and Kimble (1957), or are the psychotic

manifestations activated by the additional psychophysiological stress in vulnerable women and tend to follow lines of pathological cleavage?

Several studies have been reported linking specific personality traits with the premenstrual syndrome. Coppen and Kessel (1963), and Coppen (1965) and Rees (1953) found the severity of the premenstrual condition to be positively correlated with neuroticism. Levitt and Lubin (1967), found a similar relationship for neuroticism as well as a positive correlation with paranoid tendencies. Lamb et.al. (1953) and Rees (1953) could not establish the existence of a correlation between paramenstrual complaints and neuroticism. Hain et.al. (1970), demonstrated a relationship between psychological maladjustment, as measured by the MMPI, and specific premenstrual and menstrual symptoms. Ivey and Bardwick (1968), found an increase in premenstrual symptomatology in those girls who received excessive gratification from the childhood sick role as well as those who were denied this outlet. Paulson (1961), found that women most susceptible to the premenstrual syndrome were those who felt inadequate and self-deprecatory with more disturbed mother and daughter relationships than normals. Berry and McGuire (1971), found that women who most accepted the female role had lowest premenstrual symptomatology. Other authors, (Lamb et.al., 1953; and Rees, 1953), were unable to establish the existence

of significant correlations between symptoms of the premenstrual syndrome and abnormal personality patterns.

According to Brooks et.al. (1977), the majority of self-report studies find cycle phase differences. The truth of this statement is witnessed by the fact that almost all of the self-report studies reported above reach significance. They (ibid), go on to state, however, that experimental studies of cognitive performance and physical performance do not find any cycle phase differences. In support of this statement is the fact that Bernstein (1977), Dalton (1968; 1969), Golub (1976), and Sommer (1972; 1973), all failed to find any significant cycle phase differences for cognitive performance. Wilcoxon et.al. (1976), found that subjects reported having impaired concentration during the menstrual and premenstrual phases. It should be noted, however, that this is another self-report study. Cooper et.al. (1983), found that when cognitive performance of 49 women was assessed, using standardized automatization and perceptual restructuring measures, there was no cycle phase differences.

Brooks et.al. (1977), discuss the fact that these discrepancies may be due to the behaviours being measured (i.e. mood states versus cognitive and physical abilities), or perhaps to the way the behaviours are measured. In other words, the cycle phase differences found in the self-report studies may reflect social

expectations or stereotypic beliefs concerning the nature of the normal menstrual experience. Several findings suggest that this may be the case. Sommer (1973), and Baird (1975) found that although cognitive and physical ability performances were not affected by cycle phase, the subjects believed that their own and others performances are affected by cycle phase. In addition, Ruble (1978), showed that women who thought that they were premenstrual reported a higher degree of stereotypically appropriate symptoms than women who thought that they were intermenstrual, even though the actual cycle phase of the two groups of women was the same - 6 to 7 days before menses.

The research conducted to test the hypothesis that there are psychological changes associated with the menstrual cycle is of various sorts. There are statistical correlations between specific behaviours (e.g. suicide, crime, psychotic episodes etc.) and phase of the cycle. There are self-report studies which are either in the form of questionnaires asking women to report their memory of selected symptoms, moods and behaviours at different phases of the cycle, or of daily self-ratings of symptoms and moods. There are some important methodological shortcomings in the majority of the self-report studies. There is considerable evidence which suggests that demand characteristics and subject expectations can substantially influence a subject's behaviour in research (Orne, 1962; Rosenthal et.al.,

1969; and Weber and Cooke, 1972). In spite of this, only two studies namely Paige (1971) and Parlee (1975) reported have attempted to keep the subject unaware of the fact that the experimenters were interested in the menstrual cycle. In other words, what the majority of such studies may in fact be measuring is the biased expectations and beliefs of the subjects. These studies may be telling us more about how women expect menstruation to affect them rather than how it does affect them.

The findings suggest that self-reports may not provide an accurate representation of the nature and extent of menstrual-related changes. The fact that they may be biased, however, does not mean that the information they provide should be dismissed. They provide nevertheless, information about the belief system associated with menstruation. It suggests that attitudes and expectations about menstruation may themselves affect women's behaviour and self-evaluations.

The majority of studies on self-attitudes and attitudes towards menstruation link the premenstrual and menstrual periods with negative attitudes. Atcheson (1977), in an extensive literature review, found that in diverse cultures, attitudes towards menstruation have been primarily negative. Cross-cultural studies, as is discussed in section 3.2 reveals how widespread this negative attitude is. Bardwick (1974), Baron (1976), Shainess

(1961), Wilcoxon et.al. (1976), and Woods et.al. (1982) found self-ratings of negative affect and unpleasantness to be highest premenstrually and menstrually. Sommer (1972), however, failed to find any relationship between cycle phase and affect or behaviour. Luschen and Pierce (1972), found that ovulating women in contrast to premenstrual women are more likely to describe themselves with words like cooperative, good-natured, kind, mannerly, pleasant, sociable, optimistic and poised, and describe as least like themselves words such as intolerant, fault-finding, nagging, vindictive, opinionated and dissatisfied.

Since the majority of studies concerned with attitudes towards menstruation link the paramenstruum with negative attitudes, it is hardly surprising that the self-report studies predominantly link negatives moods with the paramenstruum, if it is indeed true that attitudes and expectations about menstruation affect women's behaviour and self-evaluations as has been suggested above. If this is the case, then it must indeed be a powerful force to bring about not only the reported mood changes, but also the paramenstrual increases in suicides, accidents, water retention, pain, headaches etc. There is to date, however, no research demonstrating that the negative attitudes associated with menstruation bring about any mood or behavioural changes. One reason for this may be related to Parlee's (1973) observation that changes which may occur in relation to the menstrual cycle

have long been assumed to be hormonally caused. The hormonal theory, however, has also not been empirically validated. It has been assumed that because there is a correlation between cycle phase and hormone levels, that these hormones must be responsible for any changes that may occur at any specified cycle phase. Causation may not, however, be assumed on the basis of such correlational data. Parlee (1973), reports that many hormonal and drug treatments have been used with little success to treat severe menstrual distress; even hystorectomy has failed to be effective and can make menstrual symptoms worse. If the causal factors were purely or even primarily hormonal, such treatment should be effective. The conclusion that learned, social and psychological factors are at least partly responsible for changes associated with the menstrual cycle seems unavoidable.

It appears that there are clear societal beliefs and attitudes with respect to menstruation. The origins of these beliefs however is not clear, just as the cause of the behavioural changes reported (e.g. suicide, crime) is equally unclear. It is, however, noteworthy, that cross-cultural research has demonstrated the universality of these negative attitudes and the menstrual taboo. The findings of these cross-cultural findings will now be discussed.

## 3.2 Cross-cultural Research on the Menstrual Cycle

The menstrual taboo, like the incidence of physical and psychological symptoms associated with phases of the menstrual cycle, is a widespread phenomenon. An examination of social customs reveals the fact that in all parts of the world and among almost all societies, with the exception of the highly educated white races, and even this exception needs some modification, women during menstruation are considered to be taboo (Harding, 1971, p56).

According to Hays (1972), the notion that women are impure during menstruation is widespread in many diverse cultures and he attributes the widespread practice among many primitive cultures of secluding women in huts or shelters outside the village to this belief. Stephens (1961) studied 71 societies in different parts of the world and found that 17 of the societies regarded menstruating woman as so dangerous that she had to be secluded in huts outside the village during menstruation. That this practice is widespread throughout the world can be observed from Hays (1972, p30) finding that it is practised among the Bakairi of Brazil, the Shuswap of British Columbia, the Guari of Northern India, the Veddas of Ceylon and the Algonquin of the North American forest. It is also true of the Hagen of Western New Guinea (Martin, 1975), the Mae Enga of the highlands of Australian New Guinea (Meggitt, 1964) and the Dogan of East Africa (Hays, 1974).

The seclusion of menstruating women is the most severe of the restrictions placed on the menstruating woman but not the only one. Other major restrictions are placed on cooking, food and sexual intercourse. According to Stephens (1961), those societies which utilise menstrual huts also have these other prohibitions. A few examples of some of the other restrictions are the use of a drinking straw, a scratching stick, (Kessler, 1976; Frazer, 1959; Weideger, 1977; Harding, 1971). According to Meggitt (1964) the Mae Enga of New Guinea prohibit menstruating women from walking among young plants lest they wilt and those who eat them fall ill. She may only eat female crops such as sweet potato, setaria or crucifer. She may not enter the fields of male plants such as ginger, taro or sugar cane as these would die. According to Martin (1975), the Hagen of New Guinea believe that female genitals are contaminating to anything they touch and for this reason women may not step over another person, cooking fires or especially food or other items destined for human consumption. According to Frazer (1959), pots touched by menstruating women in Uganda must be destroyed. He (ibid) also says that among the Bribri Indians of Costa Rica, the only plates a menstruating woman may use for her food are banana leaves which must be thrown away in a sequestered place for if a cow were to find and eat them it would waste away. She must also drink from a special vessel for if someone was to drink out of a cup after her they would die. According to Hays

(1974), the Dogan of East Africa believe that a menstruating woman brings misfortune to anything she touches and if she is seen passing through a village a general purification must take place.

The prohibition placed on sexual intercourse during menstruation is probably one of the most frequent restrictions imposed. Stephens (1961), found that 38 of the 71 primitive societies he investigated placed an explicit prohibition on sexual intercourse during menses. The prohibition is also imposed by the Wogeo of New Guinea (Kessler, 1976), the Mae Enga of New Guinea (Meggitt, 1964), the Bakairi of Brazil, the Shuswap of British Columbia, the Guari of Northern India, the Veddas of Ceylon, and the Algonquin of the North American forest (Hays, 1972), the Bribri Indians of Costa Rica (Frazer, 1959) and the Dogan of East Africa (Hays, 1974) to mention but a few. Western civilised societies placed no explicit restrictions on sexual intercourse during menstruation but Weideger (1977), found that 50% of Californian couples abstained during menstruation. In addition to this, religions frequently impose a prohibition on sexual intercourse during menstruation. According to Weideger (1977), this is true of Brahmin, Jewish and Islamic women. She (ibid), also notes that it is quite a widespread practice in countries as diverse as Burma, Algeria, Venezuelo, the Dominican Republic, Jamaica, Morocco, India and Ethiopia.

Various reasons have been provided for the prohibition on sexual intercourse during menstruation. According to Crawfurd (Weideger, 1977, p125), the ancient belief that coitus during menstruation led to the birth of monsters was widespread. An ancient mythology attributed the deformity of Vulcan to the union of Jupiter with Juno during her menstrual period. The Talmud went further and attributed disorders of the mind such as epilepsy, cretinism and insanity to the same cause (ibid), Martin (1975), found that the Hagen men of New Guinea placed a prohibition on coitus during menstruation because they believe menstrual blood is poisonous and can be absorbed through the penis. Devereux (1950) found that although the Mohave Indians placed no explicit restrictions on sexual intercourse hunters and warriors were prone to avoid contact with menstruating women.

Because menstruating women are viewed as impure and primitive people frequently believe that contact with menstruating women or menstrual blood has dangerous and destructive effects, any infringement of the rites and practices demanded of menstruating women are frequently severely punished, sometimes with death. The Illinois Indians, for example, punish with death any of their squaws who fail to give notice that they are menstruating (Novak, 1921). According to Crawfurd (In Weideger, 1977), Australian black women were forbidden under pain of death, while menstruating, to touch anything that men use or to walk on the paths they frequent. Although punishment is not always so severe, menstruants

are frequently expected at least to give notice of their state in various ways. In Angola, for example, the women are expected to wear a bandage about their head during menstruation (Novak, 1921), while the Wogeo women of New Guinea must replace her white or coloured skirt with a black or brown one (Kessler, 1976). Crawfurd (In Weideger, 1977) states that if during menses a woman of the Congo, was to pass near men who might greet her she would deliberately put her pipe in her mouth to indicate that she is unclean.

The reason for all these restrictions is the enormity of the powers attributed to menstruating women. According to Crawfurd (In Weideger, 1977), among Australian blacks the boys are taught that if they set eyes on menstrual blood their hair will turn grey and their vigour abate prematurely. The Dogan of East Africa believe that a menstruating woman brings misfortune to everything she touches (Hays, 1974). Stephen (1961), states that a number of societies have the belief that a menstruating woman can endanger the whole community by bringing supernatural punishment or by blighting the food supply. She may also be dangerous to sick people and prevent their recovery but she is not considered dangerous to other women. According to Martin (1975), the Hagen of New Guinea believe that frequent intercourse will rob a man of his virility and make him old before his time, a phenomenon which is exacerbated during menstruation. According to Goldman (1963), the Cubeo of the Amazon believe that coitus with a menstruating woman will make a man lazy and that a menstruating woman in the

same house as a sick person will prevent their recovery. Drucker (1965), states that it is frequently believed by primitive people that a menstruating woman can exert a malignant influence on hunters and fishermen and can endanger the lives of shamans and others in close contact with the spirit powers. In one culture, the powers of a menstruating woman are believed to be so virulent that they endure beyond her lifetime. There is a widespread belief in India says Ploss et.al. (1935, p408), that a woman who dies during menses lives on as a ghost which appears in various forms. It usually assumes the form of a beautiful woman who leads men astray at night, especially those who are good-looking. She takes them into her own realm and keeps them there until they have lost their manly beauty. She then sends them back into the world as grey-haired old men who find all their friends long dead.

The idea of menstruation as something to be avoided is rooted in major religions. According to Crawfurd (Weideger, 1977, p99), a menstruating Jewish woman was not allowed to shake hands with a Rabbi or enter a synagogue. He (ibid) notes that menstruating women were not allowed to take communion in the early Christian Church and this practice still prevailed in the Greek Orthodox Church in the early twentieth century. Weideger (1977), reports that the Brahmin women of India are not allowed to enter any holy place while menstruating and that Islamic women are not allowed to recite the daily prayers or to enter a mosque while menstruating.

According to Harding (1971) the great law-givers of ancient times, Zorcoaster, Manu and Moses, each incorporated prohibitions relating to menstruation into their systems. In the laws of Manu, the Hindu lawgiver, it is stated: "The wisdom, the energy, the strength, the might and the vitality of a man who approaches a woman covered with menstrual excretions, utterly perish. If he avoids her while she is in that condition his wisdom, energy, strength, sight and vitality will all increase." (Buhler, in Harding, 1971, p58). According to the Talmud, if a woman at the beginning of her period passes between two men she thereby kills one of them if she passes between them towards the end of her period she only causes them to quarrel violently. (Harding, 1971, p60).

Frazer (1959, p260), in his general treatment of taboos, states that taboos are instituted to protect the tabooed person, and also to protect others from him. If this is the case, menstrual taboos are unusual because they appear to relect hardly any solicitude for the safety of the menstruating woman herself. In the 71 societies which Stephens (1961) studied , only two societies, the Araucanians and the Warrau of South America, seem at all concerned with protecting the woman. A somewhat incidental recognition of danger to the menstruating woman is reported for 9 other societies. The other 60 societies are not at all concerned about any danger the woman might be in. As already mentioned, menstruating women are not considered dangerous to other women and in only one society, the Ojibwa, was it reported that the menstruating

woman is dangerous to young children. Menstruating women, as can be seen in the above findings, are regarded as dangerous to men. The reason usually given for such customs as the use of menstrual huts, the menstrual cooking taboo or the menstrual sex taboo is that they protect men from her. According to Stephens (1961), the danger is usually conceived as some sort of contamination as a result of touching either the woman, her blood, or things which she has touched, which leads to sickness, injury, or loss of magical power.

The fact that women pose no real danger during menstruation adds to the inexplicability of the taboo. Men who have chosen to give up companionship, sex, and domestic service, however, have clearly not felt the danger to be a trivial one. The menstrual taboo almost certainly exists as a way of protecting men from a danger they are sure is real (the source of which is in women), and it is a means of keeping their fear of menstruating women under control. Our culture does not label menstruation as evil, destructive or dangerous and neither are our taboo practices based on this belief e.g. few people who refrain from sex during menstruation see it as a protection against contamination by an evil spirit. Instead it is called a religious belief, a matter of preference, or aesthetics. (Weideger, 1977, p102). This makes the taboo even harder to understand. Harding (1973), a Jungian analyst, is of the opinion that the reason for the perpetuation of taboos, even when they are acknowledged and supposedly understood, is because they have an archetypal basis.

## 3.3 The Archetypal Basis of the Menstrual Taboo

According to Hobson (1973), Jung has 4 criteria which are required in order to identify an archetypal theme. These are as follows:

(1) the theme is a typical phenomenon in the material of many individuals.

(2) it must be shown to occur in many parts of the world and in different times

(3) it must have a similar meaning whenever it occurs

(4) the images must not have been acquired through education, tradition, language or religious ideas.

Elsewhere Jung writes of the archetypes that they are "irrational contents" which on entering consciousness may be experienced as "strange, uncanny, and at the same time fascinating .... (producing) .... weird and mostrous thoughts" (1960 (c), p311). The archetypes "express themselves as affects" (1961 (e), p436). Perry (1961, p94), sums it up when he states that the "archetype is of a different dimension from everyday experience, and usually carries the feeling tone of the strange and unfamiliar.

On the basis of these criteria above, there is reason to believe that the menstrual taboo may have an archetypal foundation. The cross-cultural research, presented in section 3.2, and the attitude studies and statistical investigations of menstrually related behaviours, discussed in section 3.1, reveal the universal

existence of the menstrual taboo and that menstruation is accompanied by negative attitudes and affect as witnessed in many of the rites, practices and beliefs. These factors would tend to be indicative of the operation of archetypal phenomena. What is required, however is a study of dreams to investigate whether or not there are any common recuring archetypal themes or motifs appearing in the dreams of women in relation to specific phases of the menstrual cycle.

### 3.3.1. The Origin of the Menstrual Taboo

It has been demonstrated in section 3.2, that menstruating women not infrequently arouse feelings of fear, horror or revulsion. She becomes an object to be avoided and she is frequently believed to contaminate that which she touches and she is frequently viewed as dangerous to men. In more recent times, the more civilized and educated races have largely released ourselves from the superstitious belief that a menstruating woman is particularly dangerous or an object to arouse fear. We have also come to realise that menstruation is not a "sickness" in the sense of it being an illness. In spite of the increasing acceptance, large numbers of women agree (see section 3.1) that at about the time of their menstrual period they do feel certain difficulties, either physical or psychological or both.

Various reasons have been assigned to explain why menstruation came to be placed under taboo. One of these theories relates the

taboo to the supposed horror of blood, a view supported by Mead and Crawfurd (Weideger, 1977, p 103). This theory, however, no longer receives much serious support. As Harding (1971) points out, primitive man does not have such a generalised horror of blood although he may surround it with precautions. No taboo is attached to a person who bleeds if it is caused by a wound. This theory would also not explain why it is predominantly men who have this horror of menstrual blood. Also as Freud (1952, p231) points out, the horror of blood does not suffice to suppress customs like the circumcision of boys, the extirpation of the clitoris and labia minora in girls or any of the other ceremonies prevalent in many primitive societies in which blood is shed. Freud (1952), explains the menstrual taboo as arising from castration anxiety and the fear of castration, and in this view taboos represent an incalcated system of defense mechanisms. A detailed exposition of this view is, however, beyond the scope of this thesis. Of more relevance are Daly's (1943), views concerning the menstrual taboo. Daly was a young contemporary of Freud's and while he accepted most of Freud's theoretical opinions, he did not agree with Freud concerning the origins of the menstrual taboo. To adequately explain Daly's view it is necessary to briefly explain Freud's view on the origin of the castration complex. Freud (1950) believed that the fear of castration resulted from the actions which were responsible for the development of civilization and thus

to explain the belief one must go to the analytic myth of the origins of civilization and psychic creation. Freud (ibid) postulated that precivilized men and women lived in small groups, called primal hordes, in which the dominant male controlled all the women and all the other men. The men who were not dominant, the sons of this leader, had sexual access to women only when the father gave his permission. The sons eventually reacted to this situation with rage and frustration, overpowered the father, killed him, and took control of the women. In order to prevent a repetition of this tyranny however, the sons realised that they had to make a rule to prohibit any one man from sexually possessing all women. As a result, the incest taboo was created which prevented sexual relations between the father and his daughters. Although the sons gained sexual freedom by this act, they also experienced enormous guilt for their act of patricide. In Freud's opinion the murderers remember that while the father lived, he punished his sons by castrating them, killing them and then eating them. After the primal crime of killing the father the sons lived in fear that they would be castrated in retaliation.

As already stated Freud (1952), was of the opinion that the menstrual taboo arose because it aroused castration anxiety. This is related to Freud's view that women are viewed as having been castrated and menstruation is a reminder of this for

women and a reminder for men, of the possibility of castration for the primal crime. It relates also to the Oedipus complex but this will not be dealt with here.

Daly (1943), expands on this theory as he does not entirely agree with Freud. He (ibid) maintains that during menstruation, women feel very sexually aroused and that during the time of the primal horde man found her very exciting and desirable. There is evidence to support the contention that women do experience an increase sexual desire at menstruation or just before menstruation (Benedek & Rubenstein, 1939; Kinsey et.al, 1970; Hart, 1960). He states that if woman's sexuality was heightened during menstruation and the male's desire for her was heightened, the emerging social order - the incest taboo - would be threatened. As a consequence of this, the women were isolated and treated with cruelty to ensure the continuation of the incest taboo. Daly (1943, p163) states "For man, menstruous woman is taboo because this deeply unconscious id-attraction (to the menstruating woman) is associated with the unconscious ego's fear of being eaten and castrated, fear through which his incestuous desires were frustrated. Moreover, the previous hatred and fear of the father have been displaced onto woman, thus increasing her black magic. The terribly beautiful and loathsomely ugly aspects of the aggressive goddesses and witches have their genesis here." In other words, the menstrual taboo

is linked with the incest taboo, and its intention is to reinforce the latter, with women becoming the objects of displaced hatred and fear of the father.

This theory has a few shortcomings, however. In the first place, it is predominantly based on unsubstantiated speculation and theory. Nevertheless it is possible that Daly may at least be partly correct. Much of the validity of his theory, however, rests on the accuracy of the Freudian formulation concerning incest, a view which is far from universally accepted, and which differs considerably from the Jungian view which may have more validity.

It has already been stated that the menstrual taboo appears to be based on archetypal factors (section 3.3). It is, however, also clear that the negative attitudes towards menstruation are evoked by something concerning or inherent in women. To date no attempt has been made within a Jungian framework to develop a theory concerning the origins of the menstrual taboo, or to test such a theory. In an attempt to do so, the Archetype of the Great Mother and the Archetypal Feminine will be discussed taking Jung's views concerning incest into account.

### 3.3.2. The Great Mother Archetype

According to Neumann (1974, p3), when analytical psychology refers to the archetype of the Great Mother, it is referring "not to any concrete image existing in space and time, but to an inward image at work in the human psyche." He (ibid) goes on to say that the symbolic expression of this psychic phenomenon can be found in figures of the Great Goddess which is represented in the myths and artistic creations of mankind. The effect of the Great Mother archetype can be viewed historically in rites, myths, symbols, dreams and creative works of early men as well as in the dreams, fantasies and creative works of present day man.

Considerable difficulty arises in describing the structure of any given archetype. Neumann (1974, p9) maintains that this is so due to the fact that "the archetype and the symbol erupt on a number of planes, often at the same time. The phenomenology of the workings of the archetype extends from the unconscious instinctive drive to the primitive individual, contained in the group, to the formulation of concepts and beliefs in the philosophical systems of the modern individual." In other words, there are innumerable forms, symbols and images, of views, aspects and concepts which exclude one another and yet overlap, and although they appear to emerge independently they are in fact all part of the same archetype. All these variations are ultimately "variations on a ground theme" (Jung, 1960 (b), p213) and their diversity is so great that

one must talk of the archetypes "symbolic polyvalence" (Neumann, 1974, p9).

The Great Mother Archetype in Neumann's (1974, p21) conceptualization has three forms: the Good Mother, the Terrible Mother, and the Good-Bad Mother. The Good and Terrible aspects are derived from Jung's (1981 d) formulation of the dual Mother Archetype comprising the Good Mother and the Terrible Mother. The Good Mother, says Neumann (1973, p21), is the being who contains, nourishes, protects and warms. According to Harding (1965, p143), the image of the Good Mother may be good, beneficient, restoring, nurturing and protective. The Bad Mother, on the other hand, has the attributes of destruction, devouring, ensnaring etc. (Neumann, 1974 p 21). According to Harding (1965, p143), the Terrible Mother may be threatening, destructive and possessive, and may be represented as a great maw that devours the child, or a whale-dragon that swallows the hero. The good-bad mother is that aspect of the Great Mother which makes possible a union of positive and negative elements (Neumann, 1974, p.21).

The Great Mother Archetype, says Neumann (1974, p11) is a late abstraction of the Archetypal Feminine, and presupposes a highly differentiated consciousness. In order to fully understand the archetype of the Great Mother it is necessary to have some understanding of its origin. The uroboros, the circular snake biting

its tail, is the symbol of the psychic state of the beginning, of the original state in which man's consciousness and ego were still small and undeveloped. It is, says Neumann (ibid, p18), the "Great Round" which contained all opposites, in which positive and negative, male and female, elements of consciousness, elements hostile to consciousness, and unconscious elements are intermingled. It also appears as a symbol of the united primordial parents from whom the figures of the Great Father and Great Mother later crystallized out. The uroboros is a symbol of a state in which chaos, the unconscious, and the psyche as a whole were undifferentiated (ibid). In this primordial situation the developing ego experiences both male and female, positive and negative. It experiences female maternal protection as well as the negative devouring female force. It also experiences masculine killing aggression and a positive force that actively supports consciousness and the ego. (Neumann, 1974, p20).

The Archetypal Feminine, states Neumann (1974, p21), has features of the maternal uroboros and the Great Mother Archetype, and contains the essential elements of the Feminine, as outlined above, but they are without order and hence impossible for the ego that experiences them to apprehend. It is only once the Great Mother Archetype has emerged from the primordial archetype of the feminine that any order, as outlined in the three forms of the Great Mother Archetype above, become discernable.

Neumann distinguishes between two aspects of the feminine which he designates the elementary and transformative characters of the feminine. The elementary character refers to that aspect of the Feminine "that as the Great Round, the Great Container, tends to hold fast everything that springs from it and to surround it like an eternal substance." (Neumann, 1974, p25). The elementary character with its good and bad aspects is the foundation of that stable, unchanging and conservative part of the feminine which predominates in motherhood (ibid). The elementary character is dominant wherever the ego and consciousness are undeveloped. The phenomenon of psychic gravitation forms the foundation of what Neumann refers to as the elementary character of the Feminine. Psychic gravitation refers to a tendency of consciousness and the ego to return to its original unconscious state (Neumann, 1954, p280). This tendency is inversely proportional to the strength of the ego and consciousness. The weaker the ego and consciousness, the stronger the psychic gravitation tendency to restore the unconscious state.

In the transformative character the accent is on the dynamic element of the psyche, which in contrast to the inert tendency of the elementary character, drives toward motion, change, and in other words, transformation (Neumann, 1974, p29). In psychic development, the transformative character is initially dominated by the elementary character but it later throws off this domination and assumes an independent form. The transformative character can be

seen in the basic Maternal functions of gestation and childbirth. The function of feeding says Neumann (1976, p29), may be ascribed to either function depending on whether the accent lies on the tendency to preserve what exists or the tendency towards amplification and change. The two characters, says Neumann (ibid), are not antithetical but interpenetrate in many ways, but although both are usually present at once, one of them is almost always dominant.

Neumann,(1974, p31) states that the transformation mysteries of the woman are primarily blood-transformation mysteries and that they have their roots in psychobiological development. These blood transformation mysteries are menstruation, pregnancy, childbirth and the transformation of blood into milk. In pregnancy a woman experiences a combination of elementary and transformative characters. The growth of the foetus brings about a change in the woman's personality and the birth sets in motion a new archetypal constellation that dramatically reshapes the woman's life. The elementary functions of nurturance and protection operate in relation to the child and this relation says Neumann (ibid), forms the basis of the woman's own transformation.

To summarise, the elementary character of the Feminine tends to dissolve the ego and consciousness in the unconscious, the transformative character sets the personality in motion, produces change and ultimately transformation. Neumann (1974, p 35), states that the elementary character of the feminine is entirely independent

and self-contained, as for example, in the spontaneous process of the collective unconscious, which are also demonstrable in mental illness. In this instance the unconscious processes are unrelated to the individual in whom they operate. On the other hand, the transformative character already relates to a personality with a differentiated consciousness. It relates to a possible future constellation of the total personality and communicates a content or an experience for the future development of the personality i.e. the prospective anticipatory function of the unconscious becomes configured and personified in the transformative character. (ibid). (For elaboration of the prospective function see section 4.3.1.).

What Neumann has done is to expand the foundation of the Archetypal Feminine. In addition to speaking of the Good or the Terrible Mother, we can now show that sometimes the elementary and sometimes the transformative character is predominant.

### 3.3.2.1. THE SYMBOLISM OF THE FEMININE AND THE MOTHER

The central symbolism of the feminine is the vessel. Neumann (1974 p39), states that the experience of the body as a vessel is universal. Thus the following formulation would be true: woman ≙ body = vessel. All basic functions occur in this vessel - body schema. The inside of the body is archetypally identical

with the unconscious (ibid p49).

As already stated, the symbol of the original psychic situation is the circular snake, the uroboros, which is the still undifferentiated whole, the great vault and vessel of the world, which contains itself and the entire existence of early man and so becomes the Archetypal Feminine, in which the elementary vessel character predominates. Neumann (1974, p42), states that woman as the body-vessel is the natural experience of woman bearing the child "within" her and of man entering "into" her in the sexual act. Woman is the life-vessel in which life forms and which bears all living things and discharges them out of herself into the world. She is the nourishing vessel that provides the unborn as well as the born with food and drink.

According to Jung (1981 (b), p247), earth, wood and water are all mother symbols. Water, and particularly deep water, usually has a maternal significance, roughly corresponding to womb. (ibid p267). Water is interpreted as maternal throughout mythology. Jung (1981 (b), p218), states that the sea was the symbol of generation for the Greeks. In the Vedas, the waters are called matritamah, "most maternal." All living things rise, like the sun, from water, and sink into it again at evening. The Styx (an underground sea in Egyptian mythology) represents the black waters of death but are at the same time the waters

of life, for death is the maternal womb: just as the sea devours the sun each day but brings it forth again the next. Neumann (1974, p47), states that the natural elements connected with vessel symbolism include both earth and water. He (ibid), goes on to state that the containing water of the depths, ground water and ocean, lake or pond, is the primodial womb of life. Maternal water also nourishes and transforms. Water, says Neumann (1974, p47), can be symbolically related to the breast as well as the womb, rain can appear as the milk of the "celestial cow" and the earth water as the milk of the earth body, for the milk giving animals, especially the cow and the goat say both Neumann (ibid), and Jung (1981 (b), p240), are central symbols of nourishing.

The symbol of containing dominates in the vegetative symbol fruit eg. the pomegranite, the poppy, in which the abundance of seeds stresses containment. The pod and the cornucopia are also characteristic of this (Neumann , 1974, p45). In this group of symbols one can include animals such as the pig (it represents fertility), and the squid, shellfish and owl because of their uterine form. One would include all containing objects such as the barrel, box, casket, chest, trough and sack (Neumann 1974, p45), as well as symbols such as chasm, cave, abyss, valley, depths and the subterranean darkness as hell and night (ibid p44). The underworld and hell belong to the elementary vessel containing character as do the

(Neumann, 1974, p46). These symbols would be mere elementary containing vessels except for the suggestion of what could potentially go on inside them as being of a transformative character.

The second of these groups includes symbols such as vessel, bowl, goblet, chalice and grail. This group, says Neumann (1974, P47), derives from the breasts of the woman-vessel. Here he (ibid), maintains that the elementary containing character is combined with that of nourishing. The fact that these symbols are open in form and character, just as those of the other group are closed, accents the motif of giving and donating (ibid).

The Great Earth Mother is the mother of all vegetation. The fertility rituals and myths of the whole world are based upon this archetypal content. The centre of this vegetative symbolism is the tree. As the fruit-bearing tree of life it is female; it bears fruit, transforms and nourishes. The tree top shelters nests and birds (Neumann 1974, p49). The tree as bearer of fruit is not only a place of birth, it can also be an abode of death. According to Jung (1981 (b), p 233), there were burial customs in which people were buried in hollow tree trunks which he interpreted as their being delivered back to the mother for rebirth. The cross is the tree of life but it is also the tree of death e.g. the coffin. According to Jung

above mentioned symbols, as do the tomb and the cave. The cave is a tomb as well as a dwelling; the vessel character of the Feminine not only shelters the unborn in the body vessel, but also takes back the dead into the vessel of death, the cave or coffin, the tomb or urn. (ibid, p45) . The elementary characteristic of the well is evident in its interpretation as the gate to the underworld and specifically to the domain of the earth mother (Neumann, 1974, p48).

Symbols such as nest, cradle, bed, ship, wagon and coffin, while they are containing also represent a transition to the symbols in which the function of protection and sheltering outweighs that of containing. Neumann (1974, p46), maintains that the sheltering cave represents historically the natural form of such culture symbols as temple, hut, house, village, city, lattice, fence and wall, signifying what protects and closes off. Symbols of protection include symbols such as shirt, dress, coat, veil, net and shield (ibid).

In the next two groups of symbols to be discussed, the transformative character is more pronounced, although the elementary character is still dominant. Symbols belonging to the first of these groups includes jar, oven, kettle and retort. The elementary character predominates but the "creative aspect of the uterus" and the potentiality of transformation also play a part.

(1981 (b), p264), the meaning of the cross is not restricted to the tree of life and points out that it has also been interpreted as an emblem of rain and fertility. It is also a powerful charm for averting evil eg. making the sign of the cross. He (ibid), goes on to state that while the cross is a many-faceted symbol, its chief meaning is that of the "tree of life" and the "mother". Other instances of the tree as symbolic of death are the gallows and the stake. Jung (1981 (c), p247), points out that the forest, like the tree, has maternal significance.

The ambiguous nature of the Great Mother archetype must be remembered at all times. The Great Mother as protectress and nurturer is the one who feeds man with fruits and grains, but she also "poisons him and lets him hunger and thirst in times of drought when she withdraws from living things" (Neumann, 1974, p52). This vegetative world contains and protects but is, however, also in constant transformation with hatching eggs, decomposing corpses, mothers suckling cubs, infants being born, growing, changing, devouring and being devoured, killing and dying (ibid).

According to Jung (1981 (d), p321), the dual mother may be replaced by the motif of dual birth which has an important significance in various religions. In Christianity for

example, baptism represents a rebirth. Thus Christ's redemptive death on a cross can be understood as a "baptism" i.e. as a rebirth through the mother, symbolised by the tree of death.

The development of consciousness and the ego signifies a leavetaking from the unconscious and hence from the mother. There is, however, always the threat of the danger of regression back to the collective psyche. According to Jung (1981 8a), p 204 and 1981 (b) p330), when the libido regresses back to the unconscious it always reactivates the parental images, and more specifically the mother-child relationship i.e. it leads back to the mother who in fact symbolises the whole unconscious. As already mentioned, the danger in this is that the ego may be overwhelmed by the unconscious i.e. the maternal unconscious may devour and destroy it. This mother-child relationship, however, has a fundamentally sexual character which gives rise to incest symbolism (Jung, 1981 (c), p213). According to Jung (1981 (c), p224), the basis of the incestuous desire is not, however, physical cohabitation, but rather the desire to become a child again, to return to the mother, to enter into her to be reborn through her. The separation of the son from the mother signifies man's leave-taking from the instinctive unconsciousness. It was, says

Jung (1981 (c), p271), only the power of the incest prohibition that created the self-conscious individual and only once this had happened did the idea of the death of the individual become possible. In other words, what is feared in the incest-taboo is rebirth, but in order for this to occur, death must first occur. This explains why whenever regression back into the depths of the collective unconscious occurs, symbols of the Terrible Mother frequently occur. According to Jung (1981 (e), p419), regression goes back to the "deeper level of the nutritive function, which is anterior to sexuality, and there clothes itself in the experience of infancy." In other words, the sexual language of regression changes, on retreating still further back, into metaphors derived from the nutritive function. The so-called Oedipus complex with its incestuous desire changes at this level into a "Jonah-and-the-Whale" complex, which has any number of variants, for example the witch who eats her children, the wolf, the ogre, the dragon etc. In other words, fear of incest turns into a fear of being devoured by the mother. As a result, symbols of the devouring, destructive and ensnaring Terrible Mother occur. There are numerous mythological instances of this fear. One of them refers to Lamia who was a persecutor and destroyer of children. The motif says Jung (1981 (b), p248), is a recurrent one in fairy tales, where the mother often appears as a murderess or eater of human flesh e.g. Hansel and Gretel. The lamia is also the name of a large voracious fish, which links up says Jung (ibid), with the whale-dragon

motif of Frobenius. We meet the idea of the Terrible Mother in the form of a voracious fish, a personification of death. Harding (1973, p 173), talks of the ancient sacrifices of children to the Mother Goddess. It was believed that the goddess drank their blood which renewed her own powers of fertility. In Celtic countries the mother goddess was represented by a stone cauldron over which children were slaughtered. Harding (ibid), maintains that the cauldron became a baptismal font and that persons who bathed in it were believed to be endowed with eternal life, while those who drank of the blood were granted the grace of inspiration. One can easily compare this to the Christian sacrament of baptism. According to Harding (1973, p173), the font is known as the uterus ecclesiae and in old churches, especially those of Norman architecture, the font has the form of a hollowed out stone. immersion in the baptismal font is believed to give an eternal soul . According to Jung (1981 (e), p430), the annual sacrifice by various pagans of a maiden to the dragon is possibly the ideal sacrifice on a mythological level. In order to appease the wrath of the Terrible Mother, the most beautiful girl was sacrificed as a symbol of man's sexual desire. Milder sacrifices were those of the first born and of various domestic animals. By sacrificing these valued objects, says Jung (1981 (e), p430), of desire and possession, the instinctive desire or libido is given up that it may be regained in new form. Through sacrifice man ransoms himself from the fear of death and is reconciled to the demands

of the devouring mother.

According to Jung (1981 (b), p259), the "dragon and the snake are symbolic representations of the fear of the consequences of breaking the taboo and regressing to incest. It is therefore understandable that we should come over again and again upon the motif of the tree and the snake" The tree entwined by the snake can therefore be taken as the symbol of the mother protected against incest by fear. Jung (ibid), states that the snake coiled round a rock has a similar meaning because Mithras (and also Man) was born from a rock. He (ibid), goes on to state that the threatening of newborn infants by snakes (e.g. Mithras, Apollo, Heracles) is explained by the legends of Lilith and the Lamia.

The snake because it sheds its skin is regarded as a symbol of renewal (Jung, 1981 (b), p269). The motif of entwining is a mother symbol. The Terrible Mother says Jung (1981 (b), p243 and 245) can be represented by symbols such as entangling seaweed, the spider with its long legs, the octopus with its tentacles, the crab with its tenacious grip, creeping plants, the boa constrictor, the python, all that encircles and envelops. According to Jung (1981 (c), p280), to be "entwined" or embraced is the same as to be "devoured", which means to re-enter into the mother's womb.

TABLE 1: Symbols of the Elementary Character of the "Good" and "Bad" Mother archetype

| ELEMENTARY CHARACTER | |
|---|---|
| "GOOD" MOTHER | "BAD" MOTHER |
| Bearing, protecting, containing, releasing, nourishing, warming | Ensnaring, fixating, holding fast, depriving, rejecting, swallowing, devouring, castrating |
| Anthing Hollow, containing or concave: | Octopus, crab<br>bear<br>net, noose<br>spider, spider's web<br>witch<br>tiger<br>vulture<br>voracious fish - Lamia<br>monsters, vampires and ghouls<br>myths and fairy tales of captivity |
| Barrel, box, casket, chest, trough, sack, chasm, cave, abyss, valley, depths, hell, night, tomb, coffin, urn, nest, cradle, bed, ship, wagon | |
| Shelter and Protection | |
| cave, temple, hut house, village, city, lattice, fence, wall, shirt, dress, veil, coat, net shield, mountain | |
| Containing and Nourishing: | |
| Vessel, bowl, goblet, chalice, grail, jar, oven, kettle, retort, cow, goat | |
| Objects with uterine form: | |
| squid, owl | |
| Fertility: | |
| poppy, grain of barley, pomegranite, pod, fruit with many seeds, cornucopia, bull, hare, rabbit, pig | |
| Water: | |
| ground water, ocean, lake, sea, pond, well | |

TABLE 2: Symbols of the Transformative Character of the "Good" and "Bad" Mother Archetype

| TRANSFORMATIVE CHARACTER | |
|---|---|
| "GOOD" MOTHER | "BAD" MOTHER |
| Development, growth | Dimunition, Devouring |
| Modification of food by fire | witches, spells |
| Wood = fire and light | devilish temptress |
| grain = bread and host | drawn irresistably to destructive person(s) |
| blossom = crown and mandala | poison |
| Place of higher spiritual birth e.g. tree, rock, mountain flank, head | intoxicants |
| | sea (into which the sun sinks everyday for rebirth next morning) |
| vessel in which spiritual birth takes place e.g. magical vessel, baptismal font, grail, alchemical retort | tree |
| | cross-renewal |
| | gallows |
| medicine | |
| childbirth | |
| pregnancy | |

# 4.0 THE STRUCTURE AND FUNCTION OF DREAMS IN ANALYTICAL PSYCHOLOGY

## 4.1. The Relationship Between Consciousness and the Unconscious

The psyche is conceptualised as being a dynamic, self-regulating system, with interchange between the unconscious and consciousness, the psychic system as a whole being engaged in continuous energic movement. According to Ulanov (1971, p26),libido is Jung's term for psychic energy which directs and motivates personality. The more value an object is felt to have, the more libido has been invested in it. Libido operates according to two laws. Firstly, there is the law of conservation of energy which states that energy can be transformed or displaced but not destroyed (Edinger, 1968, p9). Secondly, there is the law of opposites. This law refers to Jung's conceptualisation of the psyche as a self-regulating system structured in terms of polarities or opposites such as conscious - unconscious, love - hate etc. If one pole is overemphasized, then energy will flow into its opposite. This is referred to as enantiodromia. In Jung's opinion, opposition is a law inherent in human nature. Jung states that "there is no balance, no system of self-regulation, without opposition" and that "energy necessarily depends on a pre-existing polarity, without which there could be no energy." (1977 a, p60).

These laws of opposition and self-regulation are governed by complementary or compensatory factors. The law of opposition results in a tension between consciousness and the unconscious.

Jung is of the opinion that this tension results in the unconscious compensating the conscious attitude or state. Jung provides four reasons for the lack of parallelism between the contents and tendencies of consciousness and the unconscious:

"(1) Consciousness possesses a threshold intensity which its contents must have attained, so that all elements that are too weak remain in the unconscious.

(2) Consciousness, because of its directed functions, exercises an inhibition (which Freud calls censorship) on all incompatible material, with the result that it sinks into the unconscious.

(3) Consciousness constitutes the momentary process of adaptation, whereas the unconscious contains not only all the inherited traces constituting the structure of the mind.

(4) The unconscious contains all the fantasy combinations which have not yet attained the threshold intensity, but which in the course of time and under suitable conditions will enter the light of consciousness." (Jung, 1960, p69).

The purpose of the energy movement between the conscious and unconscious

poles of the psyche in this compensatory manner, is the establishment and maintainance of equilibrium between the psychic opposites so that neither state is dominant. Jung points out, however, that the directedness of the conscious mind "makes for the inhibition and exclusion of all those psychic elements which appear to be, or are, incompatible with it, i.e., likely to bias the intended direction to suit their purpose and so lead to an undesired goal." and that although "rational judgement may appear many-sided and unpredjudiced" the directed process "necessarily becomes one-sided" (1960 d, p70). Jung goes on to state that "one sidedness is an unavoidable and necessary characteristic of the directed process, for direction implies one-sidedness" (1960 d, p71). One-sidedness is simultaneously an advantage and a drawback. It is an advantage in that we have it to thank for the advances of civilization in general, and for the advances of science and technology. However, even when there is no apparent drawback, there is always an equally pronounced opposing position in the unconscious and the more extreme the dissociation of consciousness from the unconscious, the more likely it is that a counter-position can develop in the unconscious. If this unconscious position becomes too great it may break out and overwhelm the conscious ego. As already stated, the purpose of compensation is to maintain a balance between these two psychic systems and to thereby prevent such a breakdown between the conscious and unconscious psychic components, a breakdown which in its most severe form would manifest as psychosis. (Jung, 1960 d, p69).

## 4.2. The Nature of the Collective Unconscious and Archetypes

Jung,(1971) a, p42), defined the collective unconscious as that "part of the psyche which can be negatively distinguished from the personal unconscious by the fact that it does not owe its existence to personal experience and consequently is not a personal acquisition." According to Ulanov (1971, p35), Jung views the collective unconscious as "nonindividual, universal, suprapersonal." "It is experienced" he says "as other than ourselves, as objective, as acting upon us independently of our conscious volition, intentions or ideas." (ibid). It is for these reasons that Ulanov (1971, p35), states that "we are the object of every subject in complete reversal of ordinary consciousness where one is always the subject that was an object." Jung says that he uses the term collective because "unlike the personal unconscious, it is not made up of individual and more or less unique contents but of those which are universal and of regular occurrence" (1960 h, p134).

The contents of the collective unconscious are known as archetypes. The word archetype, says Harding (1973), is derived from the word "Typos" which means something which makes an imprint. "Arche-types" says Harding (1973, p35), refer to the "ancient, primordial types that are impressed on the psyche as a result of the age-long experience of life that man and the animals before him have passed through." Archetypes are defined by Jung, as "factors which arrange the psychic

elements into certain images, characterised as archetypal, but in such a way that they can only be recognised from the effects which they produce." (1969, p149).

Jung distinguishes between the archetype per se and the archetypal representation or image. As long as the archetype is still lying dormant in the unconscious it belongs, says Jacobi (1974), to the psychoid realm of the collective psyche which is irrepresentable and which cannot be directly perceived. Although the archetype per se is irrepresentable, its effects, the archetypal images, enable it to be visualised (ibid). It is therefore always necessary to establish whether one is dealing with a still dormant, irrepresentable archetype, or an actualised archetype which has become expressed in conscious psychic material as an archetype. Jung (1960 b, p213), says in commenting on the irrepresentable nature of the archetype, that "it seems to me probable that the real nature of the archetype as such is not capable of being made conscious, that it is transcendent, on which account I call it psychoid."

The archetype has also been defined as "a kind of readiness to produce over and over again the same or similar mythical ideas. Hence it seems as though what is impressed upon the unconscious were exclusively the subjective fantasy ideas aroused by the

physical process. We may, therefore, assume that the archetypes are recurrent impressions made by subjective reactions" (Jung, 1977a, p69). He (1960 g, p158), also states that "the collective unconscious contains the whole spiritual heritage of mankind's evolution born anew in the brain structure of every individual." Because of statements like these, Jung has been misunderstood and criticised for subscribing to the doctrine of the genetic basis for the inheritance of acquired characteristics. He never said, however, that the memories and images per se were inherited. Jung comments on the criticism by stating that "again and again I encounter the mistaken notion that an archetype is determined with regard to its content, in other words, that it is a kind of unconscious idea. It is necessary to point out once more that archetypes are not determined as regards their content, but only as regards their form and then only to a very limited degree" (1971 a, p79). He states elsewhere (1955, p43), that the "term (archetype) is not meant to denote an inherited idea, but rather an inherited mode of psychic functioning, corresponding to the inborn way in which the chick emerges from the egg, the bird builds its nest, a certain kind of wasp stings the motor ganglion of the caterpillar, and eels find their way to the Bermudas."

Jung distinguishes between the form and the content of the archetype. According to Ulanov (1971, p49), the archetypal form has two aspects, namely the dynamic and the representational.

The archetypal form, she says (ibid) manifests dynamically as a pattern of behaviour and emotional reaction and manifests representationally as images, personifications, and motifs that are recorded in myths on the collective level and in dreams and visions on the individual level. She goes on to state that the content of the archetype is "that specific emotional or behavioural pattern and cluster of images that become actualised through environmental conditioning, personal history, and cultural content" (ibid).
An archetypal image, says Jung (1971 b, p79), "is determined as to its content only when it has become conscious and is therefore filled out with the material of conscious experience. Its form, however .... might perhaps be compared to the axial system of a crystal, which, as it were, forms the crystalline structure in the mother liquid, although it has no material existence of its own. The first appears according to the specific way in which the ions and molecules aggregate. The archetype in itself is empty and purely formal, nothing but a facultas praeformandi, a possibility of representation which is given a priori. The representations themselves are not inherited, only the forms, and in that respect they correspond in every way to the instincts, which are also determined in form only."

Jung conceptualised a relationship as existing between the instincts and the archetypes. He (1960 h, p138) states that "the collective unconscious consists of the sum of the instincts and their correlates, the archetypes." Instincts are defined as "impulses to carry out

actions from necessity without conscious motivation ... which are not individually acquired but inherited" (Jung, 1960 h, p133), and as "typical modes of action, and wherever we meet with uniform and regularly recurring modes of action and reaction we are dealing with instinct, no matter whether it is associated with conscious motive or not" (1960,h,p135). This definition should be related to Jung's (1960 h,p138), statement that "archetypes are typical modes of apprehension, and wherever we meet with uniform and regularly recurring modes of apprehension we are dealing with an archetype, no matter whether its mythological character is recognised or not." These definitions explain Jung's (1960 h, p134), statement that "just as his instincts compell man to a specifically human mode of existence, so the archetypes force his ways of perception and apprehension into specifically human patterns." Jung is thereby referring to his belief that just as conscious apprehension gives form and direction to our actions, so unconscious apprehension through the archetype determines the form and direction of instincts. Jung explains the relationship as follows: "Just as we have been compelled to postulate the concept of an instinct determining or regulating our conscious actions, so in order to account for the uniformity and regularity of our perceptions, we must have recourse to the correlated concept of a factor determining the mode of apprehension. It is this factor which I call the archetype or primordial image. The primordial image might suitably be described as the instinct's perception of itself, or as the self-portrait of

the instinct, in exactly the same way as consciousness is an inward perception of the objective life-process" (1960 h, p136). Jung (1971 a, p48), states that there are as many archetypes as there are typical life situations. Repetition of these experiences through time has engraved these experiences into our psychic constitution, initially as forms without content, representing the possibility of a certain type of perception and action. When a situation occurs which corresponds to a given archetype, "that archetype becomes activated and a compulsiveness appears, which, like an instinctual drive, gains its way against reason and will, or else produces a conflict or neurosis." (ibid).

## 4.3. The Structure and Function of Dreams

Dreams, says Jacobi (1968, p70), may derive from many sources, ranging from the remnants of the day to the deepest unconscious contents i.e. the archetypes. The ordering of dream elements is not determined by causality, time or space and the language of dreams is archaic, symbolical and prelogical (ibid).

According to Jung, the dream is an "enigmatic message from the nocturnal realm of the psyche" (1966, p151), and a "spontaneous self-portrayal in symbolic form, of the actual situation in the unconscious" (1960 a, p49). Jung, also points out that the "problem of dream analysis stands or falls with the hypothesis

of the unconscious. Without it, the dream is a mere freak of nature, a meaningless conglomeration of fragments left over from the day" (1966 p294). Jacobi (1968, p70), states that Jung attaches great importance to dreams, regarding them as the function through which the unconscious conducts the major part of its regulative activity since dreams frequently express the counterpart of the conscious attitude.

According to Jacobi (1968, p74-75), Jung distinguishes three kinds of dreams :

(1) The dream is a reaction by the unconscious, in a supplementary or complementary manner, to the conscious attitude.

(2) The dream arises from a spontaneous action of the unconscious which creates a situation different from the conscious situation. A conflict thus arises between consciousness and the unconscious.

(3) The contrary position of the unconscious is even stronger than in (2). These dreams reflect unconscious processes disclosing no relation whatever to consciousness. These are archetypal dreams. Sometimes they appear before the onset of mental illness. A frequent occurrence of archetypal dreams indicates an excessive mobility of the

contents of the collective unconscious.

Jung's view of dreams is somewhat different to Freud's. Jung did not see the dream as a facade of a hidden, latent meaning. Jung stated that we should not accuse the dream of "a deliberate manoevre, calculated to deceive" because "nature is often obscure or impenetrable, but she is not, like man, deceitful" (1977 b, p99). According to Pontalis (1974), Freud concentrated on the dream itself and neglected the capacity to dream so that he emphasized the construction of dreams rather than the conditions of their creation and the creative power that they bear witness to. Jung, however, emphasized the creative power of the dream rather than Freud's suggested defensive function and preserver of sleep.

Jung did not regard dream images as inferior forms of thinking but rather as being symbolical i.e. referring to that which is not yet known; Freud, however, regarded dream images as what Jung would call signs i.e. things which stand for other things in a fixed way e.g. tree = penis, cave = vagina etc. (Hall, 1977, p121). Dreams are also not viewed as wish-fulfilment or the disguised desire for libidinous gratification : Jung states "As against Freud's view that the dream is essentially a wish-fulfilment, I hold ... that the dream" portrays "the actual situation in the unconscious" (1960 (a), p505) albeit symbolically. Jung acknowledges that some dreams do express wishes or fears but states that they do

many other things besides. He states that "dreams may contain ineluctable truths, philosophical pronouncements, illusions, wild fantasies, memories, plans, anticipations, irrational experiences, even telephathic visions, and heaven knows what besides" (1966, p317).

### 4.3.1. The Compensatory and Prospective Function of Dreams

Dreams act as a function through which the unconscious carries on the greater part of its regulative activity. Dreams express the counterpart of the conscious attitude. As already mentioned (Section 4.1.) the orientation of the unconscious is complementary or compensatory to the conscious attitude. The more one-sided the conscious attitude is the greater becomes the possibility that dreams with a strongly contrasting but purposive content will appear as an expression of the self-regulative activity of the psyche. According to Jacobi (1968, p79), compensation primarily means that the unconscious contributes to consciousness all the elements that are "repressed or disregarded and lacking to its completeness." Jung (1960 a,p250), states that "dreams contribute to the self-regulation of the psyche by automatically bringing up everything that is repressed or neglected or unknown'" He goes on to state that the "more one-sided his conscious attitude is, and the further it deviates from the optimum, the greater becomes the possibility that vivid dreams with a strongly contrasting but purposive content will appear as an expression of the self-regulation of the psyche." (ibid, p253). The dream is

purposive in that it provides the unconscious material constellated in a given conscious situation and supplies it to consciousness in symbolical form. "Just as the body reacts purposively to injuries or infections or any abnormal conditions, so the psychic functions react to unnatural or dangerous disturbances with purposive defense-mechanisms." (Jung, 1960 a, p253).

As already mentioned (Section 4.1.), dreams make use of symbols. Jung (1960 a, p263) defined the dream as "a spontaneous self-portrayal, in symbolic form, of the actual situation in the unconscious." Dreams are symbolic in that they stand for further contents that are not explicitly given but which are involved in the representation of the dream. Jung referred to this symbol-making function of the psyche as the transcendent function by which it is meant that through symbol formation the psyche is able to transcend the tension of opposites that cannot be solved consciously before the symbol is evoked (Jacobi, 1974, p99). This view is in direct contradiction to Freud's view that dream images are disguised versions of potentially knowable but repressed thoughts.

Jung differentiates between symbols, signs, and allegories. Jung states that "a view which interprets the symbolic expression as the best possible formulation of a relatively unknown thing which cannot for that reason be more clearly or characteristically represented is symbolic. A view which interprets the symbolic expression as an intentional paraphrase or transmogrification of a known thing

is allegoric" (1949, p601). Jung (ibid, p602), goes on to state that "an expression that stands for a known thing always remains a mere sign and is never a symbol." The term symbol refers to the formulation of a relatively unknown thing which cannot be more clearly or characteristically represented. Symbols may arise from archetypes but their manifest forms are moulded by the conscious mind. Jacobi (1974, p74), states that an expression which represents a known thing is always a sign and never a symbol. Jung, states that "a sign is always less than the thing it points to, and a symbol is always more than we can understand at first sight. A symbol does not disguise, it reveals in time" (1954, p212). Whether a thing is a symbol or not says Jung, "depends chiefly upon the attitude of the observing consciousness" (1949, p603). It depends on whether the individual is in a position to regard a given object e.g. a dog as not merely its concrete manifestation as a dog, but also as an expression, a token for something unknown.

Symbols are both expressive and impressive says Jacobi (1968, p94). They express the intrapsychic process in images and when they have become images, they make an impression i.e. "their meaning and content influences the intrapsychic process and furthers the flow of psychic energy " (ibid). Symbols are therefore transformers of energy in the psychic process.

While Jung was of the opinion that compensation explains most dreams he did not view it as the only possible explanation for dream phenomena. There are dreams which manifest what Jung refers to as

the prospective function. "The prospective function" says Jung, "is an anticipation in the unconscious of future conscious achievements, something like a preliminary exercise or sketch, or a plan roughed out in advance." (1960 a, p255). The symbolic content of such dreams "sometimes outlines the solution of a conflict" (ibid). Jung emphasizes that such dreams should not be regarded as prophetic because they are "merely an anticipatory combination of probabilities which may coincide with the actual behaviour of things but need not necessarily agree in every detail." (ibid).

### 4.3.2. Personal and Archetypal Dreams

Jung distinguished between two kinds of dreams on the basis of the source of the dream imagery or content - the personal unconscious and the collective unconscious. Dreams which are derived from the personal unconscious relate to the personal experiences of the individual which have been "forgotten, repressed, subliminally perceived, thought" (1949, p616). Such dreams are the "nightly fragments of fantasy coming from the subjective personal sphere, and their meaning is limited to the affairs of the everyday. That is why such dreams are easily forgotten, just because their validity is restricted to the day-to-day fluctuations of the psychic balance" (1960 e, p290). Jung goes on to state that dreams arising from the collective psyche are "often remembered for a lifetime" (ibid). These dreams cannot be reduced to individual experience and it is for this reason that Jung

states that their interpretation requires specialised knowledge of mythology, folklore, comparative religion and an understanding of the psychology of primitive people (ibid, p290).

Archetypal dreams says Jung "have a specific charge and develop numinous effects which express themselves as affects" (1960 f, p436) and such contents are "very often of an inferior or primitive nature and thus betray their archetypal origin" (1960 f, p437). Jung also states that "while the contents of the personal unconscious are felt as belonging to one's own psyche, the contents of the collective unconscious seem alien, as if they came from the outside" (1960 c, p312). Jung writes that the archetypal dream can be recognised by "the appearance of the 'cosmic' element, i.e. the images in the dream or fantasy are connected with cosmic qualities, such as temporal and spatial infinity, enormous speed and extension of movement .... The obvious occurence of mythological and religious motifs in a dream also points to the activity of the collective unconscious." (1977 d, p158)

### 4.3.3. Dream Analysis and Interpretation

The aim of dream analysis and interpretation is the integration of unconscious phenomena into consciousness. In interpreting dreams, however, a distinction is always made as to whether the dream imagery refers to the dreamer's environment or to his inner psychic

condition (Jacobi, 1968, p91). Jung, developed the technique of amplification to aid in dream interpretation.

4.3.3.1. Amplification of Dreams

The use of amplification is a specifically Jungian technique in dream interpretation. In the clinical situation the amplification consists of eliciting from the patient his associations to each dream motif. According to Hall (1977, p130), the associational process is not permitted to extend too far from the original images. Instead the dreamer is repeatedly brought back to the actual dream image so that an understanding is gained of the images, thoughts, memories and affect surrounding the dream image. Jung states that we look at all the the symbols and try to construct the meaning which seems to be indicated by the totality of the attributes" (1975, p15).

The process of amplification is not the same as the Freudian free-association technique, and they lead to different results. According to Jacobi (1968, p84), Jung was of the opinion that free-association ways leads to a complex, but that it was not possible to be certain al-that it was this one which constituted the meaning of the dream. Jung (1968), commented that free-association would certainly lead to whatever complexes are activated in a person's mind but that the list of words in the word association experiment or any relatively

neutral stimulus would be as effective as the dream images to elicit that which seeks discharge into consciousness. Jung did not ask what complexes were present but rather wanted to know "what a man's unconscious was doing with his complexes" (ibid, p91). He wanted to know how the mind was already attempting to correct the divisions caused by the complexes so that it would be possible to intervene and aid the natural healing process.

Von Franz (1967), likened the amplification process to "pulling up a blade of grass in a field where all the grass is connected under the ground, as all complexes are connected through the archetypal structure of the collective unconscious. If one pulls hard enough, one gets the whole clump of grass attached to the blade. This is not adviseable, however, because it distorts the field nature of the unconscious and it would be fallacious to think that the real nature of the unconscious had been discovered" (ibid)

Amplification in contrast to Freudian free-association, is not an unbroken chain of causally connected associations leading backwards, but a process by which the dream content is broadened and enriched with the help of analogous images. Amplification also differs from free association in that free-associations are not only provided by the patient or dreamer but also by the analyst. According to Jacobi (1968, p85), amplification is a limited, controlled, and directed association process with circles round the dream nucleus and so helps the analyst identify this nucleus. "The amplification" writes Jung, is always appropriate when dealing with some obscure experience which is so vaguely adumbrated that it must be enlarged and expanded by being set in psychological context in order to be understood at all. That is why, in analytical

psychology, we resort to amplication in the interpretation of dreams, for a dream is too slender a hint to be understood until it is enriched by the stuff of association and analogy and thus amplified to the point of intelligibility." (1967 a, p277). According to Jacobi (1968) amplification is applied to all the elements of the dream to enable a total picture of the dream to be developed from which it can be deciphered. The various dream motifs are enriched by analogous, related images, symbols, legends, myths etc., which shed light on their diverse aspects and possible meanings. Each element of meaning which is thus obtained is linked with the next until the whole chain of dream motifs is revealed.

According to Jacobi (1968), amplification can be on the subjective, individual level or the objective, collective level. The subjective, individual meaning of the dream is supplied by subjective amplification i.e. the analyst asks the dreamer what each dream element means to him personally. The collective meaning is obtained by objective amplification i.e. the dream elements are enriched with the universal, symbolic material of fairy tales,myths etc. which illuminate the universal aspect of the problem. Generally the analyst with his specialised knowledge, provides the parallels which then determine the direction of the patient's associations. According to Jung (1977a, p81), unlike the Greudian mode of reductive analysis which reduces all images to personal experience, archetypal amplification reinforces and extends meaning. Both methods have their uses. Archetypal activity can appear projected on the environment, usually noted in over-valuations or under-valuations (Jung, 1977 b, p95).

## 5.0. THE CONSTRUCTION AND STATEMENT OF HYPOTHESES

The review of experimental research presented in section 2.0 reveals numerous contradictory findings. Nevertheless a number of hypotheses can be tentatively formulated.

As discussed in section 2.1., the majority of the more methodologically sound studies indicate that dream recall increases premenstrually. In addition to this Cohen (1973), found the feminine subjects have significantly better dream recall than masculine subjects. The following two hypotheses were therefore formulated.

### HYPOTHESIS 1

Dream recall frequency will be higher during the premenstrual phase than during the pre-ovulatory, post-ovulatory or menstrual phases of the menstrual cycle.

### HYPOTHESIS 2

Subjects with a feminine sex-role orientation will report more dreams than subjects with a masculine sex-role orientation.

The results discussed in section 2.2., especially those of Baron (1976), Swanson and Foulkes (1967), and Benedek and Rubenstein (1939), indicate that dream unpleasantness is at a

maximum during the premenstrual or menstrual phase but no conclusion could be reached. The following hypothesis was therefore constructed.

HYPOTHESIS 3

Dreams during the paramenstruum will be hedonically more negative than dreams during the pre-ovulatory phases.

Cohen (1973), investigated sex-role orientation and dream unpleasantness. His finding (section 2.2.) that the dreams of individuals with sex-role orientation contrary to stereotype were rated as more unpleasant lead to the formulation of hypothesis 4. His (ibid) finding that the dreams of subjects with sex-role orientation congruent with stereotype were rated as more unpleasant if they were also rated high on aggression led to the construction of hypothesis 5.

HYPOTHESIS 4

The dreams of subjects with a masculine sex-role orientation will be hedonically more negative than the dreams of subjects with a feminine sex-role orientation.

HYPOTHESIS 5

The hedonically negative dreams of the subjects with a feminine sex-role orientation will be associated with more aggression as

assessed from the manifest dream content than will the hedonically positive dreams.

As discussed in section 2.3., several studies found an increase in dream hostility during the premenstrual phase (Benedek, 1952; Hertz and Jensen, 1975; and Moos, 1969), while two found dream hostility to be maximum during menstruation but also very high during the premenstrual phase (Swanson and Foulkes, 1967, and Sirois and de Koninck, 1982). On the basis of these results it appears that dream hostility increases during the paramenstruum with possibly more hostility during the premenstrual phase. Cohen (1973), found that masculine subjects had more physical aggression in their dreams than the feminine subjects, while there was no difference between the masculine and femine subjects for verbal aggression. The following three hypotheses were therefore constructed.

HYPOTHESIS 6

Dream reports will contain more physical and verbal aggression, as assessed from the manifest content, during the menstrual and premenstrual phases than the pre-ovulatory or post-ovulatory phases of the menstrual cycle.

HYPOTHESIS 7

Dream reports of subjects with a masculine sex-role orientation will contain more physical aggression as assessed from the manifest

content than subjects with a feminine sex-role orientation.

HYPOTHESIS 8

There will be no difference between subjects with a masculine sex-role orientation and subjects with a feminine sex-role orientation with respect to verbal aggression.

As discussed in section 2.4., the more methodologically valid studies are divided in terms of whether or not there is an increase in maternal dream content during the premenstrual phase (Baron, 1976), the menstrual phase (Van de Castle, 1971), or during the menstrual and premenstrual phases (Katzenstein, 1975). Due to this only a tentative hypothesis can be formulated. Hypothesis 9 was constructed as follows:

HYPOTHESIS 9

Dreams during the premenstrual and menstrual phases will contain more maternal content as assessed from the manifest content than dreams from the pre-ovulatory or post-ovulatory phases.

There is no absolute agreement among researchers concerning manifest sexuality and the menstrual cycle (section 2.5.). The only two studies with significant results (Swanson and Foulkes, 1967; and Lewis and Burns, 1975), however, found manifest sexuality to increase during menstruation. The following hypothesis was

therefore formulated.

HYPOTHESIS 10

Manifest sexuality as assessed from the manifest dream content will be at a maximum in dream reports during the menstrual phase of the menstrual cycle.

The results of previous studies concerning heterosexual dream content (section 2.6) also fail to yield any definitive results. The results overall, however, indicate that heterosexual dream content is most probably highest during the pre-ovulatory phase. Hypothesis 11 therefore reads as follows:

HYPOTHESIS 11

Heterosexual dream content as assessed from the manifest content will be at a maximum during the pre-ovulatory phase of the menstrual cycle.

Cohen (1973), as discussed in section 2.7., investigated the effect of sex-role orientation on dream agency and communion. His results suggest that women with a masculine sex-role orientation will have more agency in their dream reports than women with a feminine sex-role orientation, and that the latter group would have more communion in their dreams than the former group. The following two hypotheses were consequently formulated.

HYPOTHESIS 12

The dream reports of women with a masculine sex-role orientation will contain more agency as assessed from the manifest content than the dream reports of the women with a feminine sex-role orientation.

HYPOTHESIS 13

The dream reports of women with a feminine sex-role orientation will contain more communion as assessed from the manifest content than the dream reports of the women with a masculine sex-role orientation.

As already stated in section 3.3.2., Neumann (1974, p42) states that woman is the body-vessel, the nourishing vessel which provides food, and the life-vessel which bears all life. She thus embodies that which is associated with the "Good" Mother Archetype, namely, fertility, nurturance, protection etc. Neumann (ibid, p52) goes on to say however, that not only does she give life but she also takes it away again. Thus the Mother Archetype can be experienced as "generative and nourishing, protecting and warming" as the "Good" Mother, or as "death and destruction, danger and distress, hunger and nakedness" as the "Bad" Mother (Neumann, 1974, p149). Thus says Neumann (ibid) the "womb of the earth becomes the deadly devouring maw of the underworld, and beside the fecundated womb and the protecting cave of the earth and mountain gapes the abyss of hell, the dark hole of

the depths, the devouring womb of the grave and of death, of darkness without light, of nothingness."

There would appear to be a physiological correlate to these two aspects of the Mother Archetype in the menstrual cycle. Ovulation is the time of the menstrual cycle when women are fertile and the possibility of conception and subsequent childbirth, nourishing etc. exists. At menstruation, however, the unfertilised ovum is shed or expelled amidst a flow of blood and this would appear to possess some parallel with the Terrible Mother who mythologically in the time of Female Goddesses demanded the sacrifice of children (Harding, 1971) (see section 3.3.2.).

The two aspects of the Mother Archetype are present in all individuals. Society only values the "Good" Mother aspect, whereas the "Negative" Mother embodies attributes that society would certainly not value. An unanswered question relates to the extent to which women in general have integrated these two opposing poles into consciousness. Where either aspect has not been integrated, dreams may compensate the conscious attitude in an attempt to bring about psychic wholeness (see section 4.3.1.3). In this regard, Harding (1973, p372) states "that" in quest for wholeness of the psyche .... the repressed and despised element .... carries an incomparable value, for its presence is essential if the psyche is to be healed and made whole." Jung (1960a, p288), states that "if the conscious attitude to the life situation is in large degree one-sided, than the

dream takes the opposite side. If the conscious attitude has a position fairly near the 'middle', the dream is satisfied with variations. If the conscious attitude is 'correct' (adequate), then the dream coincides with and emphasizes this tendency." Due to this fact the nature of the dreams which the subjects provide will be a function of the conscious attitude. Dreams may compensate the conscious attitude or they may reflect the conscious attitude. As a result of this a number of alternative hypotheses may be formulated.

HYPOTHESIS 14

Archetypal dream content will be at a maximum at ovulation and premenstruation in the dreams collected under laboratory conditions.

HYPOTHESIS 15

Archetypal dream content will be at a maximum during the pre-ovulatory and premenstrual phases in the dreams collected under home conditions.

HYPOTHESIS 16

Dreams collected under laboratory conditions will contain more references to the Mother Archetype at ovulation and the para-menstruum.

HYPOTHESIS 17

Dreams collected under home conditions will contain more references to the Mother Archetype at pre-ovulation and the paramenstruum.

These latter two hypotheses have stated "Mother Archetype" and no mention is made with respect to the "Good" Mother or the "Bad" Mother because the nature of the concious attitude is not known. Two alternative hypotheses have nevertheless been constructed. Should the dreams operate in a compensatory fashion, hypothesis 18 would be confirmed. If the dreams do not operate in a compensatory manner, then hypothesis 19 would be confirmed.

HYPOTHESIS 18

Dreams collected at preovulation and ovulation will contain more references to the "Negative" Mother while dreams collected at the paramenstruum will contain more references to the "Good" Mother.

HYPOTHESIS 19

Dreams collected at preovulation and ovulation will contain more references to the "Good" Mother while dreams collected at the paramenstruum will contain more references to the "Bad" Mother.

# 6.0 METHODOLOGY

## 6.1 Subjects

Subjects were 14 respondents to a newspaper article (appendix 2) who were chosen out of the 43 respondents to the article. The subjects were divided into two groups on the basis of sex-role orientation which was determined by the Bem Sex-Role Inventory (Bem, 1977). Subjects were divided in such a way that there was a masculine group (Group I) with 7 Subjects and a feminine group (Group II) with 7 subjects.

The age range of the subjects was 21-28 years with an average age of 24,14. Volunteers with any history of severe psychopathology, taking any form of medication or drugs such as marijunana, taking an oral contraceptive pill, or having irregular menstrual cycles were excluded from the investigation. All of these factors were determined via a guestionnaire (appendix 3), which was administered to all potential subjects prior to the beginning of the investigation.

Due to the fact that it was essential for all subjects to have good dream recall, this factor was assessed by the Nocturnal Dream Frequency Recall Scale of the Imaginal Processes Inventory (Singer and Antrobus, 1970). Subjects who reported recalling fewer than four dreams per week were excluded.

The subjects age and Bem Sex-Role Inventory scores are presented in table 3.

| GROUP I: MASCULINE | | | | GROUP II: FEMININE | | | |
|---|---|---|---|---|---|---|---|
| SUBJECT | AGE | BEM SCORES | | SUBJECT | AGE | BEM SCORES | |
| | | MASCULI-NITY | FEMINI-NITY | | | MASCULI-NITY | FEMINI-NITY |
| 1 | 25 | 6,15 | 2,10 | 1 | 25 | 2,00 | 6,42 |
| 2 | 22 | 5,85 | 1,95 | 2 | 23 | 2,30 | 5,85 |
| 3 | 27 | 6,00 | 2,40 | 3 | 28 | 2,54 | 5,96 |
| 4 | 23 | 5,80 | 2,36 | 4 | 21 | 2,60 | 6,25 |
| 5 | 24 | 6,21 | 2,42 | 5 | 22 | 2,12 | 6,00 |
| 6 | 23 | 5,92 | 2,00 | 6 | 26 | 2,25 | 5,93 |
| 7 | 25 | 6,25 | 2,41 | 7 | 24 | 2,16 | 6,12 |
| $\bar{X}$ | 24,14 | 6,03 | 2,23 | $\bar{X}$ | 24,14 | 2,28 | 6,08 |
| S | | 0,17 | 0,26 | S | | 0,24 | 0,14 |

TABLE 3: Age and Bem Sex-Role Inventory Score of the 14 subjects.

Although subjects were respondents to a newspaper article, the precise nature of the research was not disclosed in the article or to the subjects at any other stage of the investigation until after the research had been completed. The newspaper article merely asked for volunteers to help research into sleep and dreams.

### 6.1.1. Assigment of Subjects to Experimental Groups

It was necessary to keep the experimenter blind with respect to the Sex Role Orientation of the subjects to prevent "perceived demand" effects (Section 6.3.2.1.) due to the fact that the same experimenter administered the Bem Sex Role Inventory (Bem, 1977) as collected the REM dreams. In order to achieve this aim the following procedure was followed:

(1) The Bem Sex Role Inventory was administered to all volunteers

(2) The test was then coded by an assistant

(3) The experimenter then scored the test

(4) The assistant then uncoded the test and told the experimenter who her subjects were.

### 6.1.2. Determination of Menstrual Cycle Phase

There are three commonly used methods for determining the phase of the menstrual cycle, namely: Hormonal assay, changes in cervical mucus, and basal body temperature. Hormonal assay was discarded for several reasons. Besides the cost and inconvience it is not always totally reliable and some degree of estimation of the time

of ovulation is still required (France, 1982). In addition, it is feared that subjects may withdraw from the study because of negative associations related to injections and blood. It is also feared that the taking of blood samples may possibly influence the dream content in an unpredictable and uncontrollable manner. The second of these methods, namely changes in cervical mucus, was also discarded due to the difficulty of training individuals to analyse their cervical mucus or their having to have regular gynaecological examinations. For these reasons it was decided to use basal body temperature as the determinant of menstrual cycle phase.

### 6.1.2.1 Basal Body Temperature As a Predictor of Menstrual Cycle Phase

The most simple method for gauging the phase of the menstrual cycle is basal body temperature (BBT). All individuals, men and women alike, display same fluctuation of daily temperature, but in women there are characteristic changes in BBT during the menstrual cycle (Vollman, 1977). Figure 1 graphically depicts these changes.

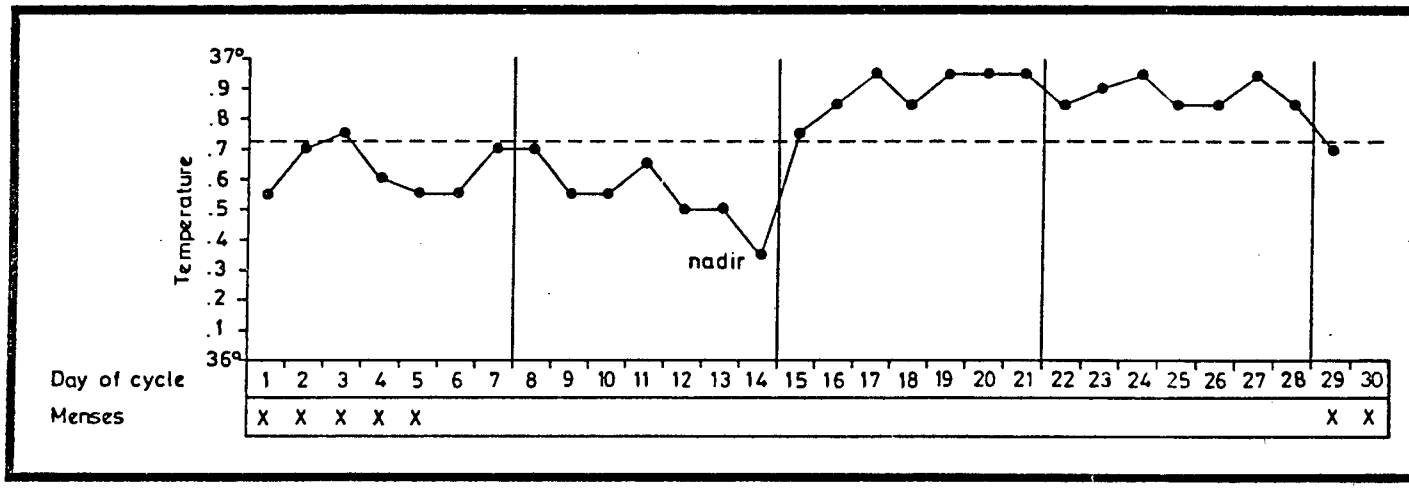



FIG. 1 . BASAL BODY TEMPERATURE FLUCTUATIONS DURING THE MENSTRUAL CYCLE.

According to Vollman (1977), in the healthy adult woman the basal body temperature describes a biphasic curve between two menstruations, with a low level during the postmenstrual phase and an elevated level during the postovulatory phase. The rise in temperature which occurs at ovulation is in the region of 0,3 C to 0,5 C (Vollman, 1977; France, 1982). In addition to this there is a drop in temperature prior to ovulation and another drop 48 hours prior to menstruation. Furthermore, BBT will show whether or not ovulation has in fact taken place. Martin (1943), and Doring (1958), found that anovulatory cycles were associated with monophasic temperature curves.

The biphasic temperature curve is regarded as reflecting ovarian activity. There is some evidence suggesting that the hormone progesterone is responsible for the rise in temperature at midcycle. It was experimentally found by Freeman et.al. (1970), that daily subcutaneous injections of progesterone produced a dose-dependent sustained rise of body temperature in female rats which had their ovaries intact and those which had their ovaries removed. Southam and Gonzaga (1965), and Barnes (1975), are of the belief that progesterone is responsible for the elevation in temperature. The rise in basal body temperature occurs at the same time as the increased blood concentrations of progesterone in the post-ovulatory phase. This elevated temperature is maintained during the post-ovulatory phase and only declines once the progesterone levels decline 48 hours prior to menstruation (Taubert, 1978, p87). Additional supportive evidence is the fact

that men, girls prior to menarche, women after menopause, and adult women after bilateral oophorectomy have monaphasic temperature curves. Women after a simple hysterectomy, however, continue to have biphasic BBT curves (Vollman, 199, p149). In other words, it is possible to use BBT to tell whether or not ovulation has in fact taken place as well as enabling the approximate time of ovulation to be determined.

When using BBT to determine the phase of the menstrual cycle, however, a number of factors need to be controlled for. Due to physiological diurnal fluctations of body temperature, temperatures must be taken at the same time each day to obtain comparable temperature readings (Vollman, 1977). Due to the fact that body temperature can vary due to activity, meals etc., it is adviseable that temperature be taken upon awakening in the morning before getting out of bed. Lastly, Vollman (ibid), states that rectal, as opposed to oral or axillary temperatures, be used, as rectal temperatures have been found to be more reliable. Taking heed of these precautionary measures, rectal temperatures were taken upon awakening in the morning.

## 6.2. APPARATUS

### 6.2.1. The Sleep Laboratory

Subjects slept in one of the two available private and comfortable rooms available. The two rooms were modified to approximate a

home environment with comfortable beds, pictures on the walls, bedside lamps etc. The electrophysiological recording apparatus was housed in a third room where it was monitored by the experimenter.

### 6.2.2. The Electrophysiological Apparatus

A Beckman type R Dynograph multipurpose laboratory recorder equipped to record six channels of information was employed. This apparatus includes six type 481B Preamplifiers, three type 482 Amplifiers, and six type AN 3057 - 6 Amphenol size 14 leads. The EEG and EOG information was recorded red and green ink on prefolded Beckman rectilinear paper fed through a vertical chart drive with 8 possible speeds ranging from 0,1 to 0,25 cm per second.

Beckman silver chloride electrodes were used to monitor the EEG and EOG and were attached to the scalp with collodian glue. This glue is advantageous in that it is quick drying and can be readily dissolved with acetone. DB electrode paste was used as the conducting medium.

### 6.2.3. The Tape Recording Equipment

Two JVC Nivico portable cassette tape recorders with built in

microphones were placed in the "bedrooms" to record the REM dream reports.

### 6.2.4. Dream Report Rating Scales

The Hedonic Tone Scale (Foulkes, Spear and Symonds, 1966)

The Hedonic Tone Scale (Appendix 5) measures the degree of pleasantness or unpleasantness of dream reports. Dreams are rated on a seven-point ordinal scale with ratings of 1-3 indicating the degree of pleasantness, ratings of 5-7 indicating the degree of unpleasantness, and a rating of 4 designating hedonically neutral dreams.

Hedonically mixed dreams, i.e. dreams with both pleasantness and unpleasantness ratings are subjected to an adjustment procedure. The maximum pleasantness (P) score is added to the doubled maximum unpleasantness (UP) score. The total obtained is then divided by three to obtain a weighted average in the direction of unpleasantness. All fractions are then rounded off to the next highest digit if the figure is above 5, and to the next lowest digit if the figure is below 4.

The scale is limited in that it relies upon the rater's subjective judgement in terms of what constitutes pleasantness or unpleasantness.

In spite of this, high inter-rater reliabilities or 0,86 was obtained by Weise and Foulkes (1970), of 0,88 by Faber (1977), and of 0,70 by Edelstein (1981).

The Physical Aggression (PA) Scale (Foulkes and Rechtschaffen, 1964)

The Physical Aggression Scale (Appendix 8), measures overtly physically aggressive behaviour in dreams on a seven-point ordinal scale (0-6). The highest score of any dream event is treated as the score for the dream as a whole. In their construction of the scale. Foulkes and Rechtschaffen (1964), distinguished between physical aggression 'need' where the dreamer was the agent, and physical aggression 'press' where other dream characters were the agents. Hauri et.al. (1967), however, demonstrated that this was not a useful distinction but found that it was useful to distinguish between verbal and physical aggression. Foulkes et.al. (1967) consequently ceased to distinguish between 'press' and 'need' when using this scale, and this study has also not used this distinction.

Foulkes and Rechtschaffen (1964), found an inter-rater reliability of 0,91 when evaluating 78 dreams, Weisz and Foulkes (1970) reported a figure of 0,88 when evaluating 38 dream reports, and Faber (1977) obtained an inter-rater reliability of 0,88 for 20 dream reports.

The Verbal Aggression (VA) Scale (Foulkes and Rechtschaffen, 1964)

The Verbal Aggression Scale (Appendix 9) measures overt verbal aggressive behaviour on a seven-point ordinal scale (0-6). The scale is rated in terms of the intensity of the verbally aggressive behaviour which ranges from "mild teasing" to "extreme derogation." Verbal threats of aggression are scored as physical aggression on the Physical Aggression Scale (Foulkes and Rechtschaffen, 1964). The inter-rater reliability was found to be 0,92 on 78 dreams by Foulkes et.al. (1969), to be 0,65 by Faber (1977) on 20 dream reports.

The Maternal Dream Scale (Edelstein, 1981)

A well established and tested scale of maternal dream content was not available. For this reason an adaptation of Swanson and Foulkes (1968) Manifest Sexuality Scale by Edelstein (1981) was employed. References to manifest sexual behaviour in this scale were transformed to assess maternal behaviour in dreams, whilst the quantitative aspect of the scale remained unchanged. Dreams on the Maternal Dream Scale (Appendix 12) are rated on a seven-point ordinal scale. Edelstein (1981) found the inter-rater reliability of this scale to be 0,82 for 15 dreams.

The Archetypality score of a dream indicates the number of categories in which it scored at or above the critical level, and may therefore range from 0 to 4. A dream that scores 3 or 4 on the Archetypal Dream Scale is judged to be archetypal. Dreams may therefore be assigned to the discrete categories Archetypal or non-archetypal, and also be assigned a graded rating indicating the degree of archetypality (Kluger, 1975).

The Heterosexual Dream Scale (Whitman et.al., 1967)

The Heterosexual Dream Scale (Appendix 11) measures overt and symbolic heterosexual behaviour in dreams on a seven-point ordinal scale (0-6). A score of 6 is assigned to direct or symbolic sexual contact with a member of the opposite sex to the dreamer. A score of 1 is assigned for the presence of both male and females in the dream. The lowest score assigned is for the absence of heterosexual dream content and is 0. Goodenough et.al. (1975), reported on interjudge reliability of 0,75 for this scale.

The Agency/Communion Scale (Adapted from Cohen, 1973)

Cohen (1973), developed the Agency/Communion Dream Scale (Appendix 14) to measure these variables on dream reports. The concepts of agency and communion are derived from Bakan's

(1966) model of agency and communion. According to Bakan (1966), communion is a term which is descriptive of the human organism as it exists in some larger organism of which it is part and it manifests itself in the sense of being at one with other organisms. Communion is characterised by interpersonal concerns and interests, connectedness, union and cooperation. The term agency denotes the existence of an organism as an individual and it is characterised by self-assertion, separateness, instrumentality, mastery, libidinal sexuality, self-expansion and self-protection (Cohen, 1973).

The Agency/Communion Dream Scale has 6 subcategories, 3 which refer to agency and 3 which refer to communion. The agency subcategories are "surgency" (e.g. self-expansion, assertiveness, aggression, initiative etc), "instrumentality" (e.g. urge to master, achievement, success etc.), and "Libido" ("raw" sexuality). The communion subcategories are "active social cooperation" (e.g. altruistic behaviour, expressing concern for others etc.), "passive social connectedness" (e.g. receiving support, receptivity, reunion etc), and "eros" (e.g. sexuality as belonging, relatedness or union).

Dreams are scored in such a manner that each dream receives both an agency and a communion score due to the fact that dreams may

contain elements of both agency and communion. Each dream is rated 0 or 1 of each of the 6 categories such that each dream receives an agency score of 0 to 3 and a communion score of 0 to 3.

It should be noted that the scale as it is used in this thesis is not absolutely identical to Cohen's (1973) version. While Cohen's original categories and definitions have been slightly expanded from Bakan's (1966) description of agency and communion.

6.2.5. The Menstrual Attitude Questionnaire (MAQ) (Brooks-Gunn, J. and Ruble, D.N., 1980)

The Menstrual Attitude Questionnaire was developed with several aims in mind. Menstrual Attitudes were conceptualised as multi-dimensional. Most studies have only looked at one dimension, specifically the positive-negative evaluation of menstruation (e.g. Haft, 1973, and Levitt and Lubin, 1967). Brooks-Gunn and Ruble (1980), had noticed that when menstrual-related symptomatology, its incidence and its causes were discussed in their college classrooms, that several women would state that menstrual distress did not exist and that women who reported distress were neurotic. They theorised that a subgroup of women may actively deny any menstrual effects, while other women may believe in severe and debilitating effects.

Their original questionnaire contained 46 statements that were rated on a 7-point scale (disagree strongly = 1, agree strongly = 7). Items were constructed to represent four categories : beliefs about physiological concomitants of menstruation; styles of dealing with menstruation; menstrual-rated effects on performance; and general evaluations of menstruation. Each category contained an equal number of statements in the first person singular and referring to women in general. The order of item presentation was counterbalanced across the questionnaire.

This original form was presented to 191 Princeton University undergraduate women. The 46 items were then factor analysed by the principal components method using a Varimax rotation (unities in the diagonal). Seven factors with eigenvalues of over 1,00 were identified. Two of the factors contained doublets and were eliminated. The remaining five factors were labelled as follows: menstruation as a psychologically and physiologically debilitating event, as a natural event, as a bothersome event, as an event whose onset can be predicted and anticipated, and as an event that does not and should not affect one's behaviour. Thirty-three of the 46 items loaded on at least one of the 5 factors.

In order to check the replicability and internal consistency of the factors, the new 33 item MAQ was administered to 154 college women and 82 college men from three state colleges in central New Jersey. The data was factor analysed as before and nine factors with

eigenvalues of over 1,00 were found. Four of these factors contained singles or doublets and were eliminated. The remaining factors were identical to those of the previous sample. To examine the similarity of the factor structure between the two samples, coefficients of congruence between the five factors in each sample were computed. Congruence was high between the same factors across the two samples (0,77 and 0,91), but low between the different factors (less than 0,46). The only exception was that debilitation in sample 1 and prediction in sample 2 had a high degree of congruence (0,79). In addition, Cronbach's alpha coefficients were calculated for each factor. Scale homogeneity was high, ranging from 0,95 to 0,97 in both samples with the exception of sample one's denial factor which was 0,90. Brooks-Gunn and Ruble (1980), point out, however, that these coefficients may be inflated to some extent as factor analytic techniques capitalize an item homogeneity.

The overall findings indicate that attitudes towards menstruation are multidimensional, and they state that there may be more than the five factors which they have described. It would therefore appear that many of the commonly used sympton scales do not represent all attitudes and beliefs about menstruation, and reliance on symptom scales has probably limited the examination of menstrual-related attitudes in the past (Brooks-Gunn and Ruble, 1980). The MAQ although a preliminary attempt at

conceptualising menstruation as multidimensional would appear to be a more useful instrument than scales which merely investigate positive-negative attitudes. The internal consistency and replicability of the instrument has also been demonstrated.

Scoring of the MAQ is rapid and simple. Items from the five factors are identified. The subject's mean for each factor is obtained by dividing the sum of the items for that factor by the number of items comprising the factor, reversing the figures of some of the items where necessary. Items which need to be reversed are items 1, 6, 7 and 10 for the menstruation as a debilitating event factor; item 3 for the anticipation and prediction of the onset of menstruation factor; the item 1 of the denial of any effect of menstruation factor. The MAQ is presented in appendix 15 showing the composition of the five factors. When the MAQ was presented to the subjects, however, the factor headings were removed and the order of item presentation was counterbalanced across the questionnaire.

## 6.3 Procedure

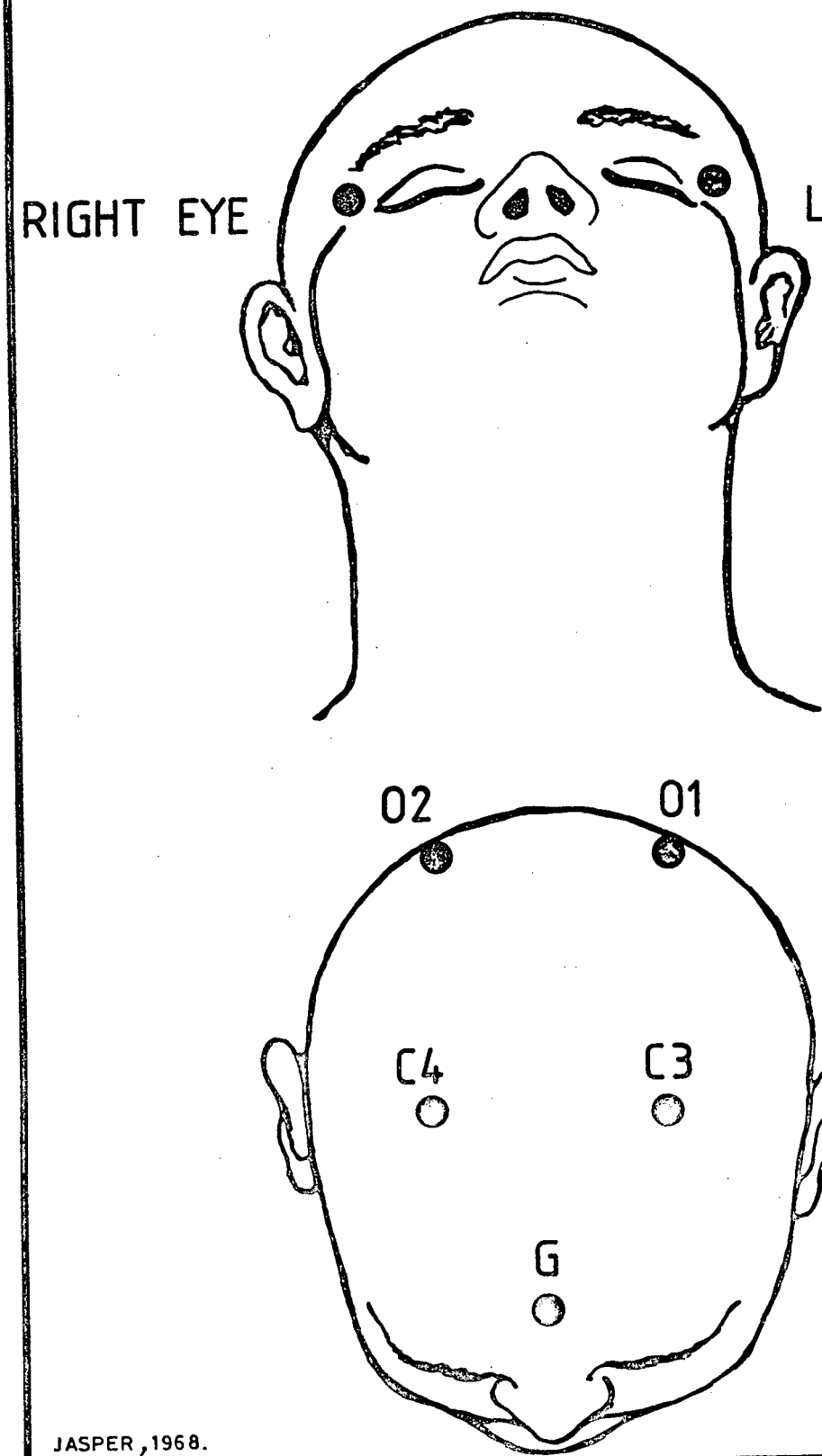
### 6.3.1. Electrophysiological Recording Procedure

Subjects reported to the laboratory forty-five minutes prior to their normal bed time. Subjects then changed into their night attire prior to placement of the electrodes to prevent any interference with the electrodes which could ensue if clothing was removed later. The electrode sites were then thoroughly cleaned with alcohol. The Beckman silver chloride disc electrodes were then filled with DB electrode paste. The electrodes were then placed in position on the scalp and secured there with collodion glue. The EOG (electro-oculogram) electrodes were also filled with DB electrode paste and attached to the outer canthus of each eye with adhesive tape and micropore surgical tape. A ground electrode was attached to the forehead. A blunted hypodermic needle attached to a syringe filled with DB paste was then inserted into the aperture in the centre of each scalp electrode and the skin gently abraded to remove dead skin cells which could interfere with conduction. More DB paste was then injected into the electrode.

Electrodes were placed at the C3 and C4 (Central), and O1 and O2 (Occipital) positions following the Jasper (1968) 10-20 system.

Figure 2 shows the electrode placement sites.

FIG. 2. THE EEG AND EOG ELECTRODE PLACEMENT SITES.




JASPER, 1968.

The EEG and EOG leads were connected to the Beckman dynograph, the recording adjusted where necessary and checked for artifacts. Subjects were requested to look to the left and to the right for a minute to facilitate adjustment of the EOG channel. The night's recording then commenced.

The standard criteria of Rechtschaffen and Kales (1968), were used to determine REM sleep. Subjects were awoken at the specified intervals suggested by Foulkes and Rechtschaffen (1964), namely 5, 10, 15, 20, and 25 minutes into REM periods 1-5 respectively. The subjects, however, were not woken during REM periods 1 and 2 . Upon awakening dream reports were elicited according to the Larson Interview Schedule (Larson, 1969), which can be found in appendix 7, and were recorded on tape for later transcription and analysis, following which the subjects were allowed to return to sleep. As was suggested by Kales et.al. (1967), subjects were awoken by gently calling their names.

### 6.3.2. Dream Collection Prodedure

In research entailing the collection of dreams, a number of factors must be controlled for, and these will be dealt with briefly.

#### 6.3.2.1. Control of "Perceived Demand" Effects

Due to the nature of the research situation, the questionnaire

(appendix 3), and information which was required from the subjects it was realised that difficulties could arise in keeping the subjects completely naive with respect to the aims of the research project. For this reason subjects were told that the aim of the study was to correlate the menstrual cycle, hormone levels, personality type, EEG patterns and thought processes during sleep and dreams. The questionnaire and tests (Bem Sex Role Invetory, The Nocturnal Dream Frequency Recall Scale of the Imaginal Processes Inventory) given to the subjects for selection purposes, as explained in section 6.1, were to aid in creating the impression that this was the case. Furthermore, each time the subjects reported to the laboratory she was given a psychological test such as The Adjective Checklist (Gough and Heilbrun, 1965) or the short form of the Personality Research Form (Jackson, 1967), before leaving the laboratory the following morning. These latter test results were discarded. In addition to this, the subjects, were told that the dreams were merely being collected to provide an overall or global index of personality functioning. It was hoped that via these procedures the emphasis would be removed from dreams in the subjects minds. No mention was made with respect to any of the specific hypotheses concerning dream content. In addition, a post-experimental questionnaire (appendix 6) was administered to ascertain the extent to which subjects may have been aware of the aims of the research.

6.3.2.2. Control of "First Night" Effect

The first night in the laboratory setting has been found to be associated with atypical sleep and dream patterns (Agnew et. al., 1974; Cohen 1979; Dement et.al., 1965; Hartmann, 1967; Kupfer et. al., 1974; Scharf et,al., 1969; Schmidt and Kaelbling, 1971; and Whitman et.al., 1962). The findings of the above researchers indicate that the first night's sleep in the laboratory is characterised by a decrease in REM sleep and an increase in the total waking time during the night. Van de Castle (1971), found that dreams on the first night frequently refer to aspects of the laboratory situation such as the laboratory environment, the experimenter, etc.

The existence of the "First night" effect, however, has been disputed. Coble et.al., 1974, Kapfer et.al., 1974; Lamstein et.al., 1975; Globus, 1970, Toner et.al. 1975, and Williams et.al., 1972, all failed to find any differences when the laboratory was modified to approximate a private comfortably furnished room. Due to the lack of agreement on this issue it was deemed adviseable to discard dreams from the first night in the laboratory.

6.3.2.3. Control of Differences Between Home and REM Dream Reports

Research indicates that there are differences between laboratory

and home dreams. Domhoff (1967), and Hall and Van de Castle (1966) found laboratory dreams to be less 'dramatic' and more bland than home dreams. Domhoff and Kamiya (1964) found laboratory dreams to contain more bizarre elements while home dreams contain more sexual, aggressive and misfortune content. Whitman (1943), suggests that this may be due to subjects withholding personal dreams from the experimenter.

Laboratory dreams, however, have several advantages over home dreams in that it is possible to obtain a large sample of dreams in a short period of time and because the dreams are recorded immediately the possibility of secondary revision is minimised. According to Foulkes (1967), Shapiro et.al., (1943), and Foulkes and Vogel (1974), individuals usually only recall dreams from the last REM period of the night, whereas the laboratory setting permits dreams to be recalled from all REM periods during the night.

There is not,however, total agreement on this issue. Weisz and Foulkes (1970), were unable to find any significant differences between REM and home recalled dreams, except for the findings of more verbal and physical aggression in home dreams. The bulk of the research nevertheless indicates that there are differences between home and REM dream reports. It has therefore been deemed adviseable to control for this factor by having samples of both home and laboratory elicited dreams.

6.3.2.4. Control of Experimenter Effect

According to McGuigan (1963), and Klintz et.al. (1965), the experimenter may influence the subjects to respond in accordance with his hypotheses. It may be thought that the best control for this would be to use another experimenter who would be kept blind with respect to the purpose of the study. It has been found, however, that even if the experimenter is kept blind that a "subtle transfer of cognitive events" takes place (Rosenthal et.al., 1963, p333). For this reason McGuigan's (1963) suggestion that the best control would be to keep this factor constant for all subjects was followed. All dream reports were collected by the same experimenter who was kept blind with respect to the sex-role orientation of the subjects.

6.3.3. REM Dream Report and Home Dream Report Collection Procedure

Subjects reported to the laboratory on four nonconsecutive nights. The first of these was during the menstrual period just prior to the beginning of the experimental phase. This night served as an adaptation night in which the full experimental procedure was carried out. Data from this night were discarded. The experimental phase lasted one full menstrual cycle and dreams were collected from the day after menstruation ceased until the end of the subsequent menstruation. Subjects then returned to the laboratory at ovulation, premenstrually (2 or 3 days prior to menstruation), and during menstruation (day 2 of menstruation). Data collected on

these three nights comprised the REM dream sample.

All subjects were required to keep a home dream diary for the duration of one complete menstrual cycle. Dreams were recorded on dream record sheets (appendix 5) which also required the subjects to rate each dream for hedonic tone. A separate record sheet was used for each day and subjects were required to enter their daily temperature which facilitated the experimenter being able to accurately determine the menstrual cycle phase of the dreams. Each subject was also provided with a set of instructions for keeping a dream diary (appendix 4). At the end of the experimental phase subjects handed in their dream diaries to the experimenter in sealed envelopes which they had been given at the begining of the research project for this purpose.

Figure 3 shows the REM dream report and home dream report collection procedure.

### 6.3.4 Dream Report Rating Procedure

All dreams were rated blind i.e. without any knowledge of the phase of the menstrual cycle from which the dreams came as well as the sex-role orientation of the subject. To ensure that this was the case the experimenter gave the dream diaries to her supervisor in their sealed envelopes. He then coded the dream reports and returned them to the experimenter for rating on all the scales discussed in section 6.2.4. Since the experimenter had collected the REM dream reports and was thus not blind with respect to these, they were coded by the experimenter and given to an individual experienced in dream research for rating.

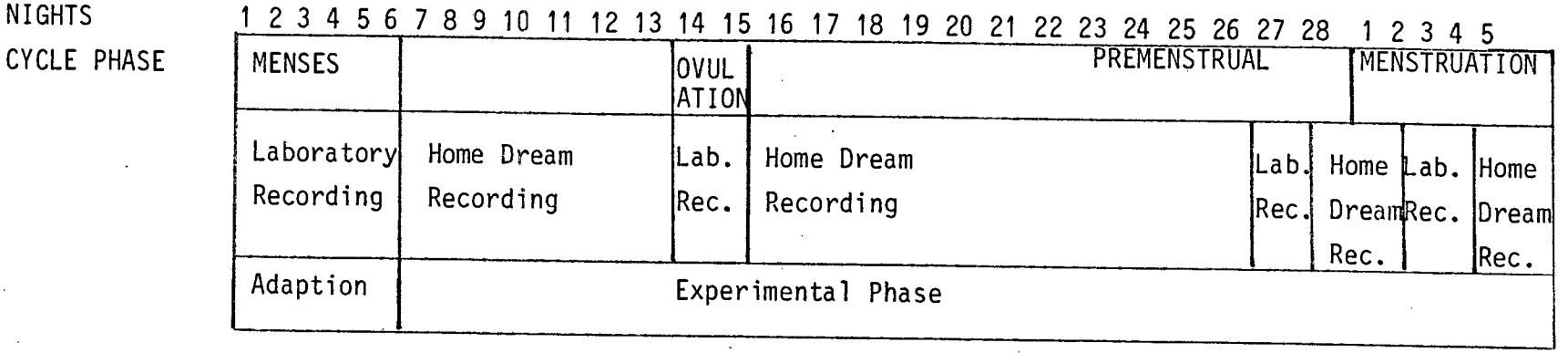



Figure: 3. REM DREAM REPORT AND HOME DREAM REPORT COLLECTION SCHEDULE

The scoring of the "Mythological Parallel" subscale of the Archetypal Dream Scale (Kluger, 1975) requires familiarity with mythology, folklore, and comparative religion and a knowledge of Jung's method of dream analysis (section 6.2.4.). For this reason individuals well versed in these subjects were chosen to rate the REM dreams and the reliability samples.

### 6.3.5. The Definition of Menstrual Cycle Phase

For the purpose of the statistical analysis of the results of the dreams collected under home conditions, the menstrual cycle was divided into four phases, namely : menstruation (day 1-5), pre-ovulation (day 6-14), post ovulation (day 15-21) and premenstrual (day 22-28).

### 6.3.6. Statistical Treatment of Results

The dream recall rate of laboratory dreams for each subject was calculated by dividing the number of REM dreams recalled by the number of times the subject was awakened during the night from the REM period. The dream recall rate of the dreams collected under home conditions for each subject was calculated by dividing the total number of dreams reported by the number of nights during which dreams were recorded. The rate on each of the dream scales for each subject was similarly calculated, separate rates being calculated for home and laboratory dreams.

The results from each dream scale were tested for significance by the Two Factor Analysis of Variance with Repeated Measures on Factor B (Menstrual cycle phase). The homogeneity of variance assumption of the Anova was satisfied for each dream scale.

The dependent samples t-test was used to investigate whether or

not the mean rate on each dream scale for the dreams collected under laboratory conditions differed from those collected under home conditions. The independent samples t-test was used to compare the mean word count index of the masculine and feminine groups. The mean archetypality rate was compared with the mean non-archetypality rate using the t-test for dependent groups. The requirements regarding homogeneity of variance of the two samples were satisfied for the t-tests.

The masculine and feminine groups were compared on the Menstrual Attitude Questionnaire (Brooks-Gunn and Ruble, 1980) using the independent samples t-test.

It should be noted that no data analysis was carried out until all the data had been collected and the dreams rated on all scales. It should be noted again, that the menstrual attitude questionnaire was only administered at the end of the experimental phase of the research.

6.3.6.1 Inter-rater Reliabilities

Inter-rater reliabilities were calculated for all the dream rating scales. A sample of 15 home dreams and 20 REM dreams were sampled such that a representative sample of dreams from all phases of the menstrual cycle and separate figures were calculated for these two samples of dreams. Due to the fact that the experimenter collected the REM data she was not blind with

respect to this data. The REM data was therefore rated by a psychologist experienced in dream research and well versed in Jungian theory. The experimenter rated the home dreams as she was totally blind with respect to these. A third rater, also a psychologist experienced in dream research and knowledgeable in Jungian theory rated the validation samples. It was regarded as essential that the dream raters be well versed in Jungian theory because of the difficulty which would be experienced in rating the Archetypal Dream Scale by a person without sufficient knowledge of Jungian theory.

### 6.3.7. Amplification Study of Dreams

Amplification of the dream reports was done while the experimenter was blind to the menstrual cycle phase and sex-role orientation of the subjects. All dreams were closely examined for symbolism and themes relating to the two aspects of the Mother Archetype as described in section 3.3.2 and 3.3.2.1. Once the data had been uncoded, it was examined to see whether there was any relationship between menstrual cycle phase and the two aspects of the Mother Archetype. After the dreams had been uncoded, the archetypal dreams were further investigated to determine whether or not the dreams in the pre-ovulatory and post-ovulatory phases of the menstrual cycle were in any way predicting the ovulatory and menstrual events. Only the archetypal dreams from the home sample of dreams were investigated in this section of the thesis due to the fact that archetypality was not significant for the laboratory dreams.

## 7.0 RESULTS

This study involved 42 nights in the sleep laboratory of the originally expected 56 nights. This reduction was due to the fact that on several nights two subjects slept at the laboratory. A total of 104 laboratory dreams were collected, 51 of these from the masculine group and 53 from the feminine group. In addition to this a total of 295 dreams were collected under home conditions, 99 of those from the masculine subjects and 196 from the feminine subjects. A total of 150 dreams were thus collected from the masculine group while a total of 249 dreams were collected from the feminine sample. These dreams were then subjected to the procedures outlined in sections 6.3.4., 6.3.5., 6.3.5.1., and 6.3.6.

### 7.1 Dream Recall

The cell means and standard deviations of the mean dream recall rate across the phases of the menstrual cycle are presented in table 4.1. for the dreams collected under home conditions and in table 5.1. for the dreams collected under laboratory conditions. Figure 4 graphically depicts the nature of the changes in dream recall rate across the menstrual cycle for the dreams collected under home conditions of the masculine and feminine groups.

As can be seen from table 4.2, factor A (sex-role orientation), is highly significant ($p<0,01$) for the dreams collected under home

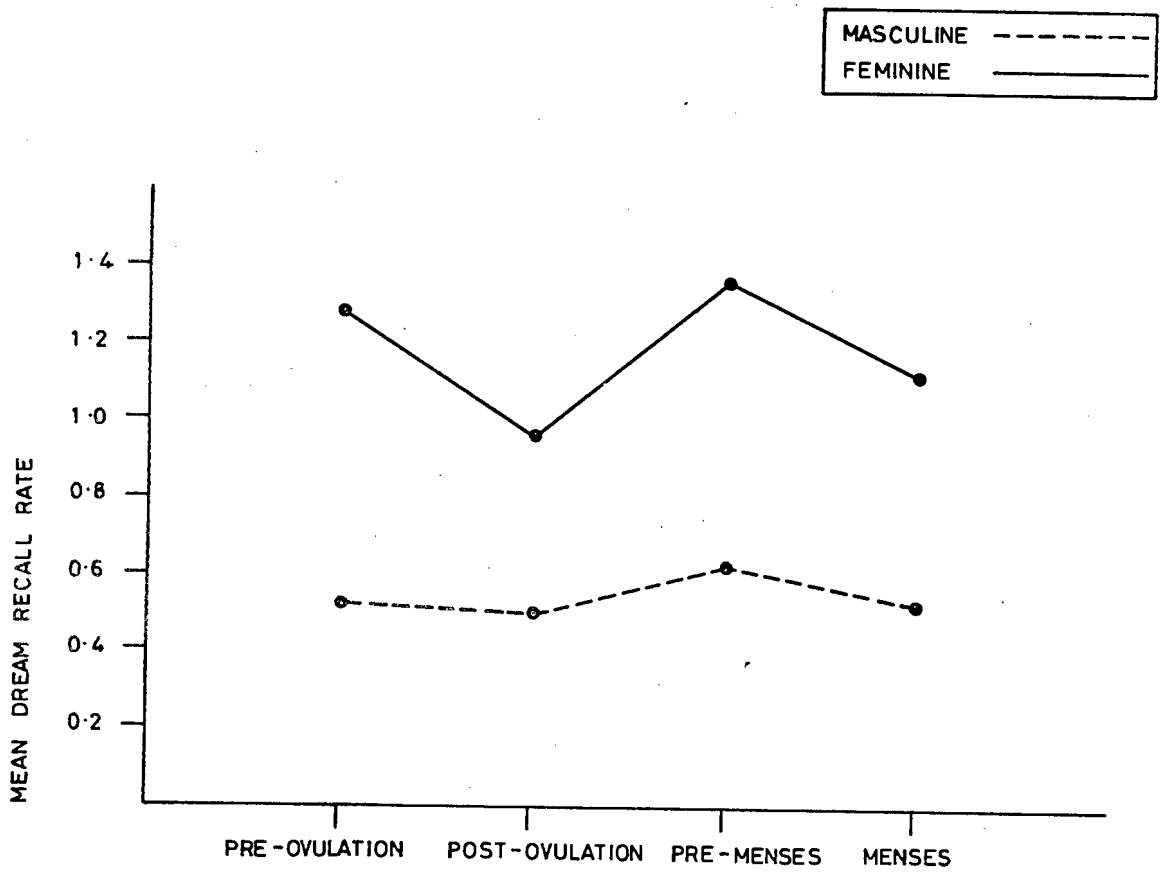



FIG. 4 : MEAN DREAM RECALL RATE ACROSS THE MENSTRUAL CYCLE FOR DREAMS COLLECTED UNDER HOME CONDITIONS OF MASCULINE AND FEMININE SUBJECTS.

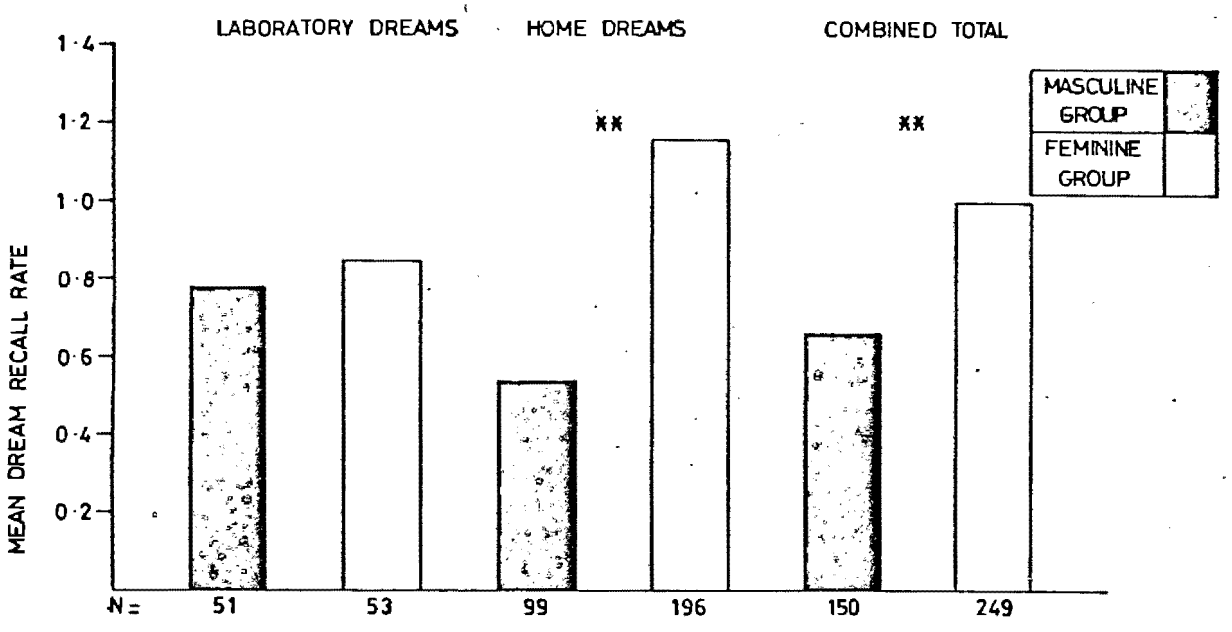



FIG.5 : BAR DIAGRAM OF THE COMPARISON BETWEEN THE DREAM RECALL RATE OF THE LABORATORY AND HOME DREAMS OF THE MASCULINE AND FEMININE SUBJECTS.

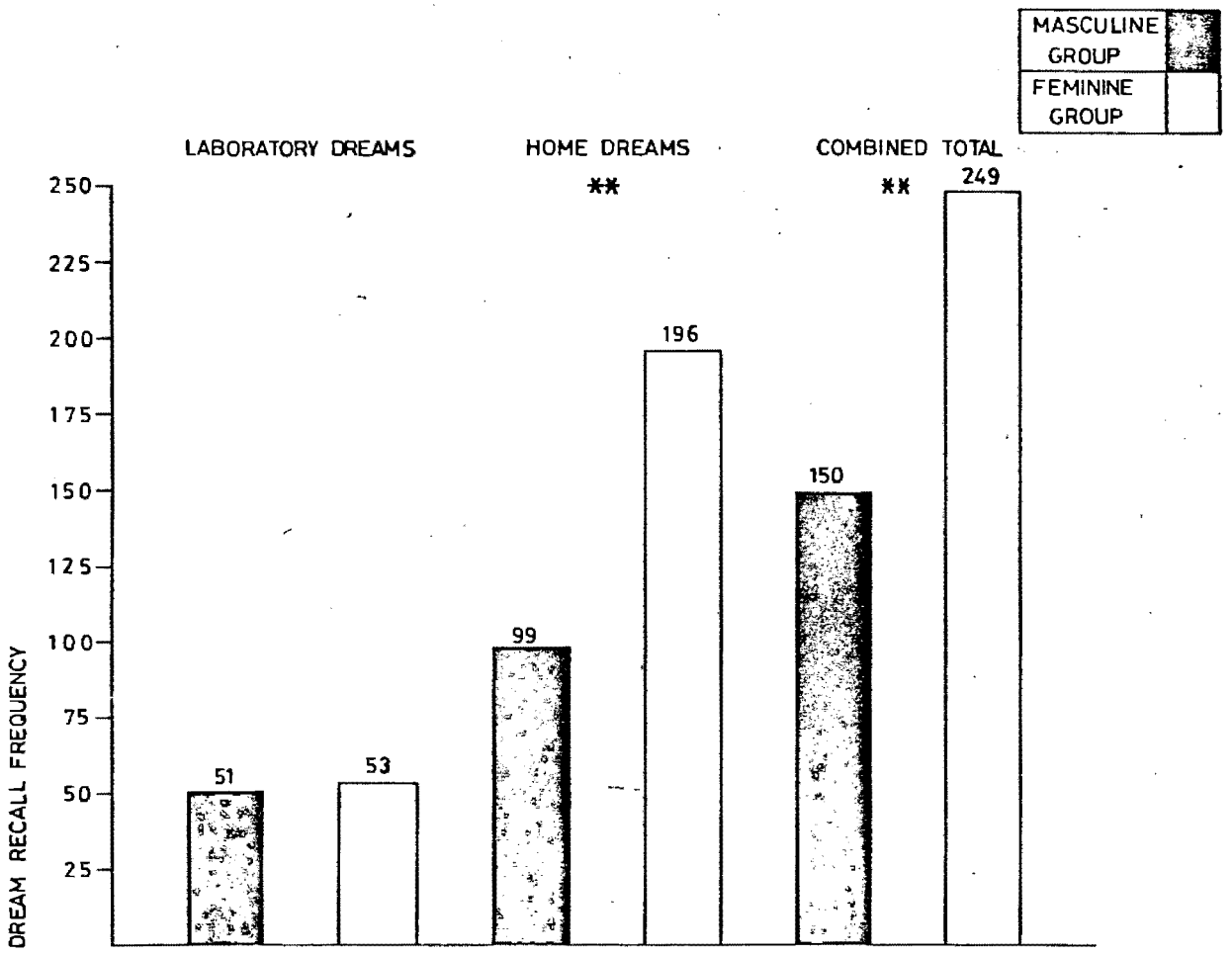



FIG. 6 : BAR DIAGRAM OF THE COMPARISON BETWEEN DREAM RECALL FREQUENCY OF THE LABORATORY, HOME AND COMBINED DREAMS OF THE MASCULINE AND FEMININE SUBJECTS.

| | Pre-Ovulation | Post-Ovulation | Premenstrual | Menstrual |
|---|---|---|---|---|
| A1 Masculine | $\bar{X}$ = 0,54<br>s = 0,34 | $\bar{X}$ = 0,50<br>s = 0,38 | $\bar{X}$ = 0,61<br>s = 0,32 | $\bar{X}$ = 0,56<br>s = 0,42 |
| A2 Feminine | $\bar{X}$ = 1,26<br>s = 0,34 | $\bar{X}$ = 0,95<br>s = 0,53 | $\bar{X}$ = 1,36<br>s = 0,22 | $\bar{X}$ 1,14<br>s = 0,27 |

Table 4.1 : The cell means and standard deviations of the mean dream recall rates of the dreams collected under home conditions.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 5,5251 | 1 | 5,5251 | 25,3425 ** |
| Subj. W.G. | 2,6162 | 12 | 0,2180 | |
| Within Subj. | | | | |
| B | 0,4799 | 3 | 0,1599 | 1,5417 |
| AB | 0,2010 | 3 | 0,0670 | 0,6456 |
| B X SWG | 3,7359 | 36 | 0,1038 | |

Table 4.2 : The Anova Summary Table of the mean dream recall rates of the dreams collected under home conditions.

** $p < 0,01$

| SOURCE | SS | DF | MS | F.RATIO |
|---|---|---|---|---|
| A at B1 | 1,8506 | 1 | 1,8506 | 13,9840 ** |
| A at B2 | 0,7178 | 1 | 0,7178 | 5,4239 * |
| A at B3 | 1,9687 | 1 | 1,9687 | 14,8770 ** |
| A at B4 | 1,1890 | 1 | 1,1890 | 8,9850 ** |
| W Cell | 6,3521 | 48 | 0,1323 | |
| B at A1 | 0,0425 | 3 | 0,0142 | 0,1364 |
| B at A2 | 0,6385 | 3 | 0,2128 | 2,0509 |
| B at SWG | 3,7359 | 36 | 0,1038 | |

Table 4.3 : The Simple Main Effects Summary Table for the mean dream recall rates of the dreams collected under home conditions.

*p<0,05
**p<0,01

| | Ovulation | Premenstrual | Menstrual |
|---|---|---|---|
| A1<br>Masculine | $\bar{X}$ = 0,76<br>s = 0,25 | $\bar{X}$ = 0,81<br>s = 0,26 | $\bar{X}$ = 0,81<br>s = 0,18 |
| A2<br>Feminine | $\bar{X}$ = 0,86<br>s = 0,18 | $\bar{X}$ = 0,86<br>s = 0,17 | $\bar{X}$ = 0,81<br>s = 0,19 |

Table 5.1 : The cell means and standard deviations of the mean dream recall rates of the dreams collected under Laboratory conditions.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 0,0243 | 1 | 0,0243 | 0,4736 |
| Subj. W.G. | 0,6155 | 12 | 0,0513 | |
| Within Subj. | | | | |
| B | 0,0050 | 2 | 0,0025 | 0,0652 |
| AB | 0,0160 | 2 | 0,0080 | 0,2075 |
| B X SWG | 0,9272 | 24 | 0,0386 | |

Table 5.2 : The Anova Summary Table of the mean dream recall rates of the dreams collected under Laboratory conditions.

| | HOME DREAMS | | LABORATORY DREAMS |
|---|---|---|---|
| $\bar{X}$ | 0,87 | | 0,82 |
| s | 0,35 | | 0,21 |
| t | | 0,61 | |
| Df | | 13 | |
| p | | <0,030 | |

Table 6 : Comparison of the mean dream recall rate of the home and laboratory dreams (Masculine and Feminine groups combined). (Two -tailed test).

conditions. Table 4.3, the simple main effects summary table, reveals that feminine subjects have a significantly ($p<0,01$) higher dream recall rate at all phases of the menstrual cycle for home dreams. Table 5.2, however, reveals that the dream recall rates of the dreams collected under laboratory conditions do not vary on either factor A (sex-role orientation) or factor B (menstrual cycle phase).

Figure 5 is a bar diagram comparing the mean dream recall rate of the home and laboratory dreams for the masculine and feminine groups, while figure 6 is a bar diagram comparing the dream recall frequency of the home and laboratory dreams of these two experimental groups. A comparison of the mean dream recall rates of the dreams collected under home conditions and those collected under laboratory conditions presented in Table 6, reveals that there is no significant ($p<0,30$) difference in dream recall rate of the home and laboratory dreams.

## 7.2 Word Count Index of Dreams

When the mean word count index of the masculine and feminine groups are compared (see table 7 ) for the dreams collected under home conditions there was no significant difference between the two groups. This lack of significance was also true for the dreams collected under laboratory conditions.

When the mean work count index of the archetypal and non-archetypal dreams is compared for the masculine group, a significant difference is found in both the home dreams ($p<0,05$) and the laboratory dreams

| | | MASCULINE GROUP | | FEMININE GROUP |
|---|---|---|---|---|
| Mean | $\bar{X}$ | 106,64 | | 132,29 |
| Word Count | s | 27,26 | | 28,61 |
| Index of the | t | | -1,096 | |
| Home Dreams | Df | | 12 | |
| | p | | <0,20 | |
| Mean | $\bar{X}$ | 111,85 | | 140,12 |
| Word Count | s | 29,52 | | 33,68 |
| Index of the | t | | 1,521 | |
| Laboratory | Df | | 12 | |
| Dreams | p | | <0,10 | |

Table 7: Comparison of the mean word count index of the masculine and feminine subjects reported under home and laboratory conditions. (Two-tailed tests).

| | | ARCHETYPAL DREAMS | | NON-ARCHETYPAL DREAMS |
|---|---|---|---|---|
| Masculine Group (Home Dreams) | $\bar{X}$ | 141,14 | | 72,14 |
| | s | 30,21 | | 24,64 |
| | t | | 2,702 | |
| | Df | | 6 | |
| | p | | <0,05 | |
| Feminine Group (Home Dreams) | $\bar{X}$ | 162,43 | | 102,14 |
| | s | 26,51 | | 23,03 |
| | t | | 3,610 | |
| | Df | | 6 | |
| | p | | <0,05 | |

Table 8 : Comparison of the mean word count index of the Archetypal and non-Archetypal dreams reported under home conditions for the Masculine and Feminine groups. (Two-Tailed test).

| | | ARCHETYPAL DREAMS | | NON-ARCHETYPAL DREAMS |
|---|---|---|---|---|
| | $\bar{X}$ | 149,52 | | 74,18 |
| | s | 32,15 | | 26,18 |
| | t | | 4,74 | |
| Masculine Group | Df | | 6 | |
| (Laboratory Dreams) | p | | < 0,01 | |
| | $\bar{X}$ | 184,57 | | 95,67 |
| | s | 30,71 | | 31,85 |
| Feminine Group | t | | 7,67 | |
| (Laboratory Dreams) | Df | | 6 | |
| | p | | < 0,01 | |

Table 9 : Comparison of the mean word count index of the Archetypal and Non-Archetypal dreams reported under laboratory conditions. (Two-tailed tests).

($p<0,01$). (see Tables 8 and 9 ). In other words in both the laboratory and home dream samples for both the masculine and feminine groups there is a significant difference in the dream length of the archetypal and non archetypal dreams, with the archetypal dreams being longer.

## 7.3 Interscorer Reliability

The correlation coefficients and means of each of the scorers are presented in table 10 for the dreams collected under home conditions and in table 11 for the dreams collected under laboratory conditions. All of the correlations were significant ($p<0,01$) indicating a high level of agreement between the two raters.

| DREAM SCALE | $\bar{X}_1$ | $\bar{X}_2$ | r | p |
|---|---|---|---|---|
| Hedonic Tone Scale | 5,12 | 5,10 | 0,72 | <0,01 |
| Verbal Aggression Scale | 2,33 | 2,35 | 0,76 | <0,01 |
| Physical Aggression Scale | 1,37 | 1,50 | 0,81 | <0,01 |
| Maternal Scale | 2,31 | 2,26 | 0,71 | <0,01 |
| Manifest Sexuality Scale | 1,5 | 1,59 | 0,90 | <0,01 |
| Heterosexual Scale | 1,11 | 1,20 | 0,85 | <0,01 |
| Agency Scale | 1,10 | 1,16 | 0,68 | <0,01 |
| Communion Scale | 0,90 | 0,95 | 0,73 | <0,01 |
| Archetypal Scale | 2,30 | 2,41 | 0,91 | <0,01 |

TABLE 10: The interscorer reliability on the Hedonic Tone, Verbal Aggression, Physical Aggression, Maternal, Manifest Sexuality, Heterosexual, Agency, Communion, and Archetypal Dream Scales for dreams collected under home conditions. (15 dream reports)

| DREAM SCALE | $\bar{X}_1$ | $\bar{X}_2$ | r | p |
|---|---|---|---|---|
| Hedonic Tone Scale | 4,99 | 4,81 | 0,74 | $\leq$0,01 |
| Verbal Aggression Scale | 1,50 | 1,61 | 0,79 | $\leq$0.01 |
| Physical Aggression Scale | 2,46 | 2,50 | 0,85 | $\leq$0,01 |
| Maternal Scale | 2,25 | 2,31 | 0,65 | $\leq$0,01 |
| Manifest Sexuality Scale | 1,20 | 1,27 | 0,75 | $\leq$0,01 |
| Heterosexual Scale | 1,15 | 1,32 | 0,83 | $\leq$0,01 |
| Agency Scale | 1,20 | 1,22 | 0,69 | $\leq$0,01 |
| Communion Scale | 0,85 | 0,92 | 0,75 | $\leq$0,01 |
| Archetypal Scale | 2,20 | 2,31 | 0,89 | $\leq$0,01 |

TABLE 11: The interscorer reliability on the Hedonic Tone, Verbal Aggression, Physical Aggression, Maternal, Manifest Sexuality, Heterosexual, Agency, Communion, and Archetypal Dream Scales for dreams collected under laboratory conditions. (20 dream reports)

## 7.4 Manifest Dream Content

### 7.4.1 Hedonic Tone (Dream Unpleasantness)

The cell means and standard deviations of the mean hedonic tone rate of the dreams for the masculine and feminine groups collected under home and laboratory conditions are presented in tables 12.1 and 13.1 respectively.

No significant results were found for mean hedonic tone rate in either the home or laboratory samples of dreams (see tables 12.2 and 13.2).

A statistical analysis of the difference in mean hedonic tone rate between the home and laboratory samples of dreams was not significant (see table 14)

| | Pre-Ovulation | Post-Ovulation | Premenstrual | Menstrual |
|---|---|---|---|---|
| A1 Masculine | $\bar{X}$ = 4,4<br>s = 1,23 | $\bar{X}$ = 3,78<br>s = 0,89 | $\bar{X}$ = 4,99<br>s = 0,76 | $\bar{X}$ = 4,51<br>s = 0,83 |
| A2 Feminine | $\bar{X}$ = 4,15<br>s = 1,10 | $\bar{X}$ = 3,98<br>s = 0,65 | $\bar{X}$ = 5,00<br>s = 0,55 | $\bar{X}$ 4,58<br>s = 0,94 |

Table 12.1 : The cell means and standard deviations of the mean hedonic tone rates of the dreams collected under home conditions.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 0,0328 | 1 | 0,0328 | 0,1347 |
| Subj. W.G. | 2,9220 | 12 | 0,2435 | |
| Within Subj. | | | | |
| B | 1,0248 | 3 | 0,3416 | 2,1257 |
| AB | 0,0489 | 3 | 0,0163 | |
| B X SWG | 5,7852 | 36 | 0,1607 | |

Table 12.2 : The Anova Summary Table of the mean hedonic tone rates of the dreams collected under home conditions.

| | Ovulation | Premenstrual | Menstrual |
|---|---|---|---|
| A1<br>Masculinity | $\bar{X}$ = 4,20<br>s = 1,23 | $\bar{X}$ = 5,02<br>s = 0,84 | $\bar{X}$ = 4,15<br>s = 1,10 |
| A2<br>Femininity | $\bar{X}$ = 4,10<br>s = 1,00 | $\bar{X}$ = 5,12<br>s = 0,79 | $\bar{X}$ = 4,48<br>s = 1,14 |

Table 13.1 : The cell means and standard deviations of the mean hedonic rates of the dreams collected under laboratory conditions.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 0,2143 | 1 | 0,2143 | 2,2463 |
| Subj. W.G. | 1,1448 | 12 | 0,0954 | |
| Within Subj. | | | | |
| B | 2,4902 | 2 | 1,2451 | 2,9737 |
| AB | 0,1390 | 2 | 0,0696 | 0,1660 |
| B X SWG | 10,0488 | 24 | 0,4187 | |

Table 13.2 : The Anova Summary Table of the mean hedonic tone rates of the dreams collected under laboratory conditions.

| | HOME DREAMS | | LABORATORY DREAMS |
|---|---|---|---|
| $\bar{X}$ | 4,42 | | 4,52 |
| s | 0,87 | | 1,02 |
| t | | -1,68 | |
| Df | | 13 | |
| p | | < 0,10 | |

Table 14 : Comparison of the mean hedonic tone rate of the home and laboratory dreams. (Masculine and Feminine groups combined) (Two-Tailed test).

A comparison of the mean physical aggression rate between the hedonically negative and hedonically positive dreams of the feminine group failed to reach significance (see table 15.1). There was no significant difference in mean verbal aggression rate between the hedonically positive and hedonically negative dreams of the feminine group (see table 15.2).

### 7.4.2 Verbal Aggression

The cell means and standard deviations of the mean verbal aggression rates of the masculine and feminine groups are presented in tables 16.1 and 17.1 for the home and laboratory samples of dreams respectively.

Statistical analysis reveals that the mean verbal aggression rate fluctuates in accordance with the menstrual cycle phase for the dream reports collected under both home conditions (see table 16.2) and laboratory conditions (see table 17.2). This is true in the case of the laboratory dreams for both the masculine ($p<0,05$) and the feminine ($p<0,01$) groups (see table 17.3). In the case of home sample, however, it is only true for the feminine group ($p<0,01$) (see table 16.3).

It was found that under home conditions, the feminine group had significantly higher mean verbal aggression rates during the premenstrual phase than during the pre-ovulatory ($p<0,01$), or post-ovulatory ($p<0,05$) phases of the menstrual cycle (see table 16.5). It was found that under laboratory conditions the feminine group had significantly higher mean verbal aggression rates in the premenstrual phase than either the pre-ovulatory ($p<0,05$) or menstrual ($p<0,01$) phases, while the dreams of the masculine group contained more physical aggression during the premenstrual than pre-ovulatory ($p<0,05$) phase.

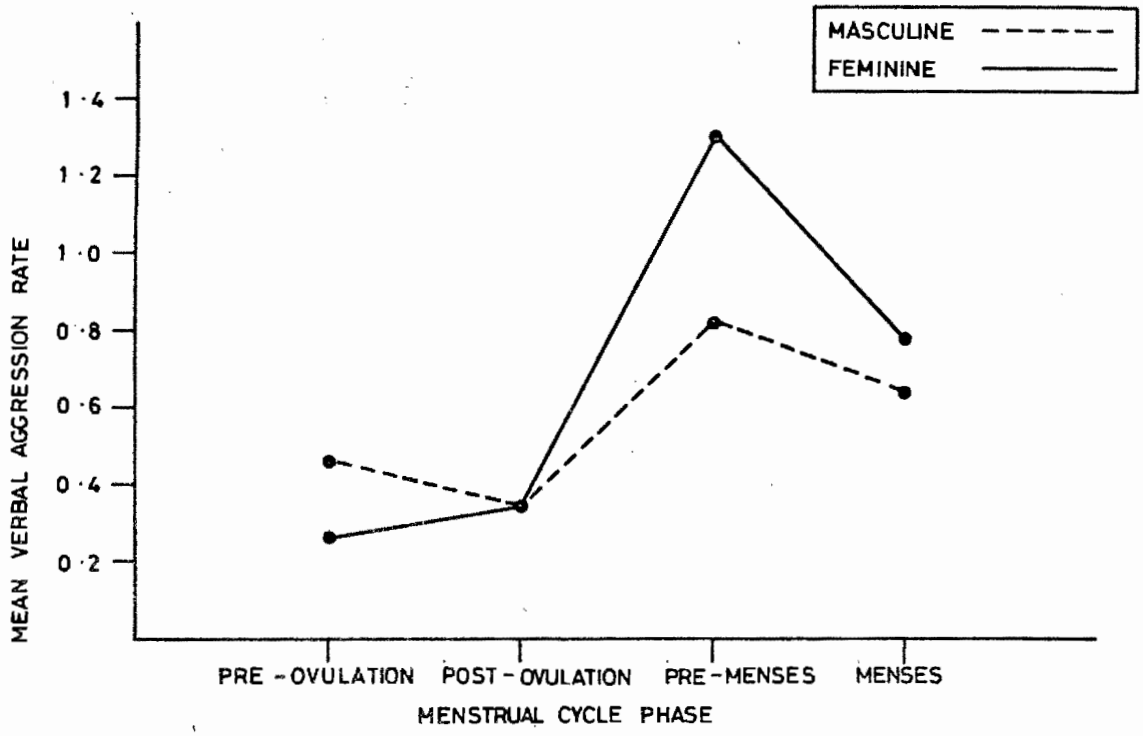



FIG.7: MEAN VERBAL AGGRESSION RATE ACROSS THE MENSTRUAL CYCLE FOR DREAMS COLLECTED UNDER HOME CONDITIONS OF MASCULINE AND FEMININE SUBJECTS.

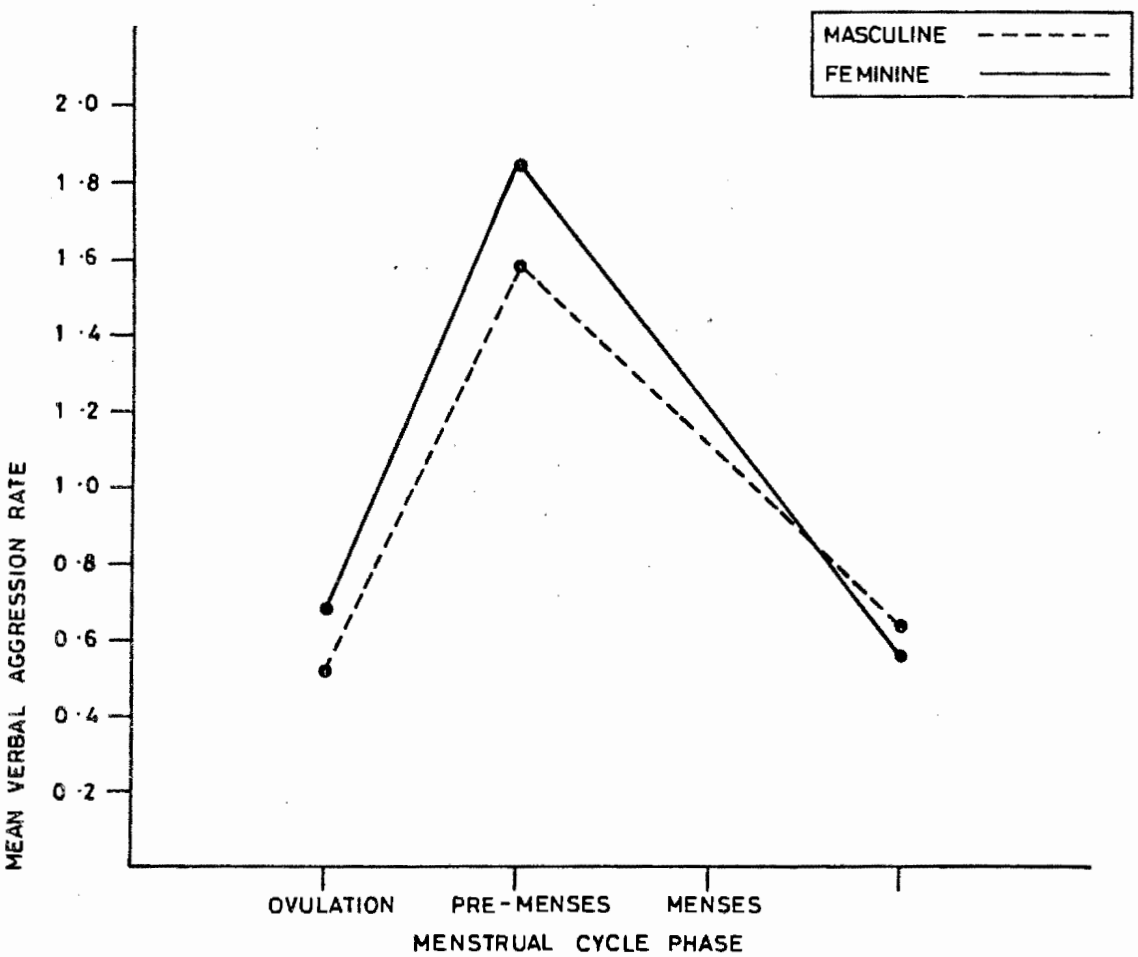



FIG. 8: MEAN VERBAL AGGRESSION RATE ACROSS THE MENSTRUAL CYCLE FOR DREAMS COLLECTED UNDER LABORATORY CONDITIONS OF MASCULINE AND FEMININE SUBJECTS.

| HEDONICALLY NEGATIVE | | | HEDONICALLY POSITIVE |
|---|---|---|---|
| $\bar{X}$ | 2,10 | | 1,72 |
| s | 1,23 | | 1,03 |
| t | | 4,18 | |
| Df | | 13 | |
| p | | < 0,10 | |

Table 15.1 : The Comparison of the mean physical aggression rate for the hedonically negative and hedonically positive dreams of the feminine group. (Laboratory and Home Dreams Combined) (One-tailed test)

| HEDONICALLY NEGATIVE | | | HEDONICALLY POSITIVE |
|---|---|---|---|
| $\bar{X}$ | 0,98 | | 0,74 |
| s | 0,75 | | 0,68 |
| t | | 1,01 | |
| Df | | 13 | |
| p | | < 0,20 | |

Table 15.2 : The Comparison of the mean verbal aggression rate for the hedonically negative and hedonically positive dreams of the feminine group. (Laboratory and Home Dreams Combined). (One-tailed test).

| | Pre-Ovulation | Post-Ovulation | Premenstrual | Menstrual |
|---|---|---|---|---|
| A1 Masculine | $\bar{X}$ = 0,46<br>s = 0,42 | $\bar{X}$ = 0,36<br>s = 0,34 | $\bar{X}$ = 0,81<br>s = 0,97 | $\bar{X}$ = 0,64<br>s = 0,36 |
| A2 Feminine | $\bar{X}$ = 0,26<br>s = 0,33 | $\bar{X}$ = 0,36<br>s = 0,56 | $\bar{X}$ = 1,30<br>s = 0,88 | $\bar{X}$ 0,79<br>s = 0,58 |

Table 16.1 : Cell means and standard deviations of the mean verbal aggression rates of the dreams collected under home conditions

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 0,1639 | 1 | o,1639 | 0,3101 |
| Subj. W.G. | 6,3450 | 12 | 0,5287 | |
| Within Subj. | | | | |
| B | 4,6764 | 3 | 1,5588 | 5,0595 ** |
| AB | 0,8552 | 3 | 0,2851 | 0,9252 |
| B X SWG | 11,0913 | 36 | 0,3081 | |

**p <0,01

Table 16.2: Anova Summary Table of the mean verbal aggression rates of the dreams collected under home conditions.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| A at B1 | 0,0758 | 1 | 0,0758 | 0,2086 |
| A at B2 | 0,1321 | 1 | 0,1321 | 0,3637 |
| A at B3 | 0,0715 | 1 | 0,0715 | 1,9692 |
| A at B4 | 0,8112 | 1 | 0,8112 | 2,2332 |
| W Cell | 17,4363 | 48 | 0,3633 | |
| B at A1 | 0,8525 | 3 | 0,2842 | 0,9223 |
| B at A2 | 4,6791 | 3 | 1,5597 | 5,0624 ** |
| B X SWG | 11,0913 | 36 | 0,3081 | |

**$p < 0,01$

Table 16.3 : Simple Main Effects Summary Table for the mean verbal aggression rates of the home dreams.

| | B1 | B2 | B3 | B4 |
|---|---|---|---|---|
| B1 | - | -0,10 | -1,04** | -0,53 |
| B2 | | - | -0,94* | -0,43 |
| B3 | | | - | 0,51 |
| B4 | | | | - |

* $p < 0,05$

** $p < 0,01$

Table 16 .4 : Tukey HSD Summary Table of the mean verbal aggression rate of the home dreams of the Feminine subjects.

| | Ovulation | Premenstrual | Menstrual |
|---|---|---|---|
| A1 Masculinity | $\bar{X}$ = 0,52<br>s = 0,64 | $\bar{X}$ = 1,59<br>s = 0,87 | $\bar{X}$ = 0,63<br>s = 0,75 |
| A2 Femininity | $\bar{X}$ = 0,69<br>s = 0,65 | $\bar{X}$ = 1,86<br>s = 1,19 | $\bar{X}$ = 0,56<br>s = 0,54 |

Table 17.1 : Cell means and standard deviations of the mean verbal aggression rates of the laboratory dreams.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 0,1512 | 1 | 0,1512 | 0,1850 |
| Subj. W.G. | 9,8100 | 12 | 0,8175 | |
| Within Subj. | | | | |
| B | 11,8137 | 2 | 5,9068 | 10,6373 ** |
| AB | 0,2079 | 2 | 0,1040 | 0,1872 |
| B X SWG | 13,3270 | 24 | 0,5553 | |

**p <0,01

Table 17.2 : Anova Summary Table of the mean verbal aggression rates of the laboratory dreams.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| A at B1 | 0,0995 | 1 | 0,0995 | 0,1548 |
| A at B2 | 0,2418 | 1 | 0,2418 | 0,3763 |
| A at B3 | 0,0179 | 1 | 0,0179 | 0,0278 |
| W Cell | 23,1370 | 36 | 0,6427 | |
| B at A1 | 4,8750 | 2 | 2,4375 | 4,3896 * |
| B at A2 | 7,1466 | 2 | 3,5733 | 6,4350 ** |
| B X SWG | 13,3270 | 24 | 0,5553 | |

* $p<0,05$
** $p<0,01$

Table 17.3 : The Simple Main Effects Summary Table of the mean verbal aggression rates of the laboratory dreams.

| | B1 | B2 | B3 |
|---|---|---|---|
| B1 | - | -1.07* | -0,11 |
| B2 | | - | 0,96 |
| B3 | | | - |
| B4 | | | |

*$p<0,05$

Table 17.4 : The Tukey HSD Summary Table of the mean verbal aggression rates of the laboratory dreams of the Masculine subjects.

| | B1 | B2 | B3 |
|---|---|---|---|
| B1 | - | -1,17* | 0,13 |
| B2 | | - | 1,30** |
| B3 | | | - |
| B4 | | | |

* $p<0,05$
** $p<0,01$

Table 17.5 : The Tukey HSD Summary Table of the mean verbal aggression rates of the laboratory dreams of the Feminine subjects.

| | HOME DREAMS | | LABORATORY DREAMS |
|---|---|---|---|
| $\bar{X}$ | 0,63 | | 0,98 |
| s | 0,56 | | 0,77 |
| t | | -2,03 | |
| Df | | 13 | |
| p | | < 0,10 | |

Table 18 : Comparison of the mean verbal aggression rate of the home and laboratory dreams ( Masculine and Feminine groups combined). (Two-Tailed test).

Figure 7 and 8 graphically depict changes in mean verbal aggression rate as a function of menstrual cycle phase for the dreams collected under home and laboratory conditions respectively.

Statistical analysis of the difference in mean verbal aggression rates between the home and laboratory samples of dreams failed to yield a significant result (see table 18).

### 7.4.3 Physical Aggression

The cell means and standard deviations of the dreams for masculine and feminine groups collected under home and laboratory conditions are presented in tables 19.1 and 20.1 respectively. Statistical analysis of the home dreams reveals that the mean physical aggression rate is significantly ($p<0,01$) higher in the feminine group than the masculine group. It was also found that in the home dreams of both the masculine and feminine groups the physical aggression rate was significantly ($p<0,01$) higher during the prementstrual phase than during the pre-ovulatory, post ovulatory or menstrual phases (see table 19.4 and 19.5).

Statistical analysis of the dreams collected under laboratory conditions indicates that the mean physical aggression rate of the feminine group is significantly higher ($p<0,05$) than the masculine group (see table 202). The simple main effects for these dreams show that there is no significant difference in the masculine group with respect to menstrual cycle phase. The statistical results, however, show that the mean physical aggression rate of the feminine group is significantly higher in the premenstrual phase than at ovulation ($p<0,01$) or during

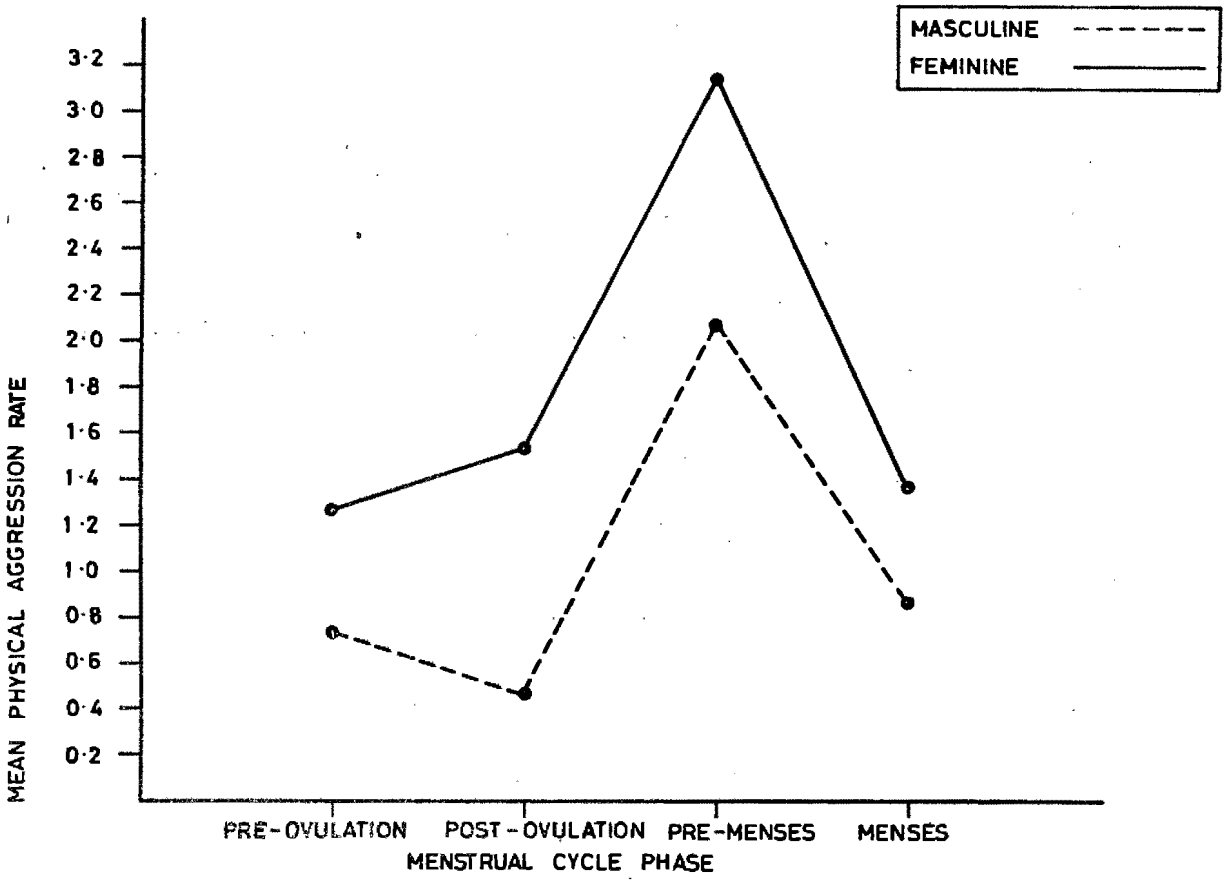



FIG. 9: MEAN PHYSICAL AGGRESSION RATE ACROSS THE MENSTRUAL CYCLE FOR DREAMS COLLECTED UNDER HOME CONDITIONS OF MASCULINE AND FEMININE SUBJECTS.

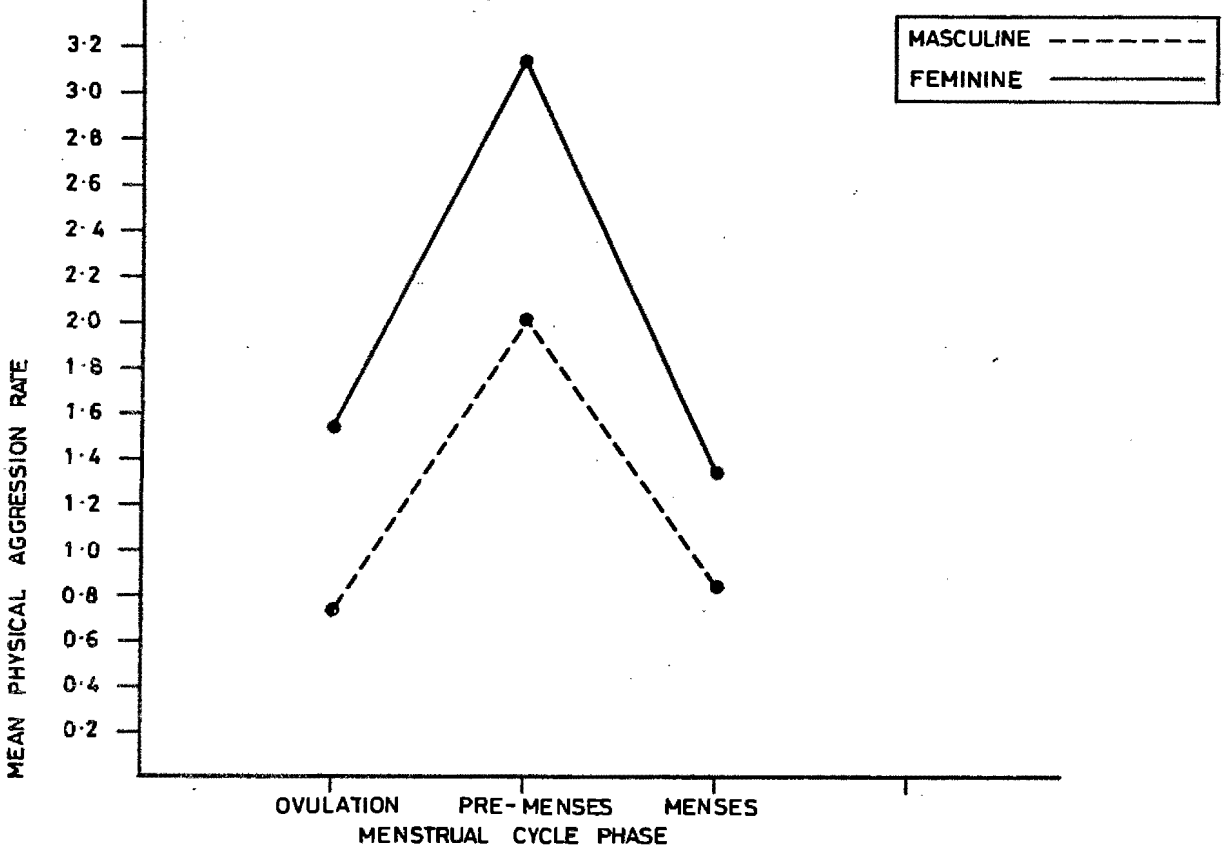



FIG. 10: MEAN PHYSICAL AGGRESSION RATE ACROSS THE MENSTRUAL CYCLE FOR DREAMS COLLECTED UNDER LABORATORY CONDITIONS OF MASCULINE AND FEMININE SUBJECTS.

| | Pre-Ovulation | Post-Ovulation | Premenstrual | Menstrual |
|---|---|---|---|---|
| A1 Masculine | $\bar{X}$ = 0,73<br>s = 1,27 | $\bar{X}$ = 0,46<br>s = 0,59 | $\bar{X}$ = 2,14<br>s = 1,57 | $\bar{X}$ = 0,87<br>s = 1,01 |
| A2 Feminine | $\bar{X}$ = 1,26<br>s = 0,78 | $\bar{X}$ =1,45<br>s = 0,46 | $\bar{X}$ = 3,12<br>s = 1,07 | $\bar{X}$ = 1,35<br>s = 0,67 |

Table 19.1 : The cell means and standard deviations of the mean physical aggression rates of the home dreams.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 7,8750 | 1 | 7,8750 | 9,9143 ** |
| Subj. W.G. | 9,5317 | 12 | 0,7943 | |
| Within Subj. | | | | |
| B | 27,8392 | 3 | 9,2797 | 8,8445 ** |
| AB | 0,8414 | 3 | 0,2805 | 0,2673 |
| B X SWG | 37,7715 | 36 | 1,0492 | |

**$p < 0,01$

Table 19.2 : Anova Summary Table of the mean physical aggression rates of the home dreams.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| A at B1 | 0,9991 | 1 | 0,9991 | 1,0138 |
| A at B2 | 3,4205 | 1 | 3,4205 | 3,4708 |
| A at B3 | 3,5000 | 1 | 3,5000 | 3,5516 |
| A at B4 | 0,7968 | 1 | 0,7968 | 0,8086 |
| W Cell | 47,3032 | 48 | 0,9855 | |
| B at A1 | 11,7283 | 3 | 3,9094 | 3,7261 * |
| B at A2 | 16,9522 | 3 | 5,6507 | 5,3857 ** |
| B X SWG | 37,7715 | 36 | 1,0492 | |

Table 19.3 : The simple Main Effects Summary Table for the mean physical aggression rates of the home dreams.

*p<0,05

**p<0,01

| | B1 | B2 | B3 | B4 |
|---|---|---|---|---|
| B1 | - | 0,27 | -1,41 ** | -0,14 |
| B2 | | - | -1,68 ** | -0,41 |
| B3 | | | - | 1,27 ** |
| B4 | | | | - |

Table 19.4 : Tukey HSD Summary Table for the mean physical aggression rates of the home dreams of the masculine subjects.

**p<0,01

| | B1 | B2 | B3 | B4 |
|---|---|---|---|---|
| B1 | - | -0,19 | -1,86 ** | -0,09 |
| B2 | | - | -1,67 ** | 0,10 |
| B3 | | | - | 1,77 ** |
| B4 | | | | - |

Table 19.5 : Tukey HSD Summary Table for the mean physical aggression rates of the home dreams of the feminine subjects.

**p<0,01

| | Ovulation | Premenstrual | Menstrual |
|---|---|---|---|
| A1 Masculinity | $\bar{X}$ = 0,76<br>s = 1,47 | $\bar{X}$ = 2,00<br>s = 1,63 | $\bar{X}$ = 0,83<br>s = 1,04 |
| A2 Femininity | $\bar{X}$ = 1,57<br>s = 1,13 | $\bar{X}$ = 3,14<br>s = 1,18 | $\bar{X}$ = 1,33<br>s = 0,84 |

Table 20.1 : Cell means and standard deviations of the mean physical aggression rates of the laboratory dreams.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 7,0274 | 1 | 7,0274 | 4,7593 * |
| Subj. W.G. | 17,7190 | 12 | 1,4766 | |
| Within Subj. | | | | |
| B | 19,5748 | 2 | 9,7874 | 6,1521 ** |
| AB | 0,7203 | 2 | 0,3602 | 0,2264 |
| B X SWG | 38,1819 | 24 | 1,5909 | |

Table 20.2 : Anova Summary Table of the mean physical aggression rates of the laboratory dreams.

*$p < 0,05$

**$p < 0,01$

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| A at B1 | 2,2964 | 1 | 2,2964 | 1,4788 |
| A at B2 | 4,5714 | 1 | 4,5714 | 2,9440 |
| A at B3 | 0,8800 | 1 | 0,8800 | 0,5667 |
| W Cell | 55,9008 | 36 | 1,5528 | |
| B at A1 | 6,7699 | 2 | 3,3849 | 2,1277 |
| B at A2 | 13,5253 | 2 | 6,7626 | 4,2508 * |
| B X SWG | 38,1819 | 24 | 1,5909 | |

Table 20.3 : The Simple Main Effects Summary Table for the mean physical aggression rates of the laboratory dreams.

*p<0.05

| | B1 | B2 | B3 |
|---|---|---|---|
| B1 | - | -1,57 ** | 0,24 |
| B2 | | - | 1,81 ** |
| B3 | | | - |

Table 20.4 : Tukey HSD Summary Table for the mean physical aggression rates of the laboratory dreams of the feminine subjects.

**p<0,01

| | HOME DREAMS | | LABORATORY DREAMS |
|---|---|---|---|
| $\bar{X}$ | 1,43 | | 1,80 |
| s | 0,93 | | 1,22 |
| t | | -1,68 | |
| Df | | 13 | |
| p | | <0,10 | |

Table 21 : Camparison of the mean physical aggression rate of the home and laboratory dreams ( Masculine and Feminine groups combined). (Two-tailed test).

menstruation ($p<0,01$) (see tables 20.3 and 20.4).

Figures 9 and 10 graphically depict changes in the mean physical aggression rate as a function of the menstrual cycle phase for the dreams collected under home and laboratory conditions respectively.

Statistical analysis of the difference in mean physical aggression rate between the laboratory and home elicited dreams was not significant (see table 21).

7.4.4 Maternal Dream Content

The cell means and standard deviations of the mean maternal rate of the dreams for masculine and feminine groups collected under home and laboratory conditions are presented in table 22.1 and 23.1 respectively. There was no significant difference between the masculine and feminine groups with respect to mean maternal rate in either the home or laboratory elicited dreams

Statistical analysis of the laboratory elicited dreams reveals that the mean maternal rate at ovulation of the feminine group is significantly ($p<0,05$) higher than at menstruation while there are no significant menstrual cycle related changes in mean maternal rate for the masculine group (see tables 23.3 and 23.4).

Statistical analysis of the dreams collected under home conditions reveals that in the masculine group, the mean maternal rate at pre-ovulation is significantly higher than at post-ovulation ($p<0,01$),

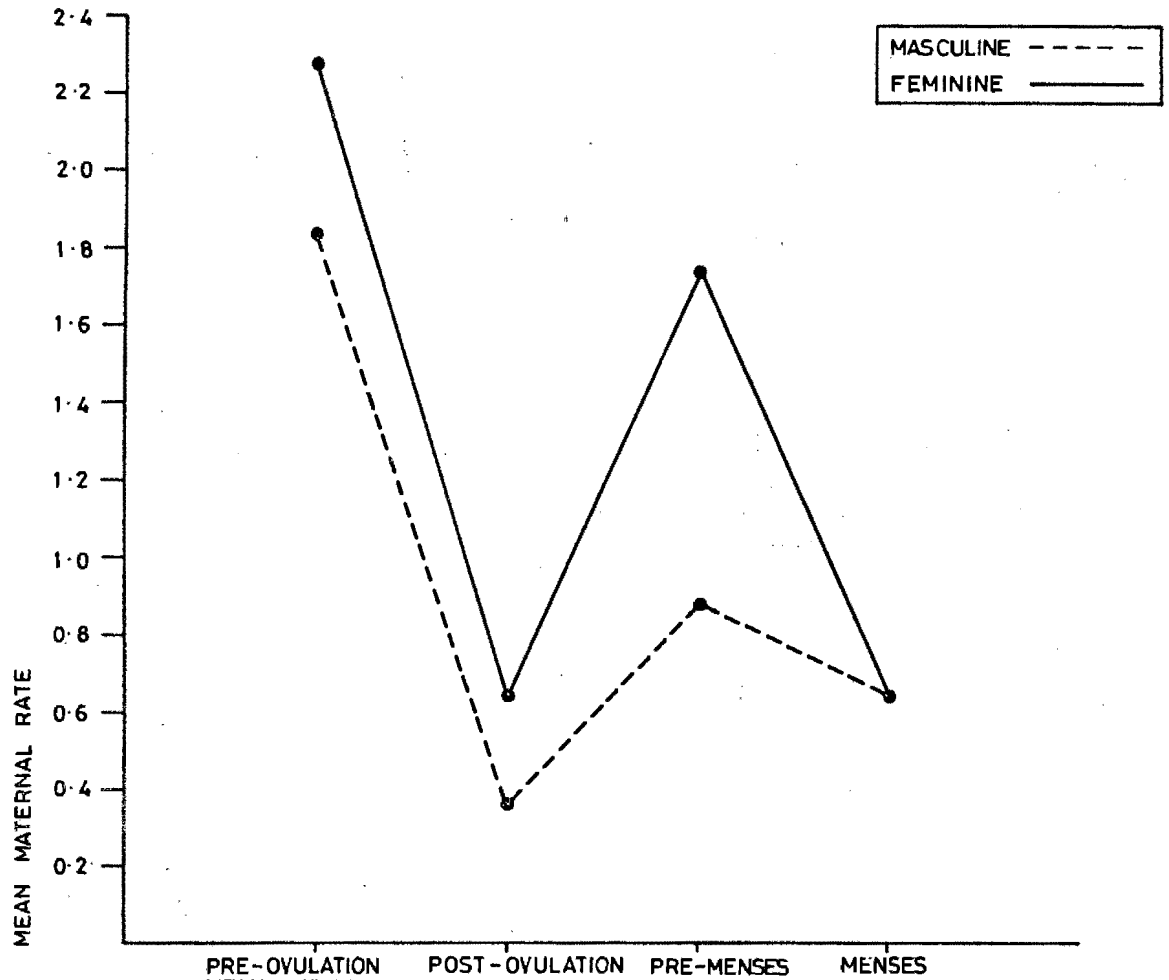



FIG. 11: MEAN MATERNAL DREAM RATE ACROSS THE MENSTRUAL CYCLE FOR DREAMS COLLECTED UNDER HOME CONDITIONS OF MASCULINE AND FEMININE SUBJECTS.

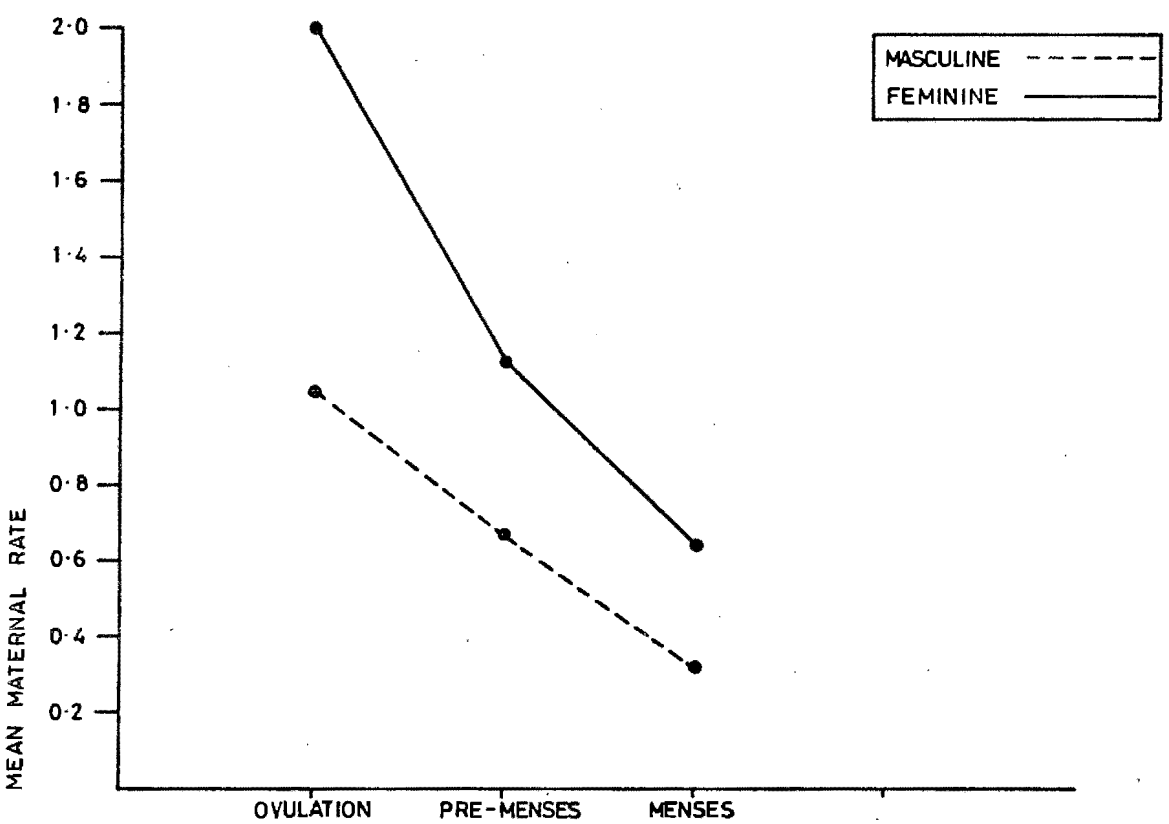



FIG. 12: MEAN MATERNAL DREAM RATE ACROSS THE MENSTRUAL CYCLE FOR DREAMS COLLECTED UNDER LABORATORY CONDITIONS OF MASCULINE AND FEMININE SUBJECTS.

| | Pre-Ovulation | Post-Ovulation | Premenstrual | Menstrual |
|---|---|---|---|---|
| A1 Masculine | $\bar{X}$ = 1,83<br>s = 1,04 | $\bar{X}$ = 0,38<br>s = 0,37 | $\bar{X}$ = 0,88<br>s = 0,45 | $\bar{X}$ = 0,61<br>s = 0,48 |
| A2 Feminine | $\bar{X}$ = 2,29<br>s = 0,95 | $\bar{X}$ = 0,65<br>s = 0,53 | $\bar{X}$ = 1,75<br>s = 0,79 | $\bar{X}$ 0,61<br>s = 0,36 |

Table 22.1 : The cell means and standard deviations of the mean maternal dream rates of the home dreams.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 2,2240 | 1 | 2,2240 | 3,3150 |
| Subj. W.G. | 8,0507 | 12 | 0,6709 | |
| Within Subj. | | | | |
| B | 21,6448 | 3 | 7,2149 | 19,2761 ** |
| AB | 1,3948 | 3 | 0,4649 | 1,2421 |
| B X SWG | 13,4746 | 36 | 0,3743 | |

Table 22.2 : The Anova Summary Table of the mean maternal rates of the home dreams.

**$p < 0,01$

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| A at B1 | 0,7406 | 1 | 0,7406 | 1,6515 |
| A at B2 | 0,2552 | 1 | 0,2552 | 0,5690 |
| A at B3 | 2,6492 | 1 | 2,6492 | 5,9074 * |
| A at B4 | 0 | 1 | 0 | 0 |
| W Cell | 21,5253 | 48 | 0,4484 | |
| B at A1 | 8,5211 | 3 | 2,8404 | 7,5886 ** |
| B at A2 | 14,5509 | 3 | 4,8503 | 12,9585 ** |
| B X SWG | 13,4746 | 36 | 0,3743 | |

Table 22.3 : The Simple Main Effects Summary Table for the mean maternal rates of the home dreams.

*p<0,05

**p<0,01

| | B1 | B2 | B3 | B4 |
|---|---|---|---|---|
| B1 | - | 1,45** | 0,95 * | 1,22 ** |
| B2 | | - | -0,50 | -0,23 |
| B3 | | | - | 0,27 |
| B4 | | | | - |

Table 22.4 : Tukey HSD Summary Table for the mean maternal rates of the home dreams of the masculine subjects.

*p<0,05

**p<0,01

| | B1 | B2 | B3 | B4 |
|---|---|---|---|---|
| B1 | - | 1,64 ** | 0,54 | 1,68 ** |
| B2 | | - | -1,10 ** | 0,04 |
| B3 | | | - | 1,14 ** |
| B4 | | | | - |

Table 22.5 : Tukey HSD Summary Table for the mean maternal rates of the home dreams of the feminine subjects.

**p<0,01

| | Ovulation | Premenstrual | Menstrual |
|---|---|---|---|
| A1<br>Masculinity | $\bar{X}$ = 1,05<br>s = 0,66 | $\bar{X}$ = 0,67<br>s = 1,07 | $\bar{X}$ = 0,31<br>s = 0,41 |
| A2<br>Femininity | $\bar{X}$ = 2,00<br>s = 1,12 | $\bar{X}$ = 1,12<br>s = 1,02 | $\bar{X}$ = 0,62<br>s = 0,57 |

Table 23.1: The cell means and standard deviations of the mean maternal rates of the laboratory dreams.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 3,4229 | 1 | 3,4229 | 4,1358 |
| Subj. W.G. | 9,9315 | 12 | 0,8276 | |
| Within Subj. | | | | |
| B | 7,9499 | 2 | 3,9750 | 5,8635 ** |
| AB | 0,8014 | 2 | 0,4007 | 0,5911 |
| B X SWG | 16,2702 | 24 | 0,6779 | |

Table 23.2 : The Anova Summary Table for the mean maternal rates of the laborator dreams.

**$p < 0,01$

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| A at B1 | 3,1778 | 1 | 3,1778 | 4,3661 * |
| A at B2 | 0,7133 | 1 | 0,7133 | 0,9800 |
| A at B3 | 0,3333 | 1 | 0,3333 | 0,4579 |
| W Cell | 26,2017 | 36 | 0,7278 | |
| B at A1 | 1,9024 | 2 | 0,9512 | 1,4031 |
| B at A2 | 6,8489 | 2 | 3,4245 | 5,0514 * |
| B X SWG | 16,2702 | 24 | 0,6779 | |

Table 23.3 : The Simple Main Effects Summary Table for the mean maternal rates of the laboratory dreams.

*p<0,05

| | B1 | B2 | B3 |
|---|---|---|---|
| B1 | - | 0,88 | 1,38 * |
| B2 | | - | 0,50 |
| B3 | | | - |

Table 23.4 : Tukey HSD Summary Table for the mean maternal rates of the laboratory dreams of the feminine subjects.

*p<0,05

| | HOME DREAMS | | LABORATORY DREAMS |
|---|---|---|---|
| $\bar{X}$ | 1,13 | | 0,97 |
| s | 0,62 | | 0,81 |
| t | | 1,82 | |
| Df | | 13 | |
| p | | $<0,10$ | |

Table 24 : Comparison of the mean maternal rates of the home and laboratory dreams ( Masculine and Feminine groups combined). (Two-tailed tests).

premenstruation (p 0,05) and menstruation (p 0,01). It was also found however, that in the home dreams of the feminine group that the mean maternal rate at pre-ovulation was significantly higher than at post-ovulation (p 0,01) and menstruation (p 0,01). In other words, in the home dreams of the feminine group there are two peaks in maternal dream content, one at pre-ovulation and one premenstrually. (see tables 22.4 and 20.5). Figures 11 and 12 graphically depict the changes in mean maternal rate of the masculine and feminine groups as a function of menstrual cycle phase for the home and laboratory samples of dreams respectively. Statistical analysis of the difference in mean and maternal rate between the home and laboratory elicited dreams was not significant. (see table 24).

### 7.4.5 Manifest Sexuality

The cell means and standard deviation of the mean manifest sexuality rates of the dreams for the masculine and feminine groups collected under laboratory and home conditions are presented in tables 26.1 and 25.1 respectively.

There were no significant differences between the masculine and feminine groups in the laboratory sample of dreams. Manifest sexuality also did not change as a function of the menstrual cycle (see table 26.2). Statistical analysis of the dreams collected under home conditions reveals that the mean manifest sexuality rate fluctuates as function of the menstrual cycle in both the masculine and feminine groups (see table 25.3). It was found that for the

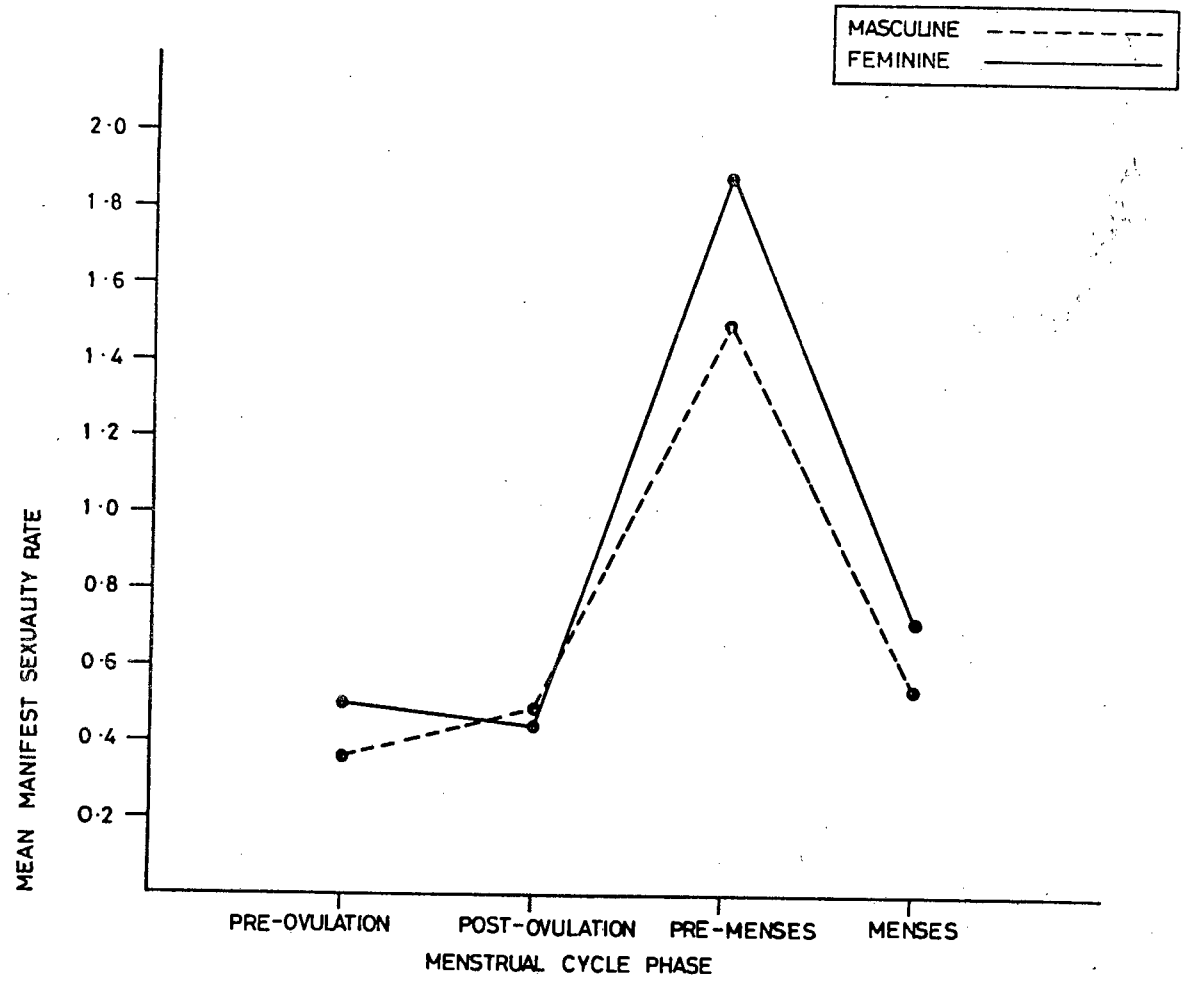



FIG. 13 : MEAN MANIFEST SEXUALITY RATE ACROSS THE MENSTRUAL CYCLE OF DREAMS COLLECTED UNDER HOME CONDITIONS OF MASCULINE AND FEMININE SUBJECTS.

| | Pre-Ovulation | Post-Ovulation | Premenstrual | Menstrual |
|---|---|---|---|---|
| A1 Masculine | $\bar{X}$ = 0,38<br>s = 0,37 | $\bar{X}$ = 0,50<br>s = 0,42 | $\bar{X}$ = 1,50<br>s = 0,82 | $\bar{X}$ = 0,54<br>s = 0,34 |
| A2 Feminine | $\bar{X}$ = 0,50<br>s = 0,58 | $\bar{X}$ = 0,45<br>s = 0,38 | $\bar{X}$ = 1,89<br>s = 0,93 | $\bar{X}$ 0,74<br>s = 0,43 |

Table 25.1 : The Cell means and standard deviations of the manifest sexuality rates of the home dreams.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 0,3806 | 1 | 0,3806 | 1,0070 |
| Subj. W.G. | 4,5355 | 12 | 0,3780 | |
| Within Subj. | | | | |
| B | 14,8656 | 3 | 4,9552 | 15,8620 ** |
| AB | 0,3502 | 3 | 0,1167 | 0,3737 |
| B X SWG | 11,2462 | 36 | 0,3124 | |

Table 25.2 : Anova Summary Table of the mean manifest sexuality rates of the home dreams.

**p<0,01

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| A at B1 | 0,0488 | 1 | 0,0488 | 0,1485 |
| A at B2 | 0,0078 | 1 | 0,0078 | 0,0237 |
| A at B3 | 0,5402 | 1 | 0,5402 | 1,6430 |
| A at B4 | 0,1341 | 1 | 0,1341 | 0,4078 |
| W Cell | 15,7817 | 48 | 0,3288 | |
| B at A1 | 5,6139 | 3 | 1,8713 | 5,9902 ** |
| B at A2 | 9,6019 | 3 | 3,2006 | 10,2455 ** |
| B X SWG | 11,2462 | 36 | 0,3124 | |

**p<0,01

Table 25.3 : The Simple Main Effects Summary Table for the mean manifest sexuality rates of the home dreams.

| | B1 | B2 | B3 | B4 |
|---|---|---|---|---|
| B1 | - | -0,12 | -1,12 ** | -0,16 |
| B2 | | - | -1,00 ** | -0,04 |
| B3 | | | - | 0,96 * |
| B4 | | | | - |

Table 25.4 : Tukey HSD Summary Table for the mean manifest sexuality rates of the home dreams of the masculine subjects.

*p<0,05
**p<0,01

| | B1 | B2 | B3 | B4 |
|---|---|---|---|---|
| B1 | - | 0,05 | -1,39 ** | -0,24 |
| B2 | | - | -1,44 ** | -0,29 |
| B3 | | | - | 1,15 ** |
| B4 | | | | - |

Table 25.5 : Tukey HSD Summary Table for the mean manifest sexuality rates of the home dreams of the feminine subjects.

**p<0,01

| | Ovulation | Premenstrual | Menstrual |
|---|---|---|---|
| A1 Masculinity | $\bar{X}$ = 0,81<br>s = 1,86 | $\bar{X}$ = 0,62<br>s = 0,71 | $\bar{X}$ = 1,14<br>s = 1,36 |
| A2 Femininity | $\bar{X}$ = 0,89<br>s = 1,26 | $\bar{X}$ = 1,43<br>s = 1,10 | $\bar{X}$ = 1,04<br>s = 1,29 |

Table 26.1 : The cell means and standard deviations of the mean manifest sexuality rates of the laboratory dreams.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 0,7202 | 1 | 0,7202 | 0,3832 |
| Subj. W.G. | 22,5525 | 12 | 1,8794 | |
| Within Subj. | | | | |
| B | 0,4225 | 2 | 0,2112 | 0,1295 |
| AB | 1,6403 | 2 | 0,8202 | 0,5029 |
| B X SWG | 39,1369 | 24 | 1,6307 | |

Table 26.2 : The Anova Summary Table of the mean manifest sexuality rates of the laboratory dreams.

| | HOME DREAMS | | LABORATORY DREAMS |
|---|---|---|---|
| $\bar{X}$ | 0,82 | | 0,99 |
| s | 0,53 | | 1,26 |
| t | | -1,58 | |
| Df | | 13 | |
| p | | <0,10 | |

Table 27: Comparison of the mean manifest sexuality rates of the home and laboratory dreams (Masculine and Feminine groups combined). (Two-Tailed test).

masculine group the mean manifest sexuality rate at premenses was significantly higher than during the pre-ovulatory phase ($p \leq 0,01$), the post-ovulatory phase ($p \leq 0,01$) and the menstrual phase ($p$ 0,05). It was found that in the feminine group the mean manifest sexuality rate at premenses was significantly higher than at the pre-ovualatory post-ovulatory or menstrual phases. ($p \leq 0,01$) (see tables 25.4 and 25.5).

Figure 13 graphically depicts the nature of the changes in mean manifest sexuality rate of the masculine and feminine groups as a function of menstrual cycle phase for the dreams collected under home conditions.

Statistical analysis of the difference in mean manifest sexuality rate between the dreams collected under home and laboratory conditions was not significant. (see table 27).

### 7.4.6 Heterosexual Dream Content

No significant results emerged with respect to the mean heterosexual rate for either sex-role orientation or menstrual cycle phase in dreams collected under either the home or laboratory conditions (see tables 28.2 and 29.2). The cell means and standard deviations of the mean heterosexual rate of the dreams of the masculine and feminine groups collected under home and laboratory conditions are presented in tables 28.1 and 29.1 respectively.

| | Pre-Ovulation | Post-Ovulation | Premenstrual | Menstrual |
|---|---|---|---|---|
| A1 Masculine | $\bar{X}$ = 0,89<br>s = 0,43 | $\bar{X}$ = 0,75<br>s = 0,38 | $\bar{X}$ = 1,01<br>s = 0,38 | $\bar{X}$ = 0,64<br>s = 0,36 |
| A2 Feminine | $\bar{X}$ = 1,04<br>s = 0,51 | $\bar{X}$ = 0,77<br>s = 0,40 | $\bar{X}$ = 1,10<br>s = 0,33 | $\bar{X}$ 0,82<br>s = 0,52 |

Table 28.1 : The cell means and standard deviations of the mean heterosexual rates of the home dreams.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 0,1618 | 1 | o,1618 | 0,7220 |
| Subj. W.G. | 2,6888 | 12 | 0,2241 | |
| Within Subj. | | | | |
| B | 1,0215 | 3 | 0,3405 | 2,1212 |
| AB | 0,0482 | 3 | 0,0161 | 0,1000 |
| B X SWG | 5,7790 | 36 | 0,1605 | |

Table 28.2 : The Anova Summary Table of the mean heterosexual rates of the home dreams.

| | Ovulation | Premenstrual | Menstrual |
|---|---|---|---|
| A1 Masculinity | $\bar{X}$ = 1,02<br>s = 1,14 | $\bar{X}$ = 1,36<br>s = 0,96 | $\bar{X}$ = 1,26<br>s = 0,95 |
| A2 Femininity | $\bar{X}$ = 1,46<br>s = 1,34 | $\bar{X}$ = 1,05<br>s = 0,57 | $\bar{X}$ = 0,79<br>s = 0,68 |

Table 29.1 : The cell means and standard deviations of the mean heterosexual rates of the laboratory dreams.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 0,1394 | 1 | 0,1394 | 0,1805 |
| Subj. W.G. | 9,2724 | 12 | 0,7727 | |
| Within Subj. | | | | |
| B | 0,3844 | 2 | 0,1922 | 0,1834 |
| AB | 1,6666 | 2 | 0,8333 | 0,7949 |
| B X SWG | 25,1589 | 24 | 1,0483 | |

Table 29.2 : The Anova Summary Table of the mean heterosexual rates of the laboratory dreams.

| | HOME DREAMS | | LABORATORY DREAMS |
|---|---|---|---|
| $\bar{X}$ | 0,88 | | 1,16 |
| s | 0,41 | | 0,94 |
| t | | -2,03 | |
| Df | | 13 | |
| p | | <0,10 | |

Table 30 : Comparison of the mean heterosexuality rate of the home and laboratory dreams (Masculine and Feminine groups combined). (Two-Tailed test).

A statistical analysis of the difference in mean heterosexual rate between the dreams collected under home and laboratory conditions was not significant (see table 30).

### 7.4.7 Agency

The cell means and standard deviations of the mean agency rate of the dreams for the masculine and feminine groups collected under home and laboratory conditions are presented in tables 31.1 and 32.1 respectively.

Statistical analysis of the dreams collected under home conditions reveals that there is no significant difference between the masculine and feminine groups for mean agency rate. There was also no significant difference for these dreams as a function of menstrual cycle phase (see table 31.2)

Statistical analysis of the dreams collected under laboratory conditions reveals a significant ($p \leq 0,05$) difference between the masculine and feminine groups for mean agency rate with the feminine group having higher agency rates than the masculine group. (see table 32.2). Figure 14 graphically depicts the difference in mean agency rate between the masculine and feminine groups.

A comparison of the mean agency rate between the dreams recalled under home and laboratory conditions was not significant (see table 33).

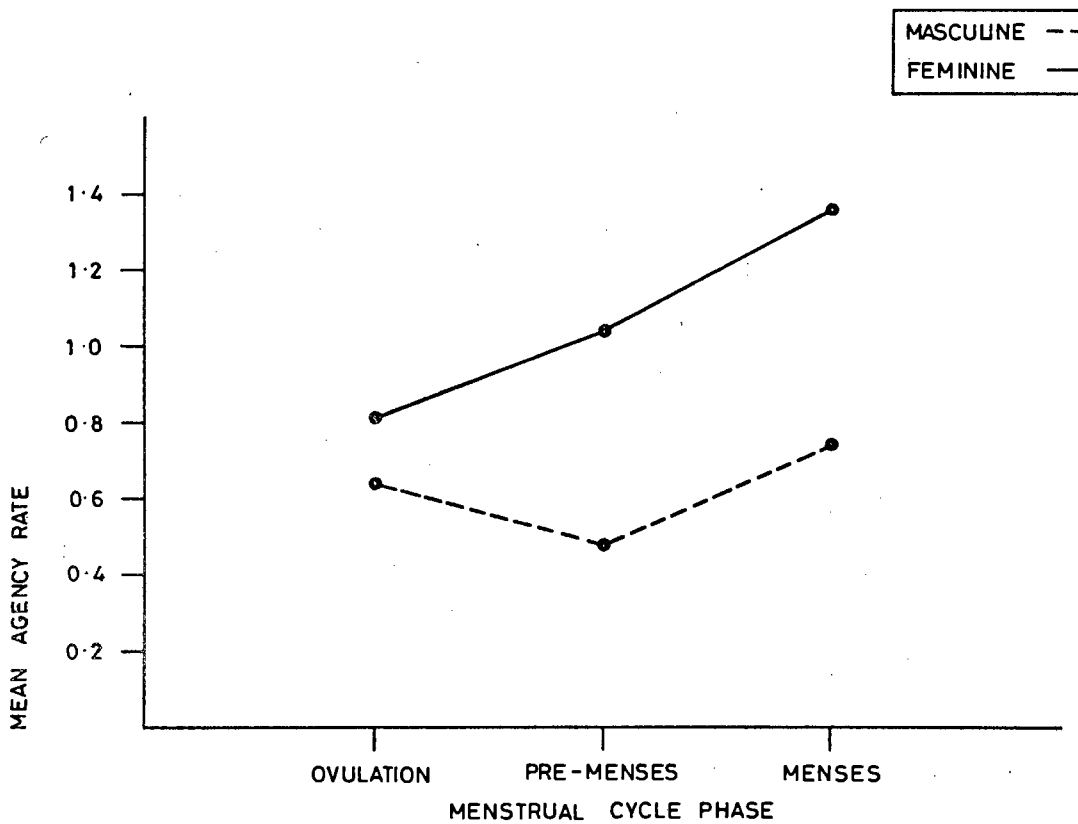



FIG. 14: MEAN AGENCY RATE ACROSS THE MENSTRUAL CYCLE FOR DREAMS COLLECTED UNDER LABORATORY CONDITIONS OF MASCULINE AND FEMININE SUBJECTS.

| | Pre-Ovulation | Post-Ovulation | Premenstrual | Menstrual |
|---|---|---|---|---|
| A1 Masculine | $\bar{X}$ = 0,71<br>s = 0,57 | $\bar{X}$ = 0,49<br>s = 0,47 | $\bar{X}$ = 0,58<br>s = 0,55 | $\bar{X}$ = 0,69<br>s = 0,52 |
| A2 Feminine | $\bar{X}$ = 0,84<br>s = 0,49 | $\bar{X}$ = 0,64<br>s = 0,56 | $\bar{X}$ = 1,24<br>s = 0,59 | $\bar{X}$ 1,32<br>s = 0,33 |

Table 31.1 : The cell means and standard deviations of the mean agency rates of the home dreams.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 2,1568 | 1 | 2,1568 | 4,4014 |
| Subj. W.G. | 5,8802 | 12 | 0,4900 | |
| Within Subj. | | | | |
| B | 1,5272 | 3 | 0,5091 | 2,6557 |
| AB | 0,8794 | 3 | 0,2931 | 1,5293 |
| B X SWG | 6,9009 | 36 | 0,1917 | |

Table 31.2 : The Anova Summary Table of the mean agency rates of the home dreams.

| | Ovulation | Premenstrual | Menstrual |
|---|---|---|---|
| A1 Masculinity | $\bar{X}$ = 0,64<br>s = 0,56 | $\bar{X}$ = 0,48<br>s = 0,47 | $\bar{X}$ = 0,76<br>s = 0,54 |
| A2 Femininity | $\bar{X}$ = 0,81<br>s = 0,47 | $\bar{X}$ = 1,04<br>s = 0,55 | $\bar{X}$ = 1,39<br>s = 0,42 |

Table 32.1 : The cell means and standard deviations of the mean agency rates of the laboratory dreams.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 2,1443 | 1 | 2,1443 | 6,1765 * |
| Subj. W.G. | 4,1660 | 12 | 0,3472 | |
| Within Subj. | | | | |
| B | 1,0607 | 2 | 0,5304 | 2,5933 |
| AB | 0,4393 | 2 | 0,2196 | 1,0740 |
| B X SWG | 4,9084 | 24 | 0,2045 | |

*$p < 0,05$

Table 32.2 : The Anova Summary Table of the mean agency rates of the laboratory dreams.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| A at B1 | 0,0961 | 1 | 0,0961 | 0,3813 |
| A at B2 | 1,0920 | 1 | 1,0920 | 4,3322 * |
| A at B3 | 1,3955 | 1 | 1,3955 | 5,5361 * |
| W Cell | 9,0744 | 36 | 0,2521 | |
| B at A1 | 0,2855 | 2 | 0,1427 | 0,6979 |
| B at A2 | 1,2146 | 2 | 0,6073 | 2,9694 |
| B X SWG | 4,9084 | 24 | 0,2045 | |

*$p < 0,05$

Table 32.3 : The Simple Main Effects Summary Table for the mean agency rates of the laboratory dreams.

| | HOME DREAMS | | LABORATORY DREAMS |
|---|---|---|---|
| $\bar{X}$ | 0,82 | | 0,86 |
| s | 0,51 | | 0,50 |
| t | | -0,602 | |
| Df | | 13 | |
| p | | <0,30 | |

Table 33 : Comparison of the mean agency rates of the home and laboratory dreams ( Masculine and Feminine groups combined) (Two-Tailed test).

### 7.4.8 Communion

The cell means and standard deviations of the mean communion rates of the dreams for masculine and feminine groups collected under home and laboratory conditions are presented in tables 34.1 and 35.1 respectively.

There were significant differences in the communion rates between the masculine and feminine groups under both home ($p<0,01$) and laboratory ($p<0,05$) conditions. (see tables 34.2 and 35.2)

There were no significant differences in communion rate across the menstrual cycle for either the masculine or feminine groups under laboratory conditions. There were, however, significant differences across the menstrual cycle phase for the masculine group under home conditions ($p<0,05$). (see table 34.3).

Statistical analysis of the data from the home dreams reveals that the communion rate for the masculine group at pre-ovulation is significantly higher ($p<0,05$) than at post-ovulation. (see table 34.4).

Figures 15 and 16 graphically depict the changes in mean communion rate of the masculine and feminine groups as a function of menstrual cycle phase for the home and laboratory dreams respectively.

Statistical analysis of the difference in mean communion rate between

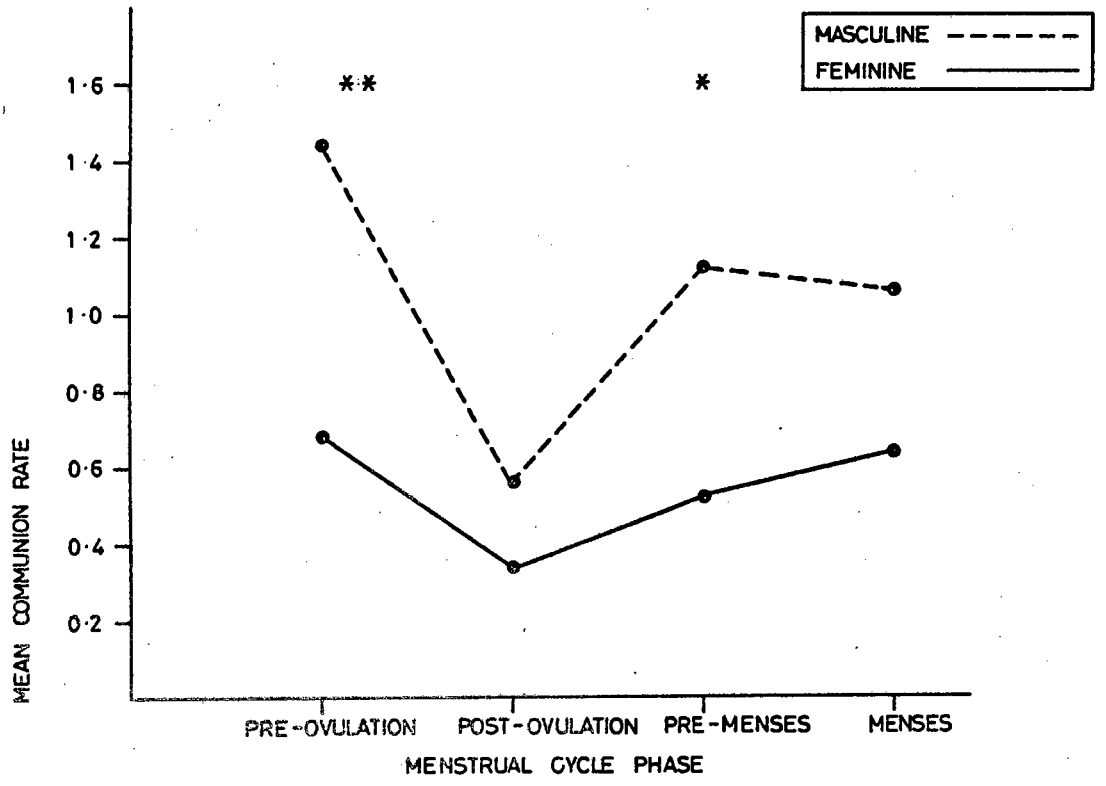



FIG. 15 : MEAN COMMUNION RATE ACROSS THE MENSTRUAL CYCLE FOR DREAMS COLLECTED UNDER HOME CONDITIONS OF MASCULINE AND FEMININE SUBJECTS.

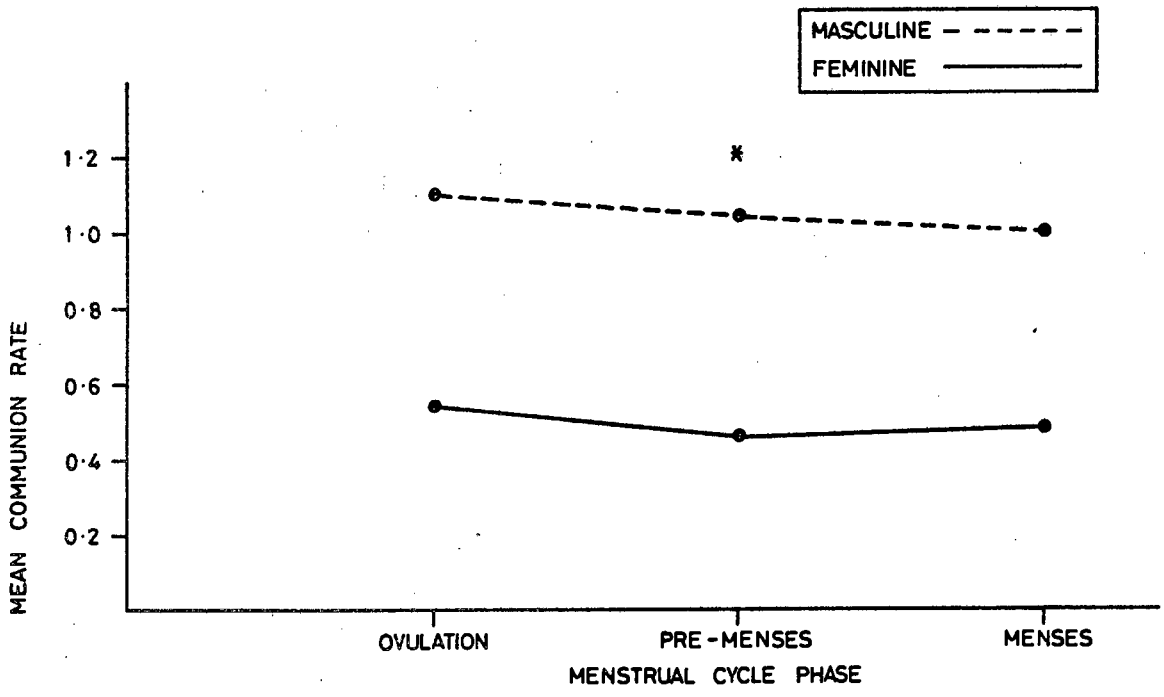



FIG. 16 : MEAN COMMUNION RATE ACROSS THE MENSTRUAL CYCLE FOR DREAMS COLLECTED UNDER LABORATORY CONDITIONS OF MASCULINE AND FEMININE SUBJECTS.

| | Pre-Ovulation | Post-Ovulation | Premenstrual | Menstrual |
|---|---|---|---|---|
| A1 Masculine | $\bar{X}$ = 1,45<br>s = 0,64 | $\bar{X}$ = 0,57<br>s = 0,55 | $\bar{X}$ = 1,11<br>s = 0,52 | $\bar{X}$ = 1,06<br>s = 0,58 |
| A2 Feminine | $\bar{X}$ = 0,68<br>s = 0,51 | $\bar{X}$ = 0,36<br>s = 0,41 | $\bar{X}$ = 0,52<br>s = 0,30 | $\bar{X}$ 0,65<br>s = 0,44 |

Table 34.1 : The Cell means and standard deviations of the mean communion rates of the home dreams.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 3,3958 | 1 | 3,3958 | 12,7110 ** |
| Subj. W.G. | 3,2058 | 12 | 0,2672 | |
| Within Subj. | | | | |
| B | 2,5819 | 3 | 0,8606 | 3,4348 * |
| AB | 0,6178 | 3 | 0,2059 | 0,8219 |
| B X SWG | 9,0203 | 36 | 0,2506 | |

Table 34.2 : The Anova Summary Table of the mean communion rates of the home dreams.

*$p \leq 0,05$

** $p \leq 0,01$

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| A at B1 | 2,0752 | 1 | 2,0752 | 8,1470 ** |
| A at B2 | 0,1544 | 1 | 0,1544 | 0,6060 |
| A at B3 | 1,2184 | 1 | 1,2184 | 4,7832 * |
| A at B4 | 0,5884 | 1 | 0,5884 | 2,3099 |
| W Cell | 12,2262 | 48 | 0,2547 | |
| B at A1 | 2,7585 | 3 | 0,9195 | 3,6697 * |
| B at A2 | 0,4471 | 3 | 0,1490 | 0,5948 |
| B X SWG | 9,0203 | 36 | 0,2506 | |

Table 34.3 : The Simple Main Effects Summary Table for the mean communion rates of the home dreams.

| | B1 | B2 | B3 | B4 |
|---|---|---|---|---|
| B1 | - | 0,88 * | 0,34 | 0,39 |
| B2 | | - | -0,54 | -0,49 |
| B3 | | | - | 0,05 |
| B4 | | | | - |

*p≤0,05
**p≤0,01

Table 34.4: Tukey HSD Summary Table for the mean communion rates of the home dreams of the masculine subjects.

| | Ovulation | Premenstrual | Menstrual |
|---|---|---|---|
| A1 Masculinity | $\bar{X}$ = 1,10<br>s = 0,58 | $\bar{X}$ = 1,04<br>s = 0,55 | $\bar{X}$ = 1,02<br>s = 0,54 |
| A2 Femininity | $\bar{X}$ = 0,54<br>s = 0,55 | $\bar{X}$ = 0,45<br>s = 0,36 | $\bar{X}$ = 0,46<br>s = 0,51 |

Table 35.1 : The cell means and standard deviations of the mean communion rates of the laboratory dreams.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 3,3830 | 1 | 3,3830 | 9,1923 * |
| Subj. W.G. | 4,4163 | 12 | 0,3680 | |
| Within Subj. | | | | |
| B | 0,0476 | 2 | 0,0238 | 0,1077 |
| AB | 0,0012 | 2 | 0,0006 | 0,0028 |
| B X SWG | 5,3051 | 24 | 0,2210 | |

Table 35.2 : The Anova Summary Table of the mean communion rates of the laboratory dreams.

*$p < 0,05$

| | HOME DREAMS | | LABORATORY DREAMS |
|---|---|---|---|
| $\bar{X}$ | 0,80 | | 0,77 |
| s | 0,49 | | 0,52 |
| t | | 0,84 | |
| Df | | 13 | |
| p | | <0,30 | |

Table 36 : Comparison of the mean communion rate of the home and laboratory dreams (Masculine and Feminine groups combined) (Two-Tailed test).

the dreams collected under home and laboratory conditions was not significant (see table 36).

### 7.4.9 Archetypality

The cell means and standard deviations of the mean archetypality rate of the dreams for the masculine and feminine groups collected under home and laboratory conditions are presented in tables 37.1 and 38.1 respectively.

Statistical analysis of the dreams collected under laboratory conditions reveals that there were no significant differences in mean archetypality rate between the masculine and feminine groups or across phases of the menstrual cycle. (see table 38.2)

Statistical analysis of the dreams collected under home conditions reveals that the archetypality rate of the feminine subjects is significantly higher (p 0,01) than the archetypality rate of the masculine subjects (see table 37.2) There are also significant (p 0,01) changes in archetypality rate as a function of the menstrual cycle for both masculine and feminine groups (see table 37.3).

Analysing the results further it was found that for the masculine group the archetypal rate at premenses was significantly higher than at post-ovulation (p 0,01) and menstruation (p 0,05). (see table 37.4). It was found that for the feminine groups that the archetypal rate at premenstruation was significantly higher than at

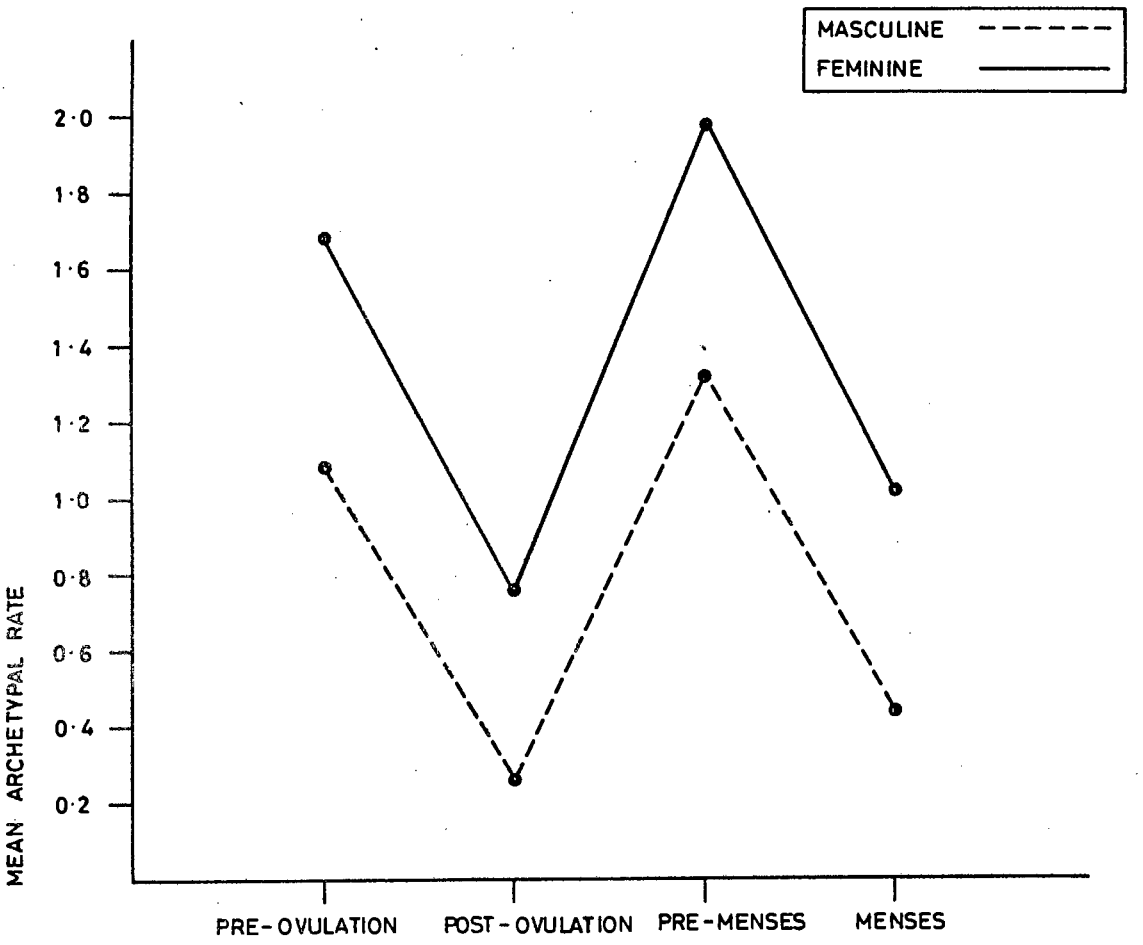



FIG. 17: MEAN ARCHETYPAL DREAM RATE ACROSS THE MENSTRUAL CYCLE FOR DREAMS COLLECTED UNDER HOME CONDITIONS OF MASCULINE AND FEMININE SUBJECTS.

| | Pre-Ovulation | Post-Ovulation | Premenstrual | Menstrual |
|---|---|---|---|---|
| A1 Masculine | $\bar{X}$ = 1,07<br>s = 0,67 | $\bar{X}$ = 0,27<br>s = 0,30 | $\bar{X}$ = 1,36<br>s = 0,69 | $\bar{X}$ = 0,42<br>s = 0,46 |
| A2 Feminine | $\bar{X}$ = 1,68<br>s = 0,66 | $\bar{X}$ = 0,77<br>s = 0,47 | $\bar{X}$ = 1,99<br>s = 0,80 | $\bar{X}$ 1,17<br>s = 0,61 |

Table 37.1 : The cell means and standard deviations of the mean archetypality rates of the home dreams.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 5,4126 | 1 | 5,4126 | 17,9703 ** |
| Subj. W.G. | 3,6144 | 12 | 0,3012 | |
| Within Subj. | | | | |
| B | 11,6217 | 3 | 3,8739 | 10,1293 ** |
| AB | 0,1092 | 3 | 0,0364 | 0,0952 |
| B X SWG | 13,7681 | 36 | 0,3824 | |

Table 37.2 : The Anova Summary Table of the mean archetypality rates of the home dreams.

**$p < 0,01$

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| A at B1 | 1,2902 | 1 | 1,2902 | 3,5627 |
| A at B2 | 0,8750 | 1 | 0,8750 | 2,4162 |
| A at B3 | 1,3955 | 1 | 1,3955 | 3,8534 |
| A at B4 | 1,9613 | 1 | 1,9613 | 5,4158 * |
| W Cell | 17,3825 | 48 | 0,3621 | |
| B at A1 | 5,6381 | 3 | 1,8794 | 4,9140 ** |
| B at A2 | 6,0929 | 3 | 2,0310 | 5,3105 ** |
| B X SWG | 13,7681 | 36 | 0,3824 | |

Table 37.3 : The Simple Main Effects Summary Table for the mean archetypality rates of the home dreams.

*p<0,05

**p<0,01

| | B1 | B2 | B3 | B4 |
|---|---|---|---|---|
| B1 | - | 0,80 | -0,29 | 0,65 |
| B2 | | - | -1,09 ** | -0,15 |
| B3 | | | - | 0,94 * |
| B4 | | | | - |

Table 37.4 : Tukey HSD Summary Table for the mean archetypality rates of the home dreams of the Masculine subjects.

*p<0,05

**p<0,01

| | B1 | B2 | B3 | B4 |
|---|---|---|---|---|
| B1 | - | 0,91 * | -0,31 | 0,51 |
| B2 | | - | -1,22 ** | -0,40 |
| B3 | | | - | 0,82 |
| B4 | | | | - |

Table 37.5 : Tukey HSD Summary Table for the mean archetypality rates of the home dreams of the Feminine subjects.

*p<0,05

**p<0,01

| | Ovulation | Premenstrual | Menstrual |
|---|---|---|---|
| A1 Masculinity | $\bar{X}$ = 0,71<br>s = 0,70 | $\bar{X}$ = 0,86<br>s = 0,85 | $\bar{X}$ = 0,38<br>s = 0,76 |
| A2 Femininity | $\bar{X}$ = 1,21<br>s = 1,04 | $\bar{X}$ = 1,52<br>s = 0,93 | $\bar{X}$ = 0,88<br>s = 0,89 |

Table 38.1 : The cell means and standard deviations of the mean archetypality rates of the laboratory dreams.

| SOURCE | SS | DF | MS | F RATIO |
|---|---|---|---|---|
| Between Subj. | | | | |
| A | 3,2370 | 1 | 3,2370 | 2,3204 |
| Subj. W.G. | 16,7405 | 12 | 1,3950 | |
| Within Subj. | | | | |
| B | 2,2220 | 2 | 1,1110 | 2,5897 |
| AB | 0,0657 | 2 | 0,0329 | 0,0766 |
| B X SWG | 10,2960 | 24 | 0,4290 | |

Table 38.2 : The Anova Summary Table of the mean archetypality rates of the laboratory dreams.

| | HOME DREAMS | | LABORATORY DREAMS |
|---|---|---|---|
| $\bar{X}$ | 1,09 | | 0,93 |
| s | 0,58 | | 0,86 |
| t | | 1,79 | |
| Df | | 13 | |
| p | | <0,10 | |

Table 39 : Comparison of the mean archetypality rate of the home and laboratory dreams (Masculine and Feminine groups combined). (Two-Tailed test)

post-ovulation ($p \leq 0,01$), while the rate at pre-ovulation was significantly higher than at post ovulation ($p \leq 0,05$). (see table 37.5). Figure 37 graphically depicts the nature of the changes in mean archetypality rate of the masculine and feminine groups as a function of the menstrual cycle for dreams collected under home conditions.

Statistical analysis of the differences in mean communion rate between the home and laboratory dreams was not significant (see table 39).

## 7.5 Attitude Toward Menstruation

Table 41 summarises the results for the menstrual attitude questionnaire for the masculine and feminine subjects. The masculine and feminine groups did not differ from each other on any of the 5 subscales of the Menstrual Attitude Questionnaire. Therefore, the two experimental groups have to appear, on the basis of this questionnaire to have a similar attitude towards menstruation.

This may be a reflection of the general cultural attitude towards menstruation, and the suggestion made in section 3.1 that Menstrual Attitude Questionnaires in general may merely be tapping cultural stereotypes towards menstruation, may be receiving some support here. Alternatively the masculine and feminine groups may not in fact differ with respect to attitudes towards menstruation.

TABLE 40 : Comparison of the Masculine and Feminine Groups on the Menstrual Attitude Questionnaire

| SCALE | MASCULINE | FEMININE | t |
|---|---|---|---|
| Debilitation | | | |
| $\bar{X}$ | 4,95 | 5,2 | −0,72 |
| S | 0,90 | 0,82 | |
| Bothersome | | | |
| $\bar{X}$ | 3,14 | 4,25 | −1,78 |
| S | 0,69 | 1,44 | |
| Natural | | | |
| $\bar{X}$ | 4,25 | 4,50 | −0,79 |
| S | 0,73 | 0,66 | |
| Predictable | | | |
| $\bar{X}$ | 4,85 | 5,01 | −0,60 |
| S | 0,41 | 0,79 | |
| Denial | | | |
| $\bar{X}$ | 3,10 | 2,95 | 0,58 |
| S | 0,83 | 0,50 | |

## 7.6 Perceived-Demand Effects and the Post-Experimental Questionnaire

A close scrutiny of the post-experimental questionnaire given to the subjects at the conclusion of the study indicate that subjects had remained naive with respect to the true purpose of the study. All subjects mentioned that the study was concerned with the menstrual cycle. In general, however, it was thought that the researcher was particularly interested in 'brain-wave' patterns and 'personality' variables such as 'anxiety' and 'depression'. Although dreams were frequently mentioned by the subjects as a variable under discussion, none of the subjects made any mention of any specific kind of dream content, or that they expected dream content to change as a function of the menstrual cycle.

## 7.7. Basal Body Temperature as a Predictor of Menstrual Cycle Phase

It was found that basal body temperature served as an excellent predictor of menstrual cycle phase. All subjects exhibited a drop in temperature prior to ovulation, an increase in temperature in the post-ovulatory phase and another drop in temperature premenstrually. Such cyclic temperature variations also indicate that none of the subjects had anovulatory menstrual cycles during the course of this research project. The basal body temperature graphs of all the subjects resembled the graph of basal body

temperature in figure 1 in section 6.1.2.1.

## 7.8 Symbolical Content of the Archetypal Dreams

Since archetypality was only significant for dreams collected under home conditions, only these dreams will be dealt with here.

### Dreams at Pre-ovulation

#### Masculine Group

1) "My sister had a batch of baby goats which she was selling"

2) "I committed incest with my brother (feel extremely guilty). I then went to buy pineapple"

3) "I am horseriding in the desert and encounter a rattlesnake. The horse shies and gallops away in panic with me on top. Come to a ranch with paddocks and a pool. The horse (stallion) is broken-in in the pool with me on top. When he is broken-in, I drive him out of the water and give him sugar cubes."

4) "Myself as Somerset Maughn - homosexual but female Walking down a sandy road with another man and we are both naked. I walk behind him fondling his penis."

The symbolism portrayed in these dreams has a strong sexual character on the whole. Obvious sexual references are those of incest, homosexuality and fondling of the penis. According to Cirlot (1978, p152), Jung believes that the horse may be a symbol for the mother and says that it symbolises "the mother within us" i.e. intuitive understanding, as well as it being

a symbol pertaining to man's baser forces and to water. In other words, the horse in dream 3 may represent sexuality at its more instinctive level. This interpretation of the horse's sexual significance is emphasized by the fact that it is a stallion. The goat is a very clear symbol of the mother.

More references to the "Good" Mother are to be found in the paddocks, the pool and to water in general. It thus appears that the pre-ovulatory dreams of the masculine group is replete with imagery relating to sexuality, containment, and even birth in the form of goats.

Feminine Group

1) "I was talking to Paul (my housemate). My friend, Ingrid, came in - she had two voices : one loud and big, one like a baby's. She had a box of junk which she emptied and then hid in the box. I got angry and took her out of the box and gave it back to her. A man came in eating fruit salad with Indian guavas and border fruit and he was putting leaves into it. We then drove off following an orange car. Dumped "the man" in a black car (there was a ring which belonged to his father). I drove off with Paul and then realised we had no petrol - then we crashed - two tiny people in the car - I thought they were children and they were crying. We looked after them and put them to bed. They told us they were the same age as us."

2) "Practising healing techniques - the results were obvious although not visible physically. A box of light substance, like communion wafers, was flying up to heaven."

3) "I went for a ride on the back of a whale. It was in a swimming pool just bigger than itself."

The pre-ovulatory dreams of the feminine group are a little more

complex. In dream (1), there is an involved interchange with a box (container) of junk. This box is emptied out and the other woman then hides in the box. It is possible that the box represents a womb symbol and its emptying a representation of ovulation. The fruit-salad, guavas, border fruit and leaves are very clear references to the vegetative and fertility symbolism of the "Good" Mother (see section 3.3.2.1). The references to children and looking after children are also clear references to the maternal functions of protection and nurturance.

As stated in section 3.3.2.1, water represents the mother and unconsciousness. The maternal water symbolism appears in dream 3. According to Cirlot (1978, p370), the whale has maternal significance in that it is frequently viewed as symbolic of "the world, the body and the grave, and is also regarded as an essential symbol of containing (and concealing)." To summarise, it would appear that the dreams of the feminine group also abound with maternal imagery at pre-ovulation, specifically the "Good" Mother.

Dreams at Premenstruation

Masculine Group

1) "Lying in bed with one of my clients (not very sexual vibe). Lying looking out the window at 'weird' bird - bird had red legs and lacy wings and was sitting in a tree. Trying to work out what sort of bird it is."

2) "Devil - black with red lips. This devil stays in this block of flats and he is trying to push me and others out of the window."

3) "Wally (a female friend), and I were riding horses round the perimeter of a big lake at full gallop. It was of vital importance that we meet a bus somewhere. My horse was black. I had the feeling that some people were going to waylay us and prevent us from arriving at our destination on time. I made my horse fly over the lake - I lifted him by force of will. We landed on a path at the other side of the lake. I showed Wally how to make her horse fly."

4) "On an island on the top of a hill looking down at the sea. We were all on motorbikes. I had two companions - one male and one female. They drove off at speed and I followed. The dirt track went through marsh with patches of swampy ground with reeds on either side. The reed patches grew smaller and the watery patches grew larger. The solid path began to dissolve into the water. (This is a recurring dream : the solid I am on dissolves under me into a vast, deep sheet of water into which I know I am going to sink). I used logic to combat it and the path reappeared and led to the beach. There was an ocean-going liner at anchor. It was misty and the liner disappeared and reappeared three times before becoming solid and defined. Then I was aboard the liner being fitted with clothing for a cruise on the ship."

The first two dreams have references to the colour "red" which may be an anticipatory sign of approaching menstruation. There are also numerous references to water in these dreams, namely : lake, swampy ground, sea, marsh and deep sheet of water. The maternal significance of these dreams is thus obvious. In dream 4, the fear of sinking into the watery marsh may indicate a fear of being overpowered by some aspect of the maternal or unconscious. Dream 3, refers to horses flying over water. On two occasions "force of will" and "logic" were used to combat the maternal water. This would seem to indicate that on the one hand the masculine subjects have different coping styles to the feminine group. and on the other that the masculine subjects may have some resistance to being enveloped by the water. It may also be a reference to the archetypal masculine.

The maternal significance of the ocean liner and clothes in dream 4 is obvious. Being dressed in suitable clothes for the journey which is about to be undertaken may be a symbolic reference to a preparation for the approaching menstruation. The feeling that they are about to be waylaid in dream 3 may reflect the restraining aspect of the mother. It may also be a reference to approaching menstruation.

Feminine Group

1) "In a garden with lots of plants - some of the plants are visions and we are trapped in the garden which is a maze. The plants are trying to prevent us from leaving the garden. There is a feeling of being trapped. We manage to get out after strenuous effort."

2) "Swimming. It was initially pleasant but then the water became murky, green and slimy. I struggled to get out but I couldn't. No-one came when I shouted."

3) "At a school reunion. I was in the audience watching the girls singing on the stage. My mother had come to watch - she looked sad and tired and I felt terrible about this and wanted to escape. I went to clean my car out - it was very dirty and had plants growing in all the crevices, inside and out. I pulled them all out - I was surprised and horrified by the accumulation of soil in these crevices. The dust cover of a book on plants and gardens was covered with mould. I was very upset by all these plants in my car - it made my 'flesh crawl'."

4) "My dead grandmother appeared - I was frightened and yet attracted to her. I saw her face clearly - I was struck by the blueness of her eyes. When I finally got courage to touch her she slowly faded away."

5) "Yolande (a friend) and I found two abandoned cars. I took mine to the garage for repairs. I was abducted and taken upstairs where lots of people were being held captive as experimental subjects/animals. The experimenters

wore white coats. The food was in big, white bins. There were coiled cables overhead carrying electricity. There was a pool with naked people swimming in it - they had become half animal with wrinkled, brownish skins. they were feeding crocodiles which lay around the banks of the pool. I am then alone in the pool to the right of this one. I am given a sticky black substance to feed the crocodiles with. I try to throw it to them but it sticks to my hand. I am scared to give it to them from my hand as they might bite my hand off. Eventually I manage to get it unstuck and I throw it. Then I am back in the laboratory and we are told that we are to be killed the next day. Lots of food is given to us - the "last supper" of a condemned man. The coiled cables above us are increased - this is somewhat related to our impending death. We manage to escape but I don't remember how."

The first two dreams have very clear references to the ensnaring aspect of the Terrible Mother. In the first dream, the plants are trapping the dreamer while in the second dream it is the water which performs this function. Dream 3, appears to contain some reference to approaching menstruation - "dirty", having to clean the car out etc. Dream 5, refers to captivity, the regression of humans back to an animal state, a sticky black substance, and a reference to being killed. This dream would therefore also seem to be related to the Terrible Mother. The subjects are even well fed before they are to be killed - fattened up for the slaughter, so to speak.

Dreams at Menstruation

Masculine Group

1) "I am staying at a hotel with another woman that was supposed to be my mother - she was large and dark and not like my mother at all. The hotel became a house with many rooms, wooden floors,

sash windows. My mother has died and we are to meet my father to collect the body - my father is a 'little rounded' man in priest's clothing (he is not a priest in real life). I am pushing a trolley with my mother's body on it down a narrow corridor to my father. When he sees it he starts crying. The trolley feels as if it has gotten shorter and the body has disappeared."

Quite what this dream is referring to is not very clear. The death of the dreamer's mother is probably important, as is her disappearance off the trolley. This latter aspect would seem, however, to indicate some kind of transformation.

Feminine Group

1) "In a farmhouse .. I am tired and want to go to sleep. Some strange friends of Di's (my housemate) come over. There is a strange light. There is a beautiful woman - she is a witch and she started flying back and forth over our heads. Di was throwing me up in the air. She fell back in the yard and said that a white beam had cut across her. We said goodbye to the people at the gate - there was a large tree nearby. One of the people was too drunk to walk. There were two women left but Di said that they were not going to stay. I put the kettle on and by mistake put water in the plug socket and fused all the plugs. The frozen food started melting very quickly. Di put chinks of butter in each packet of melting food."

2) "I went to see a play in an old, delapidated building which had a large open-air courtyard. I went through a strange room to find the courtyard - no ceiling and a wet mud floor. The actress had a microphone round her neck which resembled a bone from a witchdoctor. She was grunting hoarsely, like an animal. After the play I got lost trying to find my way out - the actress appeared and showed me the way - I felt that I knew her."

3) "Charles (a director at work) called me, and as usual his face changed into a butterfly."

In the first dream, references are made to the tranformative character of the "Bad" Mother in the form of the witch and drunkeness. Other maternal symbolism would be the references to food, butter, kettle, tree, water, gate and farmhouse. It appears, however, that there are also some references to the archetypal masculine e.g. light, white-beam, flying. The transformation theme is also present in dream 3, in which a man's face changes into a butterfly. According to Cirlot (1978, p35), psychoanalysis views the butterfly as a symbol of rebirth. Dream 2, also has references to the mother archetype e.g. wet mud floor, delapidated building and these would appear to refer to menstruation.

It appears as if the dreams of both the masculine and feminine groups on the whole are indicative of transformation of some kind.

# 8.0 DISCUSSION

## 8.1 Dream Recall

Hypothesis two, namely that feminine subjects would have higher dream recall rates than the masculine subjects has been confirmed with respect to the home dreams but not with respect to the laboratory dreams. Hypothesis 1, namely that the mean dream recall rate would be highest during the premenstrual phase of the menstrual cycle has not been confirmed in either the home or laboratory samples of dreams.

The results presented in section 7.1 show that the mean dream recall rate of the feminine group is significantly higher than that of the masculine group ($p<0,01$) in the home sample of dreams but not in the laboratory dreams. A number of factors need to be considered in attempting to explain this finding. On the one hand it should be remembered that the two samples of dreams were not collected in an identical manner. At home the subjects have to rely on what they remember the following morning upon awakening. In the laboratory, however, subjects were awoken during REM periods 3,4 and 5 at set intervals into the REM period (see section 6.3.3) and consequently before the REM period had totally finished. This procedure may aid all subjects in increasing their recall in the laboratory. In other words, researchers may need to bear this fact in mind when investigating dream recall as the laboratory situation may obscure real differences in dream recall which may possibly exist between experimental groups of interest. In this research, it appears as if the laboratory

setting obscured the difference in dream recall between the masculine and feminine groups.

Due to the fact that all subjects who were selected for inclusion in the study were good recallers, the possibility exists that the fact that they were taking part in an experiment may have affected the subjects in the experimental groups differently. One may also be tempted to interpret these results as indicating less repression in the feminine group but if this were the case, one would have to explain why this factor did not operate in the same way in the laboratory situation. In any event, the repression hypothesis has not received much empirical support (Cohen, 1974).

The most likely explanation would seem to be at least partially attributable to the greater mean archetypality rate of the feminine subjects when they are compared with the masculine subjects. It was found that in the home dream sample the feminine group had significantly more ($p<0,01$) archetypal dream content than the masculine group. This was not the case in the laboratory sample of dreams. An explanation along these lines would take Cohen and McNeilage's (1973), and Cohen's (1974) salience hypothesis into account. According to this hypothesis there should be increased dream recall for dreams characterised by vividness, affect, bizarreness and dreamer activity. A number of experimental studies have provided support for this hypothesis (Shapiro et.al., 1964; Foulkes, 1966; Baekeland, 1969; and Goodenough et.al., 1974). Since archetypal dreams, as defined by the Kluger dream scale (1975), are characterised by very similar factors, namely strong affect, lack of rationality and remoteness from everyday life (hence bizarreness), and mythological parallel, an explanation of this sort

seems plausible. To summarise, the greater mean dream recall rate of the feminine group under home conditions may be attributable to the greater archetypality rate of the feminine group when compared to the masculine group. A word of caution is, however,necessary. Fiss (1969), found that artificially shortened REM periods (as was the case in this research) yield more salient dream reports. If this is the case then an explanation attributing increased dream recall to increased archetypality could only be tentatively accepted.

## 8.2 The Word Count Index of Dreams

The fact that the difference between the mean word count index of the archetypal and non-archetypal dreams was significant in both the masculine and feminine groups under both home and laboratory conditions, can most probably be interpreted along similar lines to the findings concerning dream recall which were discussed in section 8.1. In short, these results reveal that archetypal dreams are recorded at greater length. One may expect archetypal dreams which are characterised by greater affect and bizarreness (see section 4.3.2) to make a greater impact on the dreamer and to thus be recorded at greater length. Such an interpretation would be in accordance with Cohen's (1974), hypothesis of dream salience.

## 8.3 The Menstrual Cycle with respect to the Maternal, Hostility, Manifest Sexuality, Heterosexuality, Agency, Communion, Hedonic Tone and Archetypality.

Hypothesis 3, namely that there would be an increase hedonic tone at premenstruation was not confirmed for either the home or laboratory

sample of dreams. This result would, however, provide confirmation of Edelstein's (1981) study in which no relationship was found to exist between hedonic tone and menstrual cycle phase. Hypothesis 4 that dreams of the masculine group will be more hedonically negative than the dreams of the feminine group was not confirmed. Hypothes 5 that the hedonically negative dreams of the feminine subjects would contain more aggression was also not confirmed. Cohen's (1973), findings have therefore been refuted.

Hypothesis 7, that the dream reports of the masculine subjects would contain more physical aggression than those of the feminine subjects was not confirmed. The exact opposite in fact was found i.e. that the dream reports of the feminine group contained more physical aggression than the masculine group. This finding would appear to provide some support for Jung's concept of compensation in dreams (see section 4.3.1). This result can be compared with the fact that there is no significant difference between the masculine and feminine group on verbal aggression. The question could arise as to why verbal aggression should not also be compensated. The answer may be related to a greater acceptability of verbally aggressive behaviour in women than physically aggressive behaviour. It is not suggested that the masculine group would necessarily be more physically aggressive in their actual behaviour, but merely that they would feel more comfortable with such behaviour.

Hypothesis 6, that the dream reports during the menstrual and premenstrual phases would contain more physical and verbal aggression has received partial confirmation with the finding that in general both verbal and

physical aggression are at a maximum in the premenstrual phase. The picture is not quite as simple as this, however. In the laboratory dreams the masculine subjects fail to exhibit any menstrual cycle variation in terms of physical aggression. In addition to this, the masculine group also fails to exhibit any menstrual cycle variation in in terms of verbal aggression under home conditions. There does not appear to be any clear reason as to why this should be the case. These results may nevertheless provide a clue to the contradictory findings for dream hostility which have been reported (see section 2.3).

Probably the most surprising result in this thesis concerns maternal dream content. Hypothesis 9, that there would be an increase in maternal dream content during the paramenstruum has only received very slight confirmation. In the laboratory setting the masculine group displayed no variation in maternal dream content as a function of the menstrual cycle, while at home maternal dream content peaked at pre-ovulation. For the feminine group there was also a significant peak in maternal dream content under laboratory conditions at ovulation. The feminine group displayed two peaks in maternal dream content under home conditions, one premenstrually and the other at pre-ovulation. These results may not be as inexplicable as they appear. An investigation of the cell means and graphs presented in section 7.3.4 reveal that maternal dream content does in fact peak at or near ovulation and menstruation for both experimental groups under both laboratory and home conditions although the results do not always reach significance. What is most

obvious is the fact that the largest peak occurs at about the time of ovulation. These findings can be related to those in section 7.6 in which it was found that there is an increase in "Good" Mother motifs at or near ovulation while there is a pedominance of "Bad" Mother motifs at or near menstruation. A close examination of the dream scale used (see appendix 12) reveals that this scale predominantly measures attributes of the mother which would be associated with the "Good" Mother Archetype. This scale has only been used in one previous study, that of Edelstein (1981), in which no significant results were found but it should be remembered that she only used six subjects, three of whom were taking a contraceptative pill.

There were no significant results for manifest sexuality or heterosexual dream content under laboratory conditions. It was initially thought that this may be due to embarrassment on the part of the subjects in reporting such content to the experimenter in the laboratory. This explanation fails to maintain credibility in the light of another finding. When the mean manifest sexuality and heterosexual rates of the home and laboratory dreams were compared (see sections 7.3.5 and 7.3.6) it was found that the laboratory and home samples of dreams do not differ significantly from each other. The results based on the home sample of dreams are also not in confirmation of Hypothesis 10, namely that there would be an increase in manifest sexuality during menstruation. It was found instead that manifest sexuality was at a maximum in the premenstrual phase. Hypothesis 11, namely that there would be an increase in heterosexual dream content in the pre-ovulatory phase was also confirmed. It was found instead, that

heterosexual dream content does not change as a function of the menstrual cycle. This may seem an odd finding in view of the supposed overlap between manifest sexuality and heterosexuality. A close examination of the Manifest Sexuality Scale (see appendix 10) and the Heterosexual Scale (see appendix 11) reveals that the former measures both overt and symbolic sexuality whereas the latter scale predominantly focuses on overt sexuality except in categories 5 and 6.

Hypthesis 12, namely that the dream reports of masculine subjects would be rated more highly on agency that the dream reports of the feminine subjects was not confirmed. The exact opposite was in fact found. No significant difference was found between the masculine and feminine groups under laboratory conditions. Under home conditions, however, it was found that the dream reports of the feminine subjects contained more agency than those of the masculine group. These results have been interpreted as providing support for Jung's postulate concerning compensation as discussed in sections 4.1 and 4.3.1.

Hypothesis 13, that the dream reports of the feminine subjects would contain more communion than those of the masculine subjects has been refuted. It was found that under both home and laboratory conditions (see section 7.3.8), the dream reports of the masculine subjects scored significantly higher on communion than those of the feminine subjects. Like the results for dream agency these results were interpreted as providing support for Jung's compensation theory. The finding that the masculine group had

significantly more communion in their dream reports at pre-ovulation may likewise indicate a greater need on the part of the masculine subjects to integrate communion functions at this period of the menstrual cycle. What is not clear, however, is why such a need would not also manifest itself in the laboratory situation.

Hypothesis 14 and 15, that there would be an increase in archetypal dream content premenstrually and at, or before ovulation in the laboratory and home groups respectively was confirmed only for the dreams collected under home conditions. No significant findings emerged with respect to archetypal dream content in the laboratory sample of dreams. It may thus be the case that subjects produce less archetypal dream content under laboratory conditions. A comparison of the mean archetypality rate of the home and laboratory dreams however, was not significant although it was in the expected direction. This issue nevertheless requires further investigation. It was also found that feminine subjects had significantly more ($p<0,01$) archetypal dream content than the masculine subjects. This finding was unexpected and requires further investigation. In Jungian theory, this phenomenon would indicate a greater activation of psychic contents at the psychoid level in the feminine subjects and hence a greater need for the integration of such contents into consciousness. Section 6.4 will discuss the nature of the archetypal dream content in the masculine and feminine subjects.

## 8.4 The Symbolic Content of the Archetypal Dreams

Hypothesis 16, namely that the dreams collected under laboratory conditions would contain more references to the Mother Archetype at ovulation and premenstruation has not been confirmed. This is due to the fact that the dreams from the REM awakenings were not amplified and examined for symbolic content because archetypality was not found to be significant for the laboratory dreams.

Hypothesis 17, that dreams under home conditions would contain more references to the Mother Archetype has been confirmed. It was found that the dreams at ovulation and premenstruation were replete with maternal imagery. A certain amount of maternal imagery was also found in the dream reports during menstruation, but not as much as during the other two phases.

Hypothesis 18, that dreams collected during the pre-ovulatory phase would contain more references to the 'Negative' Mother Archetype, while dreams at the paramenstruum would contain more references to the 'Good' Mother Archetype was not confirmed. Hypothesis 19, that dreams collected at pre-ovulation would contain more references to the 'Good' Mother Archetype, while dreams collected at the paramenstruum would contain more references to the 'Bad' Mother Archetype was confirmed but needs some qualification. While the dreams at Pre-ovulation were clearly related to the 'Positive' aspect of the Dual Mother for both the masculine and feminine groups, the 'Negative' Mother Archetype seemed to be operating slightly differently for the two groups

during the menstrual and premenstrual phases. The premenstrual dreams of the feminine group appear to be considerably more negative in tone and content than those of the masculine group and they contain more references to the 'Negative' Mother eg., trapped in a maze, struggling to get out of green slimy water etc. A possible explanation for this phenomenon would be that the feminine group has a greater need for compensation of the contents of the Terrible Mother. The possibility exists that women with a feminine sex-role orientation and stereotype would be less likely to have integrated many aspects of the Terrible Mother into consciousness. They may even be more susceptible to societal attitudes and expectations of them. Since the Terrible Mother is largely despised by society, they would then be less likely to acknowledge such 'loathsome' aspects of themselves. If this is the case, then one may well expect more compensation of the 'Bad' Mother Archetype in the feminine group at premenstruation and menstruation, since according to Jung (1960 a), the unconscious compensates that which is lacking to consciousness.

There would appear to be some degree of correspondence between the findings related to the Mother Archetype and those from the experimental section of this thesis. It is possible that the increase in physical aggression, found in the dream reports at premenstruation is related to an increase in activation of the 'Terrible' Mother at this point of the menstrual cycle. It should also be noted that in the feminine subjects there was a peak in maternal dream content at pre-ovulation and another peak at premenstruation. There are many symbols in the archetypal dreams at premenstruation and pre-ovulation that would have been rated in one of the criterion categories of the Maternal Dream

Scale. It should be noted that the same two peaks in maternal dream content were present in the masculine subject's dreams although the peak at premenstruation was not significant. An additional comment is necessary at this point. It would appear that on the basis of these results that there is a need to develop a dream scale which would differentiate between the 'positive' and 'negative' aspects of maternal symbolism.

These results provide strong evidence that pre-ovulation and premenstruation are associated with an activation of unconscious contents at the collective level and that this activation is predominantly associated with the Mother Archetype. Some substantiation for Jung's theory of compensation has also been provided.

## 8.5 Methodological Considerations and Suggestions for Future Research

The first major methodological consideration relates to the possible accusation as to whether or not the "perceived demand" effect biased the results in any way. This seems unlikely for several reasons. Firstly, this study was designed such that the experimenter was blind with respect to the sex-role orientation of the subjects. In addition to this, considerable effort was made to keep the subjects blind with respect to the purpose and hypotheses of the research. The post-experimental questionnaire administered to the subjects upon completion of the experimental phase of the study revealed that the subjects had remained naive with respect to the purpose of the study. In addition to this, with respect to the hypotheses concerning the Mother Archetype, the experimenter herself was unaware which of the alternative hypotheses would be confirmed. Besides these factors, no data was analysed until all the data had been collected to prevent the experimenter from prematurely developing any idea of the findings which were emerging and thus biasing future results.

It may be asked whether or not the differences between the home and laboratory dreams were due to the tow raters rating the dreams differently. This is, however, unlikely due to the fact that the same individual rated the dreams from the home and laboratory dreams to enable the cross-rater reliability coefficients to be computed, and all of the inter-rater reliability coefficients were highly significant ($p<0,01$).

An additional point which should be made relates to the findings concerning the archetypal dreams. It would seem relatively unlikely, even if the

subjects had been aware of the hypotheses concerning archetypal dream content, that they would have been able to produce such dreams on demand due to the complexity of exactly what constitutes an archetypal dream. It should be mentioned that the experimenter did not enter into any discussion with the subjects with respect to their dreams which were collected in accordance with the Larson Interview Schedule (see appendix 7). It should be noted, however, that it can never be unequivocally stated that "perceived-demand" effects did not exist at all. It is possible that the experimenter may have inadvertently passed on some subliminal cues to the subjects in spite of all efforts not to do so.

It should be pointed out that other nuisance variables may have influenced the data. Very few controls in terms of the subjects themselves were controlled for. Only age, sex-role orientation, regular cycles, contraceptive pills and psychiatric history were controlled for,which suggests other variables. It should be noted, however, that this was very much a pilot study and as such it is also aimed at identifying possible variables which might affect the results.

With respect to future research it would be suggested that a much larger sample of subjects be employed and that the data be collected over several menstrual cycles. This would allow not only inter-subject differences to emerge, but also intra-subject variables to be examined. This seems particularly relevant given the fact that one of the subjects reported a recurring

dream in the premenstrual phase. It would have been interesting to know whether this dream always occurs during the same phase of the menstrual cycle. In addition to this, collecting data from more subjects and across more menstrual cycles would permit a much larger sample of archetypal dreams to be obtained; thereby allowing for a more detailed analysis of the the relevant archetypes.

It would be recommended that a third experimental group be introduced, namely an "androgynous" group (i.e. a group midway between the masculine and feminine groups, who would embody both masculine and feminine traits). Such a group would serve as a useful reference point and control for the data from the masucline and feminine groups. It would also be suggested that psychopathology be more rigorously controlled for than was the case in this research. The reason for this suggestion is twofold. On the one hand, Jung suggests that excessive archetypal activity tends to indicate some degree of psychopathology (Jacobi, 1968, p75). Secondly, several findings have indicated that masculine and feminine sex-stereotyped individuals tend to be less well-adjusted than the so-called "androgynous" individuals (Maccoby, 1966; Cosentino and Heilbrun, 1964; and Sears, 1970),

## 9.0 CONCLUSIONS

One of the major aims of this thesis was to finally resolve the dispute concerning the nature of changes in dream content associated with the menstrual cycle. This aim, however, has not been fully achieved. What has happened, however, is that a new variable has emerged which may significantly affect the nature of the previously reported results. It would appear that sex-role orientation should be regarded as a varable to be controlled for in future. In future, research concerning dreams and the menstrual cycle will have to concern itself with what may be operating at the collective unconscious level and the specific nature of any archetypes which may become activated, most specifically the Mother Archetype in its dual aspects.

In conclusion, the following significant results emerged from the home dreams: physical aggression and manifest sexuality were at a maximum premenstrually for both the masculine and feminine groups; verbal aggression was at a maximum during the premenstrual phase in the feminine group; communion peaked in the pre-ovulatory phase in the dream reports from the masculine group; maternal dream content was at a maximum in the pre-ovulatory phase for the masculine subjects while it was high in both the pre-ovulatory and premenstrual phases of the feminine subjects; archetypality during the pre-ovulatory and premenstrual phases was higher than during the post-ovulatory or menstrual phases.

In addition to this, it was found that the feminine group had significantly more archetypality and physical aggression in their dream reports, and were better dream recallers than the masculine group. Dream recall did not fluctuate across the phases of the menstrual cycle. Heterosexuality, hedonic tone and agency also failed to produce any sinificant variation as a function of the menstrual cycle.

Dream recall, agency, manifest sexuality, heterosexuality, hedonic tone and archetypality did not show any significant variation across the menstrual cycle in the laboratory sample of dreams. The following results were significant in the REM awakening dreams: verbal and physical aggression were at a maximum during the premenstrual phase for the feminine group; maternal dream content was highest at ovulation in the femininr group. Furthermore, the feminine group had significantly more physical aggression and agency in their dream reports than the masculine group, while the dreams of the masculine group were higher on communion than the feminine group.

The home dreams of both the masculine and feminine groups were found to be associated with symbols pertaining to the Mother Archetype at pre-ovulation and premenstruation.

# APPENDICES

# APPENDIX 1

## PHASES OF THE NORMAL MENSTRUAL CYCLE AND HORMONAL CHANGES

The menstrual cycle is a biological process which lasts approximately 28 days. The cycle is most frequently divided into 2 parts. The first of these is the pre-ovulatory or follicular phase which extends from the first day of the menstrual bleed to ovulation which occurs at about day 14. The post ovulatory or luteal phase lasts from ovulation until the day preceeding the next menstrual period which is normally about day 28. Figure - demonstrates this basic division of the menstrual cycle.

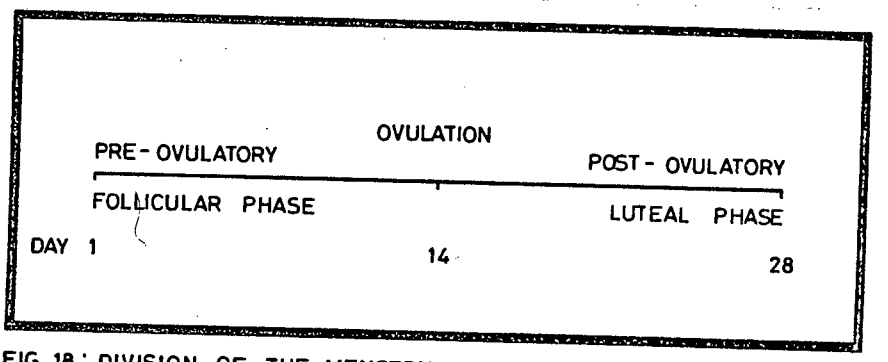



FIG. 18 : DIVISION OF THE MENSTRUAL CYCLE INTO THE FOLLICULAR AND LUTEAL PHASES

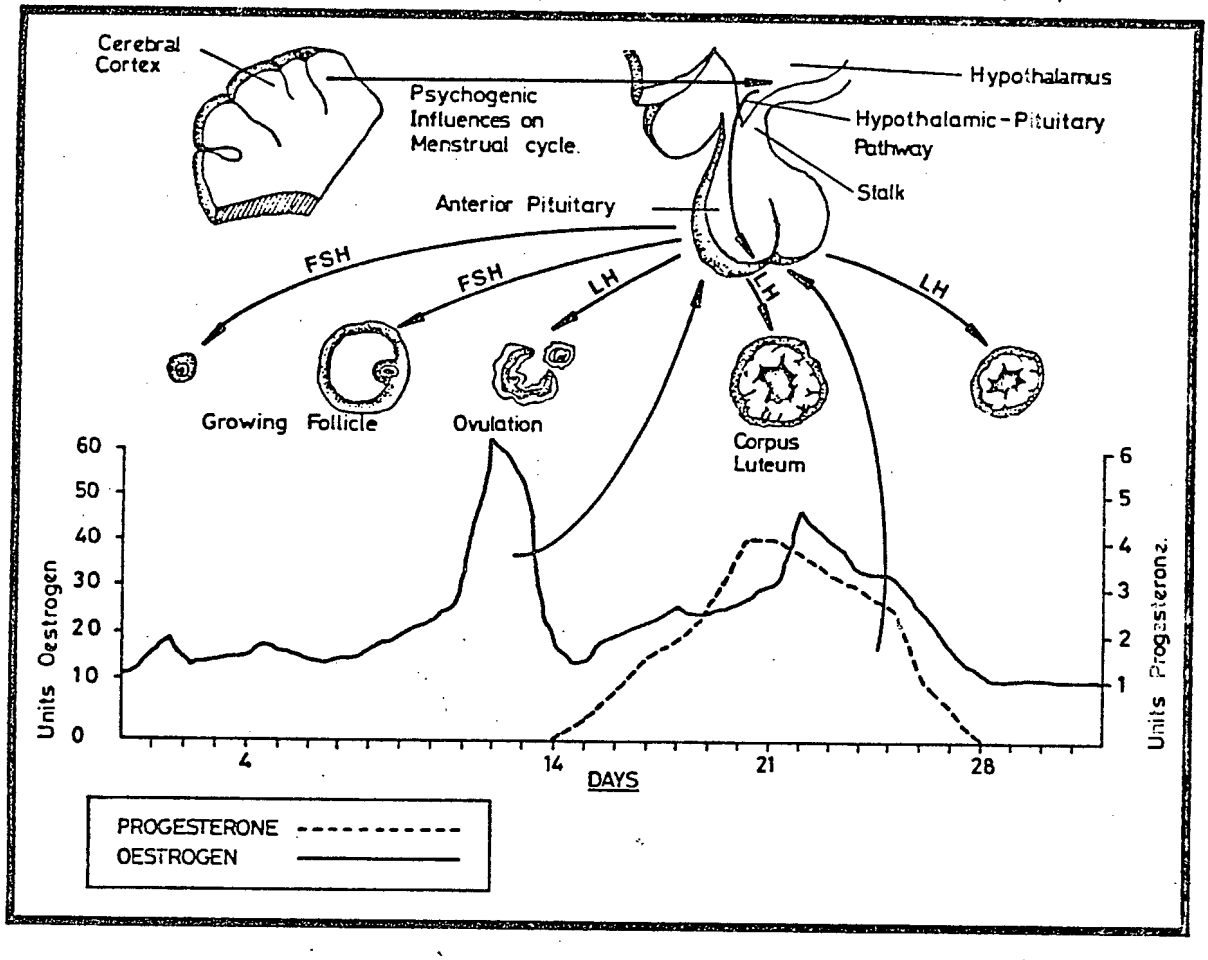
### Hormonal Changes:

Following standard practice, day 1 of the menstrual cycle is arbitrarily defined as the first day of menstruation. On day 1 progesterone and oestrogen levels are low and menstruation begins and lasts from 3 to 5 days. The menstrual cycle is regulated by the pituitary gland which releases two hormones,

follicle stimulating hormone (FSH) and luteinising hormone (LH) which are responsible for the development and maturation of the Graafian follicles within the ovaries until the ovum is released at ovulation. On day 1, one of the many immature ova in one of the two ovaries begins to mature and the hypothalamus signals the production of more oestrogen. (Begley et.al., 1980).

During the next two weeks oestrogen levels continue to rise and the ovum develops and matures.FSH & LH stimulate a new uterus lining to develope. By day 14 oestrogen reaches its highest peak in the cycle and the ovary sheds the mature ovum. After this oestrogen levels drop somewhat and then rise again as LH and FSH stimulate the newly formed corpus luteum to produce oestrogen and progesterone. The levels of oestrogen and progesterone peak again at about day 24 and then decline (Segal, 1974). The oestrogen and progesterone produced by the corpus luteum arrest further proliferation of the endometrium and induce secretory changes in the endometrium preparing it for the nidation of the ovum. (Freedman et.al., 1978). If fertilization does not occur, the corpus luteum regresses, the ovarian hormones drop and the uterus prepares to shed the lining developed during the cycle. The drop in oestrogen and progestorone signals the pituitary to begin a new cycle (Freedman et.al., 1978). The hormonal changes of the menstrual cycle are diagrammatically represented in figure

FIG.19 HORMONAL FLUCTUATIONS DURING THE MENSTRUAL CYCLE. (Adapted from BENSON, 1974.)



APPENDIX 2

# Volunteers needed 'to sleep, dream'

Claire Osborn in the dream laboratory at the University of Cape Town.

Staff Reporter

A PSYCHOLOGY student at the University of Cape Town, Claire Osborn, 2?, needs volunteers to "come and sleep in my dream laboratory for four nights". Claire is doing a master's thesis in psychology.

She says she has always been interested in personality changes that have been attributed to the menstrual cycle — "things like premenstrual tension, irritability" — and hopes to "establish the extent to which it is so".

She also hopes to correlate the menstrual cycle with hormone levels, personality types, EEG patterns and thought processes during sleep and dreams.

Volunteers will obviously have to be women, but there are other requirements. They should be between 20 and 30 years old, not taking oral contraceptives or drugs of any other kind, and should have regular menstrual cycles and reasonably good dream recall.

In addition to being interviewed, and completing various psychological tests, the volunteers will be asked to keep a record of their dreams for one month and to spend four nights spaced out over that month in the dream laboratory.

All test results and dream reports will be held in strictest confidence and those who participate will "be told what I've found".

Claire hopes to start as soon as possible to "beat the Christmas rush". She's also hoping that the desire to participate in "real research" will outweigh the hassle of spending four nights in a strange environment.

Claire Osborn can be contacted at 24 1942.

SUBJECT RECRUITMENT

NEWSPAPER ARTICLE ——— CAPE TIMES 25 October, 1983.

# APPENDIX 16

## Examples of the Dream Amplification Study

### SUBJECT C

1.

In my bedroom
Red glass balls and Chinese lanterns hanging there.

2.

In a woman artist's house.
She was painting fairies in green and blue

3.

Shopping for easter presents - red suckers and easter eggs.

4.

Cleaning my car out - there were plants growing in all the crevices
A book on plants was covered in mold

5.

I was captured and made an experimental subject/locked up.
Food in big white bins.
Pool with naked people swimming in it - the people had become ½ animal with brown wrinkled skins (prehistoric feel) - they were feeding crocodiles lying round the pool.

6.

A man (ex-mercenary) moved into my room in residence.
He took over and reorganised - put books and potplants on the shelves.
Was very unhappy about the intrusion.

Seemed unnatural for the crocodiles to go in the pool.
Heard that we were to be killed the next day.

7.

Living in a small room with the walls lined with books, even the door.
Had to climb through a hatch to get into the room

8.

Living in a flat.
My aunt arrived with a lot of wooden furniture - bed, chairs
Then I was being chased along the corridors and staircase by a man.

9.

Traffic cop thought my mother and sister were somebody else - who had nearly knocked him off his motorbike.
He beat them up. I was terribly upset.

10.

Walking down a grassy hill with my mother.
Lots of trees.
There was a slit-like hole in the ground.

SUBJECT H

1.

One of the directors at work called to me and as usual his face changed into a butterfly.

2.

I was practising healing techniques with some friends.
Saw a box of light substance like communion wafers fly up to heaven

3.

Was in a movie stars' museum.
In one room I had to climb a fisherman's net up to the ceiling and out a trap door onto the roof.
Lots of people.

4.

At home in my house with my housemate and a male friend.
He pointed at a rattlesnake coming down the wall - it came for me.
I climbed onto the mantel piece to escape but the mantel piece came away from the wall - I felt cornered and trapped.

5.

Running on the beach with friends.
Standing on the back of a large boat.
Enormous fishes appeared - had enormous teeth.

6.

In an old farmhouse.
Tired - wanted to sleep.
Friends of Di's (my housemate) came over
Strange light.
One woman was a witch - she was beautiful - she started flying.

They were eating smaller fish.
Torpedo (at first I thought it was a shark) came through the water towards us.

Di was throwing me in the air.
The 4 of them left - very drunk
I put the kettle on and by mistake put water in the plug socket and fused the lights.

7.

Swimming at an old school friend's house.
The pool water was very hot

8.

Cats and a sandbox
Some people have problems -
I have flies.

9.

I was in a small boat anchored off a lighthouse in the middle of the ocean.
The sea was rough.
The sun was illuminating under the water - vivid colours.
No fish in the water
Helicopter brought us back to land.
We had left someone behind by mistake.

## REFERENCES

Agnew, H.W;, Webb, W.B., and Williams, R.L. The first night effect: An EEG Study of sleep. Psychophysiology, 1966, 2(3), 263-266.

Altmann, M., Knowles, E., and Bull, H.D. A psychosomatic study of the sex cycle in women. Psychosomatic Medicine, 1941, 3, 199-224.

Atcheson, L.P. Menstruation: Myth, taboo, belief and fact: A psycho-anthropological study of evaluations of female role, character and behaviour, as reflected in menstrual myths, taboos, beliefs and facts. Dissertation Abstracts International, 1977 (Apr.), 37 (10-13), 5340-5341.

Baekeland, R. Correlates of home dream recall: Reported home sleep characteristics and home dream recall. Comprehensive Psychiatry, 1969, 10, 482-491.

Bakan, D. The Quality of Human Existence : An Essay on Psychology and Religion. Rand McNally and Co., Chicago, 1966.

Bardwick, J.M. The sex hormones, the CNS and Affect Variability in Humans. Frank and Burtle, New York, 1974.

Baron, J.E. Effects of the menstrual cycle on manifest content and affect in dream reports. Dissertation Abstracts International, 1976 (Apr), 36 (10-8), 5223.

Bem, S.L. Bem Sex-Role Inventory. Consulting Psychologists Press Inc., Palo Rito, California, 1977.

Benedek, T. Studies in Psychosomatic Medicine : Psychosexual Functions. The Ronald Press Co., New York, 1952.

Benedek, T., and Rubenstein, B.B. The correlations between ovarian activity and psychodynamic processes : I. The Ovulative phase. Psychosomatic Medicine, 1939, 1(2), 245-270; II. The menstrual phase. Ibid., 1939, 1(4), 461-485.

Bernstein, B.E. The relationship between menstruation and academic performance in high - and low - motivated studies. Dissertation Abstracts International, 1974, 34 (11-B), 7035.

Bernstein, B.E. Effect of menstruation on Academic Performance Among College Women. Archives of Sexual Behaviour, 1977. b (4), 289-296.

Berry, C., and McGuire, F.L. Femininity and acceptance of social role as related to dysmenorrhea and premenstrual tension. Presented at the Western Psychological Association Meetings, San Francisco, April, 1977.

Beumont, P.J.V., Carr, P.J., Richards, D.H., and Turnbull, S. Luteinsising hormone and Progesterone Levels after Hysterectomy. British Medical Journal, 1972, 11, 363.

Beumont, P.J.V., Richards, D.H., and Gelder, M.G. A study of minor psychiatric and physical symptoms during the menstrual cycle. British Journal of Psychiatry, 1975, 126, 431-434.

Billig, H.E. The role of premenstrual tension in industry. Inter, Rec, Med., 1953, 166, 487.

Brooks, J., Ruble, D. and Clark, A. College women's attitudes and expectations concerning menstrual-ralated changes. Psychosomatic Medicine, 1977, 39 (S), 288-298

Brooks-Gunn, J., and Ruble, D.N. The Menstrual Attitude Questionnaire. Psychosomatic Medicine. 1980, 42 (S), 503-512.

Chernovetz, M.E., Jones, W.H. and Hansson, R.O. Predictability, attentional focus, sex-role orientation, and menstrual-related stress. Psychosomatic Medicine, 1979, 41 (S), 383-391.

Cirlot, J.E. A Dictionary of Symbols. Routledge and Kegan Paul, London, 1978.

Coble, P., Mc Partland, R.J., Silva, W.J., and Kupfer, D.J. Is there a first night effect? (A revisit). Biological Psychiatry, 1974, 9 (2), 215-219.

Cohen, D.B. Sex Role Orientation and Dream Recall. Journal of Abnormal Psychology, 1973, 82 (2), 246-252.

Cohen, D.B. Toward a Theory of Dream Recall. Psychological Bulletin, 1974, 81 (2), 138-154.

Cohen, D.B. and MacNeilage, P.F. A test of the salience hypothesis of dream recall. Journal of Consulting and Clinical Psychology, 1974, 42, 699-703.

Cooper, J.A., Blue, J.H. and Ross, S. Automatization and perceptual restructuring performance across the menstrual cycle. Bulletin of the Psychonomic Society, 1983, 21 (3), 179-182.

Coppen, A. The prevalence of menstrual disorders in psychiatric patients. British Journal of Psychiatry, 1965, 111, 155.

Coppen, A. and Kessel, N. Menstruation and Personality. British Journal of Psychiatry, 1963, 109, 711-721.

Cormack, M. and Sheldrake, P. Menstrual Cycle Variation in Cognitive Ability : A Preliminary Report. International Journal of Chronobiology, 1974, 2, 53-55.

Dalton, K. Menstruation and acute psychiatric illness. British Medical Journal, 1959, 1, 148-149.

Dalton, K. Menstruation and Accidents. British Medical Journal, 1960a, 2, 1425.

Dalton, K. The effect of menstruation on schoolgirls' weekly grades. British Medical Journal, 1960 b, 1, 326-328.

Dalton, K. Menstruation and Crime. British Medical Journal, 1961, 2, 1752-1753.

Dalton, K. Influence of Menstruation on Glaucoma. British Journal of Opthalmology, 1967, 51, 692.

Dalton, K. Menstruation and Examinations. Lancet, 1968, 2, 1386-1388.

Dalton, K. Children's hospital admissions and mother's menstruation. British Medical Journal, 1970, 2, 27-28.

Dalton, K. The Menstrual Cycle. Warner Books, New York, 1972.

Daly, C.D. The Role of Menstruation in Human Phylogenesis and Ontogenesis. International Journal of Psychoanalysis, 1943, 24, 151-170.

Dement, W.C., Kahn, E. and Roffwarg, H.P. The influence of the laboratory situation on the dreams of the experimental subjects. Journal of Nervous and Mental Disease, 1965, 140, 119-131.

Devereux, G. The Psychology of Feminine Genital Bleeding : An Analysis of Mohave Indian Puberty and Menstrual Rites. International Journal of Psychoanalysis, 1950, 31, 237-257.

Domhoff, W. Home Dreams and Laboratory Dreams : Home Dreams are the Best. Paper presented at the University of Cincinnati

Ohio, 1967.

Domhoff, W. and Kamiya, J. Problems in Dream Content Study with Objective Indicators. A Comparison of Home and Laboratory Dream Reports. Archives of General Psychiatry, 1964, 2, 519-524.

Drucker, P. Cultures of the North Pacific Coast. Chandler Publishing Co., Scranton, Pennsylvania, 1965.

Edelstein, I. Manifest Dream Content and the Menstrual Cycle. Psychology Honours Project, University of Cape Town, 1981.

Faber, P.A. Meditation and Nocturnal dreams in the psychology of C.G. Jung: An Experimental investigation. M.A. Thesis. University of Cape Town, 1977.

Ferguson, J.H. and Vermillion, M.B. Premenstrual Tension. Two surveys of its Prevalence and a description of the Syndrome. Journal of Obstetrics and Gynaecology, 1957, 9, 615.

Fiss, H. The need to complete one's dreams. In J. Fisher and L. Breger (Eds.) The meaning of dreams : Some insights from the laboratory. California Mental Health Research Symposium No. 3, Sacramento : Bureau of Research, California department of Mental Hygiene, 1969.

Foulkes, D. The Psychology of Sleep. New York, Charles Scribner's Sons, 1966.

Foulkes, D. REM-mentation. Experimental Neurology, 1967, 4, 28-38.

Foulkes, D. The Dreamlike Fantasy (DF) Scale : A rating manval. Paper presented at the meeting of the Association of Psychophysiological Study of Sleep, Santa Fe, New Mexico, March, 1970.

Foulkes, D., and Rechtschaffen, A. Presleep Determinants of Dream Content : Effects of Two Films. Perceptual Motor Skills, 1964, 19, 983-1005.

Foulkes, D., Spear, P.S., and Symonds, J.D. Individual Differences in Mental Activity of Sleep Onset, American Psychologist, 1966, 71, 280-286.

Foulkes, D. and Vogel, G.W. The current status of laboratory dream research. New York : Insight Communications, 1974.

France, J.T. The Detection of Ovulation for Fertility and Infertility. In J. Bonner (Ed), Recent Advances in Obstetrics and Gynaecology. Churchill Livingstone, New York, 1982.

Frazer, J. The New Golden Bough. New American Library, New York, 1959.

Freedman, A.M., Kaplan, H.I. and Sadock, B.J. Modern Synopsis of Comparative Textbook of Psychiatry / II (Second Edition). Williams and Wilkins Co., Baltimore, 1978.

Freud, S. Totem and Taboo. W.W. Norton and Co., New York, 1950

Freud, S. The Taboo of Virginity. In The Case of Dora and Other Papers. W.W. Norton and Co., New York, 1952.

Garfield, P.L. Women, blood and dreams. Sleep Research, 1974, 3, 106.

Glass, G.S. Heninger, G.R., Lansky, M. and Talen, K. Psychiatric emergency related to the menstrual cycle. American Journal of Psychiatry, 1971, 128, 705.

Globus, G.C. Quantification of the REM sleep cycle as rhythm. Psychophysiology, 1970, 7, 248-253.

Goldman, I. The Cubeo : Indians of the Northwest Amazon. University of Illinois Press, Urbana, 1963.

Golub, S. The effect of premenstrual Anxiety and depression on cognitive function. Journal of Personality and Social Psychology, 1976 a, 34 (1), 99-104.

Golub, S. The magnitude of premenstrual anxiety and depression.

Psychosomatic Medicine, 1976 b, 38, 4-11.

Goodenough, D.R., Lewis, H.B., Shapiro, A., Jaret,L and Sleser, I. Dream reporting following abrupt and gradual awakenings from different types of sleep. Journal of Personality and Social Psychology, 1965, 2, 170-179.

Goodenough, D.R., Witkin, H.A., Koulack, D. and Cohen, H. The effects of stress films on dream affect and on respiration and eye movement sleep. Psychophysiology, 1975, 12 (3), 313-320.

Goodenough, D.R., Witkin, H.A., Lewis, H.B., Koulack, D. and Cohen, H. Repression, interference, and field dependence as factors in dream forgetting. Journal of Abnormal Psychology, 1974, 83, 32-44.

Gottschalk, L.A., Springer, K. and Gleser, G. Experiments with a method of assessing the variations in intensity of certain psychological states occurring during two psychotherapeutic interviews. In Gottschalk, L.A. (Ed.) Comparative Psycholinguistic Analysis of two Psychotherapeutic Interviews. International Universities Press, New York, 1961.

Gottschalk, L.A., Kaplan, S., Gleser, G. and Winget, C. Variations in magnitude of emotion : A method applied to anxiety and hostility during phases of the menstrual cycle. Psychosomatic Medicine, 1962, 24, 300-311.

Gough, H.G. The adjective checklist as a personality assessment research technique, Psychological Reports, 1959, 6, 107-122.

Gough, H.G. and Heilbrun, A.B. The Adjective Check List Manual. Palo Alto, California. Consuting Psychologists, Press, 1965.

Greene, R. Migraine - the menstrual aspect. Journal of Collective General Practice, 1963, 6, 14.

Greene, R. and Dalton, K. The Premenstrual Syndrome. British Medical Journal, 1953, 1, 1007.

Gregory, A.J.C. The Menstrual Cycle and its Disorders in psychiatric patients. Journal of Psychosomatic Research, 1957, 2, 61.

Haft, M.H. An exploratory study of early adolescent girls : body image, self-acceptance, acceptance of traditional female roles, and response to menstruation. Doctoral Dissertation, Columbia University, 1973.

Hain, J.D., Linton, P.H., Eber, H.W. and Chapman, M.M. Menstrual irregularity, symptoms and personality. Journal of Psychosomatic Research, 1970, 14 (1), 81-87.

Hall, C.S. and Van de Castle, R.L. Studies of dreams reported in the laboratory and at home. Institute of Dream Research, Monograph Series, 1966, No.I, Santa Cruz, California.

Hall, J.A. Clinical Uses of Dreams : Jungian Interpretations and Enactments. Grune and Stratton, New York, 1977.

Harding, M.E. Woman's Mysteries : Ancient and Modern. Rider and Company, London, 1971.

Harding, M.E. Psychic Energy : Its source and its transformation. Princeton University Press, Priceton, 1973.

Hart, R.D. Monthly rhythm of libido in married women. British Medical Journal, 1960, 1, 1023.

Hartmann, E. Dreaming sleep (The D-State) and the menstrual cycle. Journal of Nervious and Mental Disease, 1966, 143, 406-416.

Hartmann, E. Adaptation to the sleep laboratory and placebo effect. Paper presented at the Association for the psychophysiological Study of Sleep. Santa Monica, California, 1967.

Hauri, P., Sawyer, J. and Rechtschaffen, A. Dimensions of dreaming : A factored scale for rating dream reports. Journal of Abnormal Psychology, 1967, 72, 16-22.

Hays, H.R. The Dangerous Sex. Pocket Books, New York, 1972.

Hertz, D.G. and Jensen, M.R. Menstrual dreams and psychodynamics : Emotional conflict and manifest dream content in

menstruating women. British Journal of Medical Psychology 1975, 48 (2), 175-183.

Hobson, R. The archetypes of collective unconscious. In Fordham, G.R., Hubback, J., Lambert, K. and Williams, M. (Eds) : Analytical Psychology : A modern science. William Heinemann, London, 1973, 66-75.

Ivey, H., and Bardwick, J. Patterns of affective fluctuation in the menstrual cycle. Psychosomatic Medicine, 1968, 30, 336-345.

Jacobi, J. The Psychology of C.G. Jung. Routledge and Kegan Paul, London, 1968.

Jacobi, J. Complex, Archetype, Symbol. Bollingen Foundation, Princetown University Press, New York, 1974.

Jacobs, T.J. and Charles, E. Correlation of symptomatology and the menstrual cycle in an outpatient population. American Journal of Psychiatry, 1970, 126 (10), 1504-1508.

Janiger, O., Riffenburgh, R. and Kersh, R. Cross Cultural Study of Premenstrual Symptons. Psychosomatics, 1972, 13, 226-235.

Janowsky, D.S., Berens, S.C. and Davis, J.M. Correlations between mood, weight, and electrolytes during the menstrual cycle :

A renin-angiotension - aldosterone hypothesis of prementrual tension. Psychosomatic Medicine, 1973, 35 (2), 143-154.

Janowsky, D.S., Gorney, R. and Kelly, D. The curse : Vicissitudes and variations of the female fertility cycle. Psychosomatics, 1966, 7, 242-246.

Janowsky, D.S., Gorney, R., R. Casteinuovo-Tedesco, P. and Stone, C. Premenstrual and Menstrual Increases in Psychiatric hospital admission rates. American Journal of Obstetrics and Gynaecology, 1969, 103 (2), 189-199.

Jasper, H.H. Report of the committee on methods of clinical examination in electroencephalography. Electroencephalography and clinical Neurophysiology, 1968, 10, 370-375.

Jung, C.G. The Collected Works of C.G. Jung, vols. 1/18. Routledge and Kegan Paul, London. (hereafter date of publication of "C W" volume number followed by essay title and volume number)

Jung, C.G. (1949). The type problem in Psychopathology. C.W. 6

Jung, C.G. (1954). The Significance of Dreams. C.W. 18.

Jung, C.G. (1960a). General Aspects of Dream Psychology. C.W. 8.

Jung, C.G. (1960 b). On the Nature of the Psyche. C.W. 8

Jung, C.G. (1960). The psychological Foundation of the Belief in Spirits. C.W. 8.

Jung, C.G. (1960 d). The Transcendent Function. C.W. 8

Jung, C.G. (1960 e). On the Nature of Dreams, C.W. 8

Jung, C.G. (1960 f). Synchronicity : An Acausal Connecting Principal. C.W. 8.

Jung, C.G. (1960 g). The Structure of the Psyche. C.W. 8.

Jung, C.G. (1960 h). Instinct and the Unconscious. C.W. 8.

Jung, C.G. (1966). The Practical Use of Dream Analysis. C.W. 16.

Jung, C.G. (1967). Individual Dream Symbolism in Relation to Alchemy. C.W. 12.

Jung, G.G. (1968) Analytical Psychology : Its theory and practice (The Tavistock Lectures). Routledge and Kegan Paul, London.

Jung, C.G. (1969). A psychological Approach to the Dogma of Trinity. C.W. 2.

Jung, C.G. Commentary on Kundalini Yoga. Spring, 1975, 1-32.

Jung, C.G. (1971 a). The Concept of the Collective Unconscious. C.W. 9 (I),

Jung, C.G. (1971 b). Psychological Aspects of the Mother Archetype. C.W. 9 (I).

Jung, C.G. (1977a). On the Psychology of the Unconscious. C.W. 7.

Jung, C.G. (1977 b). The Archetypes of the Collective Unconscious. C.W. 7.

Jung, C.G. (1977c). The Synthetic or Constructive Method. C.W. 7.

Jung, C.G. (1977 d). The Persona as a segment of the Collective Psyche. C.W. 7.

Jung, C.G. (1981 a). Origin of the Hero. C.W. 5.

Jung, C.G. (1981 b). Symbols of the Mother and Rebirth. C.W. 5.

Jung, C.G. (1981 c). The Battle for Deliverance from the Mother. C.W. 5.

Jung, C.G. (1981 d). The Dual Mother, C.W. 5.

Jung, C.G. (1981 e). The Sacrifice. C.W. 5.

Katzenstein, V.N. The effects of the menstrual cycle on dream reports. Doctoral Dissertation, Case Western Reserve University, 1975.

Kinsey, A.C., Pomeroy, W.B., Martin, C.E. and Gebhard, P.H. Sexual

Behaviour in the Human Female. Pocket Books, New York, 1970.

Kintz, B.L., Delprato, D.J., Mettee, D.R., Persons, C.E. and Schappe, K.H. The Experimenter Effect. Psychological Bulletin, 1965, 63 (4), 223-232.

Kluger, H.Y. Archetypal Dreams and 'Everyday' dreams : A Statistical Investigation into Jung's theory of the Collective Unconscious. Israel Annals of Psychiatry and Related Disciplines, 1975, 13 (1), 6-47.

Kopell, B.S. Lunde, D.T., Clayton, R.B. and Moos, R.H. Variations in some Measures of Arousal During the Menstrual Cycle. Journal of Nervous and Mental Diseases, 1969, 148, 180-187.

Kramer, M., Winget, C. and Roth, T. Problems in the definition of the REM dream. Sleep, 1974. 2nd European Congress of Sleep Research, Rome, 1974, 149-156.

Kramp, J.L. Studies on the premenstrual syndrome in relation to psychiatry. Acta Psychiatrica Scandinavica Suppl., 1968, 203, 261.

Krasowska, J. Psychotic syndromes of premenstrual tension in puberty. Annual of Medical Psychology, 1960, 118, 849.

Kupfer, D.J., Weiss, B.L., Detre, T.P. and Foster, G.F. First night effect revisited : A clinical note. Journal of Nervious and Mental Disease, 1974, 159 (3), 205-209

Lamb, W.M., Ulett, G.A., Master, W.H. and Robinson, D.W. Premenstrual tension, EEG, hormonal and psychiatric evaluations. American Journal of Psychiatry, 1953, 109, 840.

Lamstein, S. Roffwarg, H. and Herman, J. Middle ear muscle activity (MEMA) : A low threshold phasic phenomenon, paper presented at the second International Sleep Research Congress, Edinburgh, Scotland, July 1975.

Langs, R.J. Earliest memories and personality. Archives of General Psychiatry, 1965, 12, 379-390

Langs, R.J. Manifest dreams from three clinical groups. Archives of General Psychiatry, 1966, 14, 634-634.

Langs, R.J., Rothenberg, M.B., Fishman, J.R. and Rieser, M.F. A method for clinical and theoretical study of the earliest memory. Archives of General Psychiatry, 1960, 3, 523-534.

Larson, J.D. EMG suppression during sleep and dream activity. MA Thesis, University of Wyoming, 1967.

Levitt, E. and Lubin, B. Some Personality Factors Associated with

menstrual complaints and menstrual attitude. Journal of Psychosomatic Research, 1967, 11, 267-270.

Lewis, S.A. and Burns, M. Manifest Dream Content : Changes with the menstrual cycle. British Journal of Medical Psychology, 1975, 48 (4), 375-377.

Luschen, M.E. and Pierce, D.M. Effect of the menstrual cycle on mood and sexual arousability. Journal of Sex Research, 1972, 8 (1), 41-47.

McCance, R.A., Luff, M.C., and Widdowson, E.E. Physical and emotional periodicity in women. Journal of Hygience, 1937, 37, 571-611.

MacKinnon, P. and MacKinnon, I. Hazards of the menstrual cycle. British Medical Journal, 1956, 1, 555.

MacGuigan, F.J. The Experimenter : A neglected stimulus object. Psychological Bulletin, 1963, 60, 421-428.

Mall, M.G. On the hormonal treatment of pre- and post-menstrual ovarian psychoses. In : Psychoendocrinology. Max Reiss (Ed.) Grune and Stratton, New York, 1958.

Mandell, A. and Mandell, M. Suicide and the menstrual cycle. JAMA, 1967, 200, 792.

Martin, M.K. Female of the Species. Columbia University Press, New York, 1975.

Martin, I.C.A. Blood, sweat and tears : some psychiatric aspects of menstrual disorder. Nursing Times, 1975, 13, 1830-1832.

May, R.R. Mood shifts and the menstrual cycle. Journal of Psychosomatic Research, 1976, 20 (2), 125-130.

Meggitt, M.J. Male-Female Relationships in the Highlands of Australian New Guinea. American Anthropologist, 1964, 66, 204-224.

Moos, R.H. The development of a menstrual distress questionnaire. Psychosomatic Medicine, 1968, 30 (6), 853-867.

Moos, R.H., Kopell, B.S., Melges, F.T. Yalom, I.O., Lunde, D.T., Clayton, P.B. and Hamburg, D.A. Fluctuations in moods during the menstrual cycle. Journal of Psychosomatic Research, 1969, 13 (1), 37-44.

Morton, J.H., Addition, H., Addison, R.G., Hart, L. and Sullivan, J.J., A clinical study of Premenstrual tension. American Journal of Obstetrics and Gynaecology, 1953, 65, 1182-1191.

Neumann, E. The Child: Structure and Dynamics of the Nascent Personality. G.P. Putnam's Sons, New York, 1973.

Neumann, E. The Great Mother : An Analysis of the Archetype. Princeton, New York, 1974.

Novak, E. Menstruation and its disorders. D. Appleton and Company, New York, 1921.

Orne, M.T. On the social psychology of the psychological experiment : With particular reference to demand characteristics and their implications. American Psychologist, 1962, 17, 776-783.

Ota, Y. and Mukai, T. Studies on the relationship between psychotic symptons and sexual cycle. Folia Psychiat Neurology, 1954, 8, 207.

Paige, K.E. Effects of Oral Contraception on affective fluctuations associated with the menstrual cycle. Psychosomatic Medicine, 1971, 33 (6), 515-557.

Parlee, M.B. The Premenstrual Syndrome. Psychological Bulletin, 1973, 80 (b), 454-456.

Parlee, M.B. Stereotypic beliefs about menstruation : A methodological note on the Moos Menstrual Distress Questionnaire and some new data. Psychosomatic Medicine, 1974, 36 (3), 229-240.

Parlee, M.B. Changes in moods and activation levels during the menstrual cycle in experimentally naive subjects. Psychology of Women Quarterly, 1982, 7, (2), 119-131.

Paulson, M.J. Psychological concomitants of premenstrual tension. American Journal of Obstetrics and Gynaecology, 1961, 81, 733.

Perry, J.W. Image, complex and transference in schizophrenia. In Psychotherapy of the Psychoses. A Burton (Ed.), Basic Books, New York, 1961.

Ploss, H.H., Bartles, M. and Bartles, P. Woman : An historical gynaecological and anthropological compendium; edited by E.J. Dingwall. Volume III. William Heinemann Ltd., London, 1935.

Pontalis, J.B. Dream as an object. International Review of Psychoanalysis, 1974, 1, 125-133.

Rechtschaffen, A. Discussion of W. Dement's "Expérimental dream studies". In J.H. Masserman (Ed.), Science and Psychoanalysis, Grune and Stratton, New York, 1964.

Rechtschaffen, A. and Kales, A. (Eds.). A manual of Standardised Terminology, Techniques and Scoring Systems for Sleep Stages of Human Subjects. National Institute of Health Publication 204, Washington, U.S. Government Printing Office, 1968.

Rees, L. Psychosomatic aspects of the premenstrual tension syndrome. Journal of Mental Science, 1953, 99. 62.

Rees, L. The premenstrual tension syndrome in relation to personality, neurosis, certain psychosomatic disorders and psychotic states. In : Psychoendocrinology. Max Reiss (Ed.), Grune and Stratton, New York, 1958.

Reynolds, E. Variations of mood and recall in the menstrual cycle. Journal of Psychosomatic Research, 1969, 13, 163-166.

Ribeiro, A.L. Menstruation and Crime. British Medical Journal, 1962, 1, 640.

Rosenthal, R. On the social psychology of the psychological experiment : The experimenter's hypothesis as unintended determinant of experimental results. American Scientist, 1963, 51, 268-283.

Rosenthal, R., Persinger, G.W., Vikan-Kline, L.L. and Multay, R.C. The role of the research assistant in the mediation of experimenter bias. Journal of Personality, 1963, 31, 313-335.

Ruble, D.N. Premenstrual symptoms : A reinterpretation. Science, 1978, 197, 291-292.

Scharf, M., Kales, J., Kales, A. and Butler, S. Repeated adaptation and "first night" effects of the sleep laboratory. Paper presented at the meeting of the Association for the Psychophysiological Study of Sleep, Boston, Massachusetts, March, 1969.

Schechter, M., Schmeidler, G., and Staal, M. Dream Reports and creative tendencies in students of the arts, sciences and engineering. Journal of Consulting Psychology, 1965, 29, 415-421.

Schonberg, W.B., Costanzo, D.J. and Carpenter, R.S. Menstrual cycle : Phases and reaction to frustration. Psychological Record, 1976, 26, (3), 321-325.

Schmidt, H.S. and Kaelbling, R. Laboratory adaptation effect on sleep patterns : A comparison of six consectutive nights. Paper presented at the meeting of the Association for the Psychophysiological Study of Sleep, Denver, Coloredo, March, 1968.

Schultz, K.J. and Koulack, D. Dream Affect and the Menstrual Cycle. The Journal of Nervious and Mental Disease, 1980, 168 (7), 436-438.

Sears, R.R. Relation of early sociolization Experiences to Self Concepts and Gender Role in Middle Childhood. Child Development, 1970, 41, 267-289.

Shainess, N. A re-evaluation of some aspects of feminity through a study of menstruation: A preliminary report. Comprehensive Psychiatry, 1961, 2, 20-26.

Shapiro, A., Goodenough, D.R. and Gryler, R.B. Dream recall as a
Shapiro, A., Goodenough, D.R. and Gryler, R.B. Dream recall as a
function of method awakening. Psychosomatic Medicine, 1963, 25, 174-180.

Shapiro, A., Goodenough, F.R., Biederman, I. and Sleser, I. Dream recall and the physiology of sleep. Journal of Applied Physiology, 1964, 19, 778-783.

Sheldrake, P. and Cormack, M. Dream Recall and the Menstrual Cycle. Journal of Psychosomatic Research, 1974, 18 (5), 347-350.

Sheldrake, P. and Cormack, M. Variations in menstrual cycle symptom reporting. Journal of Psychosomatic Research, 1976, 20 (3), 169-177.

Silbergeld, S., Brast, N. and Noble, E. The Menstrual Cycle : a double-blind study of symptoms, mood and behaviour, and biochemical variables using Enovid and placebo. Psychosomatic Medicine, 1971, 33, 55411.

Singer, J.L. and Antrobus, J.S. Imaginal Processes Inventory. University of New York, New York, 1970.

Sirios-Berliss, M. and de Koninck, J. Menstrual stress and dreams: Adaptation or interference. Journal of the University of Ottawa, 1982, 7 (2), 77-86.

Smith, S.L. and Sauder, C. Food cravings, depression, and premenstrual problems. Psychosomatic Medicine, 1969, 31, 281-287.

Sommer, B. Menstrual cycle changes and intellectual performance. Psychosomatic Medicine, 1972, 34 (3), 263-269.

Sommer, B. The effect of menstruation on cognitive and perceptual-motor behaviour : a review. Psychosomatic Medicine, 1973 35 (6), 515-534.

Sommer, B. Stress and menstrual distress. Journal of human stress, 1978, 4 (3), 5-10.

Southam, A.L. and Gonzaga, F.P. Systematic changes during the menstrual cycle. American Journal of Obstetrics and Gynaecology, 1965, 91, 142-157.

Spencer, J.T., Helmreich, R. and Stapp, J. Ratings of self and peers on sex-role attributes and their relation to self-esteem and conception of masculinity and femininity. Journal of Personality, 1975, 32, 29-39,

Stephens, W.N. A Cross-cultural study of Menstrual Taboos. Genetic Psychology Monograph, 1961, 64, 385-416.

Stieglitz, E.J. and Kimble, S.T. Premenstrual Intoxication. American Journal of Medical Science, 1949, 218.

Strathern, M. Women in Between, Seminar Press, London, 1972.

Swanson, E.M. and Foulkes, D. Dream Content and the Menstrual Cycle. Journal of Nervous and Mental Disease, 1968, 145, 358-363.

Toner, B.B., Cairns, J. Knowles, J.B. and Maclean, A.W. Can the "First Night Effect" be reduced? In M.H. Chase, W.C. Stern, and P.L. Walter (Eds). Sleep Research, 1975, 4, 159.

Torghele, J.R. Premenstrual Tension in psychotic women. Journal Lancet, 1957, 77, 163.

Trinder, J., Van de Castle, R., Bourne, R. and Frisbie, D. Dream recall as a function of the menstrual cycle. Sleep Research, 1973, 2, 114.

Turiaf, J., Blanchon, P. and Zizine, L. Asthma at menstruels menopause exclue. Bull. et. Men. de la Societe Medical des Hospitaux de Paris, 1949, 65, 347.

Ulanov, A.B. The Feminine in Jungian Psychology and in Christian Theology. Northwestern University Press, Evanston, 1971.

Van de Castle, R.L. The Psychology of Dreaming. General Learning Press (Corporation), Morristown, New Jersey, 1971.

Vercesi, G. and Gatti, E. La psicosi iperfollincolinica : Revisione critica e contributo personale. General Psychiatry and Neuropathology, 1963, 91, 472.

Verghese, A. The syndrome of premenstrual psychosis. Indian Journal of Psychology, 1963, 5, 160.

Vollman, R.F. The Menstrual Cycle. W.B. Saunders Company, Philadelphia, 1977.

Von Frenz, M.L. The Problem of Evil in Fairy Tales. In : Curatorium of the C.G. Jung Institute (Eds) : Evil. Northwestern University Press, Evanston, 1967.

Weideger, P. Menstruation and Menopause. Dell Publishing Co., New York, 1977.

Weisz, R. and Foulkes, D. Home and Laboratory dreams collected under uniform sampling conditions. Psychophysiology, 1970, 6, (5), 588-596.

Wetzel, R.D., McClure, Jr. J.N., and Reich, T. Premenstrual symptoms in self-referrals to a suicide prevention service. British Journal of Psychiatry, 1971 a, 119, 5225.

Whitman, R.M., Kramer, M. and Baldridge, B. Which dream does the patient tell ? Archives of General Psychiatry, 1963, 8, 277-282.

Whitman, R.M., Pierce, C.M., Maas, J.W., and Beldridge, B.J. The dreams of the experimental subject. Journal of Nervous and Mental Disease, 1962, 134, 431-439.

Wilcoxon, L.A., Schrader, S.L. and Sherif, C.W. Daily self-reports

on activities, life-events, moods, and somatic changes during the menstrual cycle. Psychosomatic Medicine, 1976, 38 (6), 399-417.

Williams, E.Y. and Weekes, L.R. Premenstrual Tension associated with psychotic episodes. Journal of Nervous and Mental Disease, 1952, 116, 321.

Williams, R.L., Karacan, I., Thornby, J.I., and Salis, P.J. The Electroencephalagram sleep patterns of middle aged males. Journal of Nervous and Mental Disease, 1972, 154, 22-30.

Woods, N.F., Dery, G.K. and Most, A. Recollections of Menarche, Current Menstrual Attitudes and Perimenstrual Symptoms. Psychosomatic Medicine, 1982, 44 (3), 285-293.

Yalom, I.D., Lunde, D.T., Moos, R.H., Hamburg, D.A. "Postpartum Blues" syndrome. Archives of General Psychiatry, 1968, 18, 16.

Zacco, M. Piliego, N., and Jannone, D. il suicidio in rapporto al ciclo menstruale. Medicina Psicosomatica, 1960, 5, 187.

Zimmerman, E. and Parlee, M.B. Behavioural Changes associated with the Menstrual Cycle : An Experimental Investigation. Journal of Applied Social Psychology, 1973, 3 (4), 335-344.

APPENDIX 3

PERSONAL DATA QUESTIONNAIRE STRICTLY CONFIDENTIAL

NAME: _____

AGE: _____

TELEPHONE NUMBER:

1) Have you ever consulted a private psychiatrist or psychologist ?

(YES/NO) _____

IF YES:

When did you do so ? _____

How long did you see them for ? _____

What was/is the nature of the problem (Briefly) ? _____

_____

Were you given any form of medication ? (Please Specify) _____

_____

2) Have you ever consulted an outpatient psychiatric unit at a psychiatric hospital ? (YES/NO) _____

IF YES:

When did you do so ? _____

How long did you see them for ? _____

What was/is the nature of the problem (Briefly) ? _____

---

---

Were you given any form of medication ? (Please Specify) _____

---

3) Have you ever consulted a doctor or homeopathist for any nervous or emotional difficulties ? (YES/NO) _____

IF YES:

When did you do so ? _____

What was/is the nature of the problem ? (Briefly) _____

---

---

Did they given you any form of medication ? (Please Specify) _____

---

4) Are you presently taking any form of medication ? (If Yes, Please Specify) _____

5) Have you ever suffered from any severe illness (eg. epilepsy, diabetes etc) ? (If yes, Please Specify) _____

---

6) Have you ever suffered from any severe head injuries ?

(If Yes, Please Specify) _____

_____

7) Do you normally have difficulty falling asleep ? _____

8) Do you use any form of birth control ? (If yes, please specify)

_____

9) Do you have a regular menstrual cycle? _____

_____

10) Please give the date of your last menstrual cycle i.e. the onset of your last menstruation. _____

11) Approximately how long is your menstrual cycle ? (Note : not everyone has a 28 day cycle) _____

## APPENDIX 4

### DREAM DIARY INSTRUCTIONS

NAME .....

GROUP .....

CODE NO .....

PLEASE READ THE FOLLOWING CAREFULLY :

This dream diary consists of a separate form for each day of the month. Be sure to record the date at the top of each page. It is essential that you write down your dream as soon as possible after you awaken in the morning. If you cannot recall a dream, simply write NO RECALL on the relevant form. Be sure to do this when it is applicable.

When reporting a dream, please describe it as exactly and as fully as you remember it. Your report should contain, whenever possible, a description of the setting of the dream, whether it was familiar to you or not, a description of the people, for example their sex, age and relationship to you. Also include any animals in your description. If possible, describe your feelings during the dream, and whether it was pleasant or unpleasant. Be sure to tell exactly what happened to you and other characters in the dream. If you remember more than one dream, be sure to distinguish between dreams by clear markings and separations. If more space is required, use additional sheets of paper.

It is essential that you report anything that you can recall from the previous night's sleep. Everything is important, even hazy impressions, isolated images, flashes of colour etc.

Your dream reports will be treated in the strictest confidence, so do not be afraid to report dream events which might be embarassing to you if related to strangers. Your willingness to co-operate in this regard will greatly increase the accuracy and successful completion of the study.

When you have completed all the forms, please place them in the envelope provided and post it.

Thank you once again for participating in the study.

Claire Osborn

## APPENDIX 5

### DREAM RECORD SHEET

DATE: .....

TEMPERATURE: .....

Rate the dream on the following 7-point scale in terms of how pleasant or unpleasant the dream experience was for you :

1. VERY PLEASANT
2. MODERATELY PLEASANT
3. SLIGHTLY PLEASANT
4. NEITHER PLEASANT NOR UNPLEASANT? CANNOT TELL (NEUTRAL)
5. SLIGHTLY UNPLEASANT
6. MODERATELY UNPLEASNAT
7. VERY UNPLEASANT

Please circle the appropriate response.

### DREAM REPORT

If there is insufficient space, please continue on the reverse side of this sheet.

## APPENDIX 6

### POST EXPERIMENTAL QUESTIONNAIRE

1) Briefly outline what you thought the purpose of this experiment was ?

2) Do you feel that any hypotheses that you may have developed about this research have influenced your dreams in any way ? Please specify.

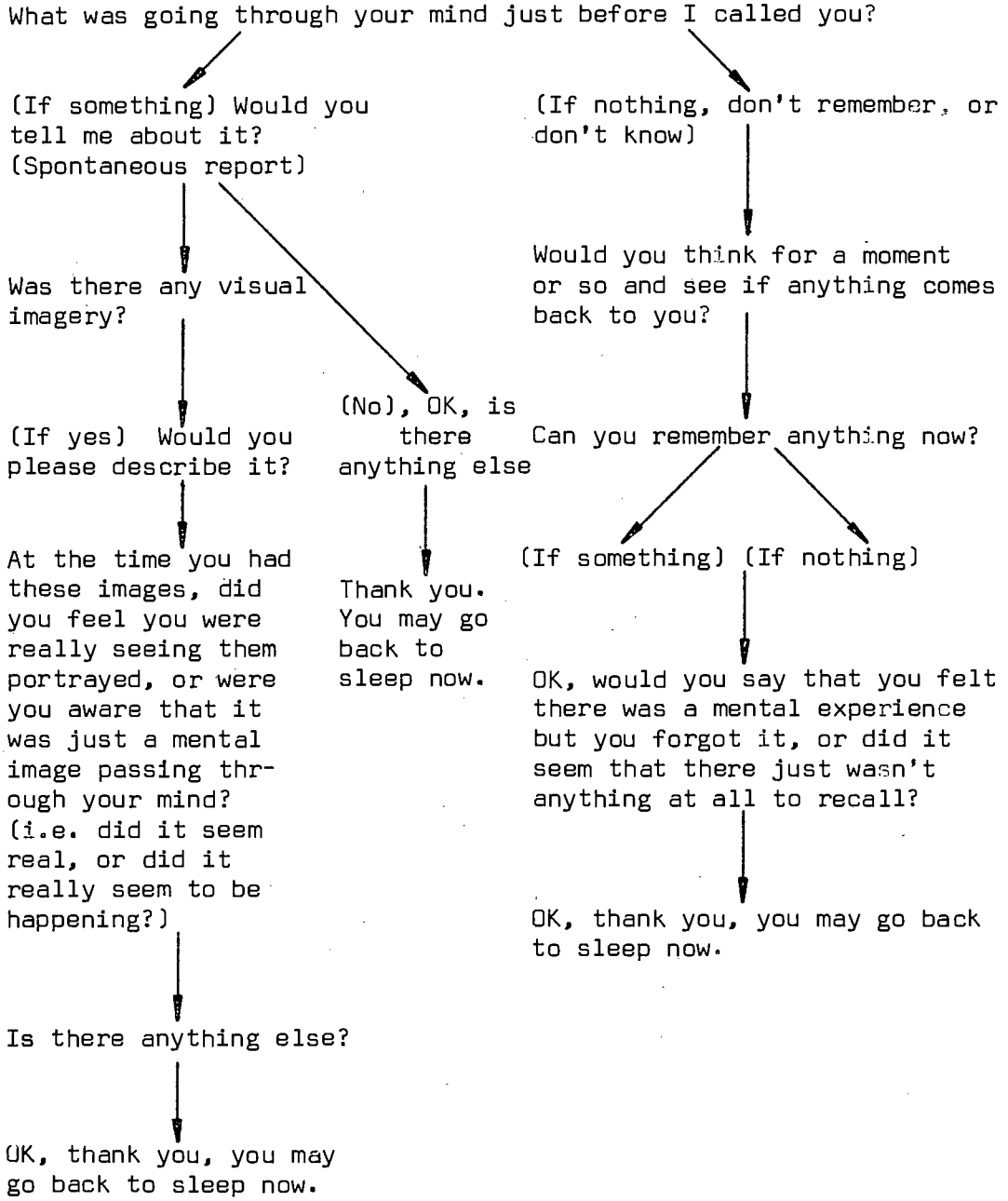
3) Did you feel any pressure from the experimenter to produce certain types of dreams ? If yes, please elaborate.

4) Do you feel that there is any difference in quality between the dreams you had in the laboratory and those you had at home ? Please specify.

5) Please add any other relevant comments you may have.

## APPENDIX 7

### THE LARSON INTERVIEW SCHEDULE



## APPENDIX 8

PHYSICAL AGGRESSION SCALE (Foulkes and Rechtschaffen, 1964).

0. None

1. Hitting in fun, like hard slap on back. Trivial property destruction. Any case where actions not ostensibly involving aggression seem to you to involve it.

2. Threats and counter threats by gesture, posture, word. Carrying a weapon, being in war, if no specific agg. cited. Accidental and extensive damage of property of others. One isolated bit of defensive behaviour - one action of restraint (press: being apprehended for purposes of restraint, confinement only). Perception but denial of vague, unspecified threats - he might do something bad or something bad might happen to him.

3. Perception of hostile threat, but minimization or denial of same. Example: "You might think that he'd hit her but ....." or (press) "You might think he'd be in danger but ....." or accidental killing or injury to other, not S-caused is scored as need for S if it is indicated that he is guilty about it. Mild type episode e.g. one slap.

or contemplation of accidental death or terminal illness of another person or self.

or accidental non-fatal injury to others/self

or defensive role in aggressive sequence - more than one isolated act.

or intentional and extensive destruction of property of others/self.

4. Perception of possibility of 6 act, but denial. Example: "You might think that he would kill her, but he is actually ....." etc.

or (attack upon others): intentional, offensive, violent, though some provocation has been offerred.

or accidental killing of other or self (press includes being "killed" by disease and natural forces as well as being killed by another person by accident).

5. Contemplation of or threat of committing an act listed as 6 or any major incident of aggression which seems quite unprovoked, particularly voilent episode, sustained in character.

6. Killing another person, intentionally, whether described in gory detail or not (includes suicide).

# APPENDIX 9

## The Verbal Aggression Scale

0. None

1. Mild teasing, mocking or you sense some hostile-type tension in conversation with other.

2. Derogation of objects associated with person. Example: "Your car is a mess" (Some objects, e.g. clothing, may be so much a part of the self that an attack on them is more properly considered an attack on the person wearing them).

3. Derogation of persons associated with a person. Example: "Your mother is a dope." Score 3 if incident is mild, without any apparent ill-will etc.

4. Direct derogation of behaviour or beliefs of others. In one-sided form, "criticisms", etc. In two-sided form, "arguments", etc. (Not so malicious or ego-directed as 5 and 6).

5. Milder than 6 but stronger than 4, in that abusiveness is still evident as focus of attack on other as a person. Score 5 if extended, particularly violent, etc.

6. Extreme derogation of other as person; abusive, malicious.

# APPENDIX 10

## The Manifest Sexuality Scale (Swanson and Foulkes, 1968)

0. None

1. Sexual feeling, interest, concern, ascribed to others with no overt sexual behaviour, or symbolic sexual behaviour portrayed in others. A representative but not inclusive list of sexual symbols follows: Score if these or other symbols can be considered, on the basis of dream context, as "probably" sexual in any particular case.

### Male Symbols

Pole, key, pen, rifle, gun, sword, cigarette, cigar, pipe, snake, horse, dog, tree, conical or erect figures, etc.

### Female Symbols

Enclosure, containers, such as box, door, window, vase, glass, pot, kitten, flower, round open figures, openings etc.

### Interactional Symbols

Staircase activity - up/down, elevator up/down, playing instrument, any back and forth repetitive motion, wild/crazy driving in car as when out of control, bumping, contact symbols; soil, infect; shoot with gun, etc.

2. Sexual feeling, interest, concern ascribed to self with no overt sexual behaviour, or symbolic sexual behaviour portrayed in self.

3. Mild, 'erotic' behaviour (dating, flirting, teasing, being with - in other than strict businesslike setting - playing with, joking with, having fun or pleasurable casual social interaction with member of opposite sex of approximately equivalent age) ascribed to others.

4. Mild 'erotic' behaviour ascribed to self.

5. Strongly 'erotic' behaviour (spending night with, sleeping with, having intercourse with, petting, kissing, fondling, grabbing, touching, bumping, or having any bodily contact with, going to bed with, in bedroom or sleeping quarters of, member of opposite sex of approximately equivalent age; pregnancy; implicitly or explicitly having babies or marrying but not necessarily being a parent or being married) ascribed to others.

6. Strongly 'erotic' behaviour ascribed to self.

## APPENDIX 11

The Heterosexual Scale (Whitman et.al., 1967)

Substitute Man for Woman with Female Subjects.

RATING

6 Direct sexual expression with a woman (coitus). (Including symbolic references)

5 Sex of foreplay type with a woman (including symbolic references)

4 Dating or being alone with a woman and/or in a situation with sexual possibilities

3 Involved interchange with a woman including posing and conversation.

2 The appearance of one or more women in which he is the only male.

1 The appearance of one or more women in the dream but one or more other males are present.

(Minus 2 from each score if the male or female in the dream is a child)

# APPENDIX 12

## Assessment of Maternal Dream Content (Edelstein, 1981)

0. None

1. Maternal feeling, interest, concern, ascribed to other with no overt maternal behaviour, or symbolic maternal behaviour portrayed in others. A representative but not inclusive list of maternal symbols follow. Score if these or other symbols can be considered, on the basis of dream content, as 'probably' maternal in any particular case.

   Maternal Symbols

   Container objects, circular and oval shapes, egg, horseshoe, cave, sea, cat, horn, fish, crevice, lips, dove, cow.

2. Maternal feeling, interest, concern, ascribed to self with no overt maternal behaviour, or symbolic maternal behaviour portrayed in self.

3. Mild 'maternal' behaviour (playing with, joking with, having casual social interaction with, children) ascribed to others.

4. Mild 'maternal' behaviour ascribed to self.

5. Strongly 'maternal' behaviour (conceiving baby, giving birth, breast feeding, bottle feeding, changing napkins, toilet training, bathing, cleaning baby, etc) ascribed to others.

6. Strongly 'maternal' behaviour ascribed to self.

# APPENDIX 13

## The Archetypal Dream Scale (Kluger, 1975)

### Mythological Parallel

Score present or absent. If the dream contains a mythical parallel, estimate whether it is close, or distant, using the number 3, 2 and 1.

3. A Close Parallel

Example: In an oriental temple giant statues come to life. One says, "The time has come for the battle between Good and Evil for which I have waited for eternity." A tremendous battle ensues between them. Parallel: Zoroastrianism; also the Book of Revelation. Example: A man dreams he descends to a basement meeting room where he goes through a ritual to make him a male prostitute. This is accompanied by tremendous feelings. Next a baby in a carriage is wheeled in, and this is the Lamb of God. Parallel: the ancient mystery religions with their secret initiations, often underground; their hierodules (sacred prostitutes, male and female); and their rebirth symbolism and apotheoses.

2. A Moderate Parallel

Example: The dreamer slips something into her husband's pocket - his penis, wrapped in pliofilm. She then has mixed feelings, having accomplished her mission, but wondering how it would be able to be put back in use again. Parallels: The myths of Isis and Osiris, and of Attis and Cybele, with their themes of restoring a dismembered phallus, and the problem of its subsequent effectiveness.

1. A distant Parallel

Example: "Flying anywhere I wanted, rising and descending at will." Parallel: the myth of Icarus. Example: being chased through the woods by a witch. Parallels: Various fairy-tales.

Affect

It is the affect of the dreamer (the dream ego) which is scored, not that of any other dream character. If not explicitly stated, or implied, the degree of affect may be estimated by the scorer.

4. Very strong: great fear, panic, horror, ecstary;

3. Strong or stressed: afraid, scared, happy, delighted, excited.

2. Mild or moderate: Pleasant, unpleasant, very interesting, very satisfying, glad, annoyed.

1. Slight or absent.

Rationality

The considerations in scoring dream content under this category are the degree of likehood of their occurrence, and the degree of their adherence to natural law.

4. Rational, and not unlikely, - Examples: riding a bike, hitting a stone and falling off

3. Rational-possible (i.e., possible, conceivable, but uncommon or unexpected). - Examples: being chased, caught, and raped; San Francisco being bombed by the Russians.

2. Rational-unlikely (i.e. very unlikely, although not violating any natural law) - Examples: being chased from tree to tree by a white bear; some men chased, caught and tried to poison me.

1x. Borderline (i.e., the operation of natural law is uncertain or questionable) - Example: a long row of black box-cars rolling by on a railroad track. There was no engine.

1. Non-rational but comprehensible - Examples: Playing in the barnyard and suddenly covered with green snakes; our guns wiped out everything in front of them.

0. Irrational (i.e., impossible in reality) - Examples: a toothed fish chased me out of the pool and across the fields; about a man with a lion's head.

B. Bizarre - Example: the veins on my chest stood out, studded with rhinestones and sequins.

Everydayness

4. For dreams just like everyday life. - Examples: making plans with a friend for a car trip to a neighboring town; having to go to the bathroom; working or talking with some people.

3. Slight variation from everyday life. - Examples: running in a relay race with two best friends, somehow got in wrong exchange area and have to give up the race: or (a student), "I had already graduated and gotten a good position in my field".

2. Unlikely variations from everyday life. - Examples: returning to apartment to find all the furniture gone and workmen removing the bathroom pipes; all the girls in the dorm getting together for the last time before vacation, all sad and crying at the prospect of the long separation.

1x. With an impossible twist to everyday life. - Examples: cleaning out a fishbowl, the fish swim up the stream of water pouring into it; a 'horse' performing tricks suddenly turns into an elephant.

1. Very unlikely in everyday life. - Examples: walking along a dirt road; an airliner flies so low over us we could almost touch it. It circles back, lands on the road hitting a group of people as though intentionally.

O. Very remote from everyday life, or with the feeling tone of the strange and unfamiliar. - Examples: three priests with icepicks sitting at a round table, each begins lightly pricking the left arm of his neighbour, increasing this to jabbing and furiously stabbing till it's a horrible bloody scene; "I walk through a maze of high hedges. I am trying to reach the center. There is a mist in the air, and grass is beneath my feet. I feel I am near a river or a moat. I have very long hair, and clothes that belong to another century. I sing the old folk-song 'Where I come from nobody knows.' I feel I must get out or get to the center."

B. Bizarre. - Example: The veins on my chest stood out, studded with rhinestones and sequins.

Archetypality

The archetypality score of a dream, from zero to four, indicates the number of criterion categories in which it has attained the critical score or better. The scores counted toward archetypality are for:

Mythical paralled - the presence of such a parallel
Affect - a score of 3 or higher
Rationality - a score of 1 or less
Everydayness - a score of 1 or less

Dreams with an archetypality score of 3 or 4 are considered to be archetypal.

# APPENDIX 14

## The Agency-communion Scale (Adapted from Cohen, 1973)

### AGENCY

Agency is characterised by self-assertion, separateness, instrumentality, mastery, libidinal sexuality, self-expansion, and self-protection. The term denotes the existence of an organism as an individual. Intellectual functioning in this mode involves separating and ordering. The interpersonal style is characterised by objectivity, competition, exclusion and distance.

Agency is scored as present (1) or absent (0) in each of the following three categories.

1. Surgency

   Includes self-expansion, assertiveness, competition, initiative, self-protection, aggression, destructiveness.

2. Instrumentality

   Includes the urge to master, mastery, achievement, success, separateness.

3. Libido

Include drive or conquest sexuality, "raw" sexuality, masturbation, orgasm, orgies, sexual provocativeness.

COMMUNION

Communion is characterised by interpersonal concerns and interests, connectedness, union and cooperation. The term denotes the participation of the individual in some larger organism of which the individual is a part. Interpersonal style involves subjectivity, cooperation, acceptance and closeness.

Communion is scored present (1) or absent (0) in each of the following categories.

1. Active Social Cooperation

Includes altruistic behaviour, helping or giving aid to others, expressing concern about the welfare of others, noncontractual cooperation.

2. Passive Social Connectedness

Includes receiving of support, receiving help, receptivity, reunion, desire for reduced separation from others, sense

of togetherness or being at one with others, closeness, dependence on others.

3. Eros

Concerns sexuality expressed as belonging, relatedness, or union in a relationship. Include expressions of warmth, sympathy, empathy, and affection.

SCORING

Dream content may contain elements of both agency and communion. Each dream receives a score in each of the above 6 categories. Each dream thus receives an agency score of 0 to 3 and a communion score of 0 to 3.

# APPENDIX 15

THE MENSTRUAL ATTITUDE QUESTIONNAIRE (Brooks-Gunn, J. & Ruble, D.N. 1980)

## I Menstruation as a debilitating event

1. A woman's performance in sports is not affected negatively by menstruation.
2. Women are more tired than usual when they are menstruating
3. I expect extra consideration from my friends when I am menstruating
4. The physiological effects of menstruation are normally no greater than other usual fluctuations in physical state.
5. Menstruation can adversely affect my performance in sports.
6. I feel as fit during menstruation as I do during any other time of the month.
7. I don't allow the fact that I'm menstruating to interfere with my usual activities.
8. Avoiding certain activities during menstruation is often very wise.
9. I am more easily upset during my premenstrual or menstrual periods than at other times of the month.
10. I don't believe my menstrual period affects how well I do on intellectual tasks.

11. I realize that I cannot expect as much of myself during menstruation compared to the rest of the month.
12. Women just have to accept the fact that they may not perform as well when they are menstruating.

II Menstruation as a Bothersome Event

1. Menstruation is something I just have to put up with
2. In some ways I enjoy my menstrual periods.
3. Men have a real advantage in not having the monthly interruption of a menstrual period.
4. I hope it will be possible someday to get a menstrual period over within a few minutes.
5. The only thing menstruation is good for is to let me know I'm not pregnant.
6. Menstruation provides a way for me to keep in touch with my body.

III Menstruation as a Natural Event

1. Menstruation is a reoccurring affirmation of womanhood.
2. Menstruation allows women to be more aware of their bodies.

3. Menstruation provides a way for me to keep in touch with my body.
4. Menstruation is an obvious example of the rhythmicity which pervades all of life.
5. The recurrent monthly flow of menstruation is an external indication of a woman's general good health.

IV Anticipation and Prediction of the Onset of Menstruation

1. I can tell my period is approaching because of breast tenderness, backache, cramps, or other physical signs.
2. I have learned to anticipate my menstrual period by the mood changes which precede it.
3. My own moods are not influenced in any major way by the phase of my menstrual cycle.
4. I am more easily upset during my premenstrual or menstrual periods than at other times of the month.
5. Most women show a weight gain just before or during menstruation.

V Denial of Any Effect of Menstruation

1. Others should not be critical of a woman who is easily upset before or during her menstrual period.

2. Cramps are bothersome only if one pays attention to them.
3. A woman who attributes her irritability to her approaching menstrual period is neurotic.
4. I barely notice the minor physiological effects of my menstrual periods.
5. Women who complain of menstrual distress are just using that as an excuse.
6. Premenstrual tension/irritability is all in a woman's head.
7. Most women make too much of the minor physiological effects of menstruation.