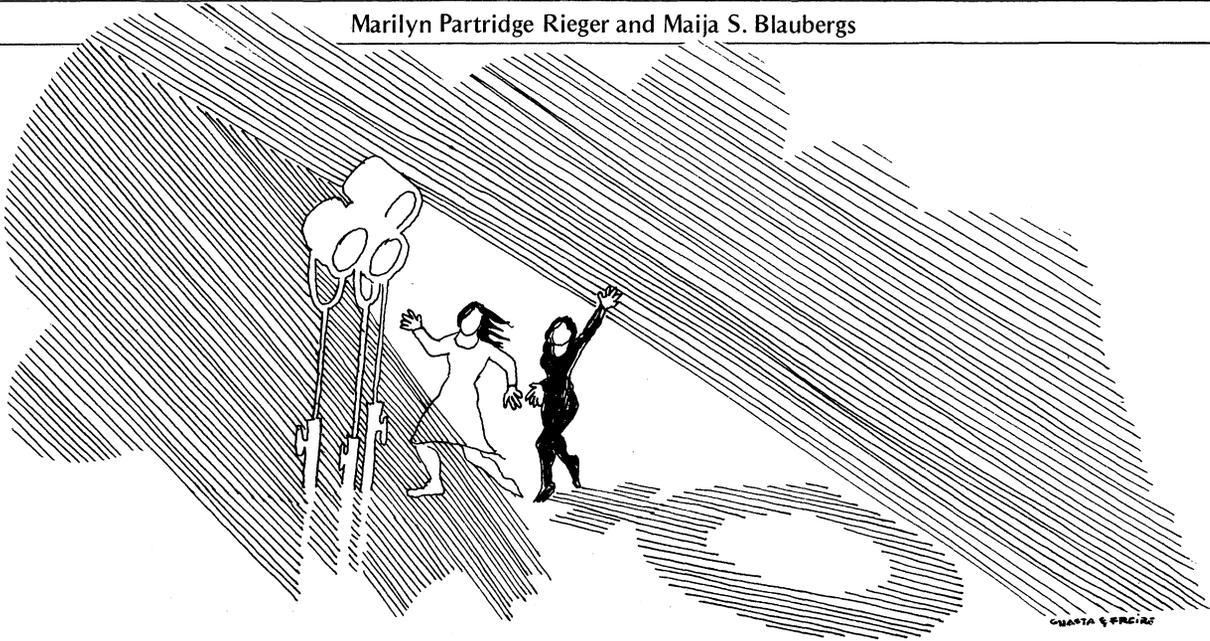


Creative Women: Their Potential, Personality, and Productivity

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Femmes créatrices: leur potentiel, leur personnalité et leur productivité—Marilyn Partridge Rieger et Maija S. Blaubeergs

Un compte rendu de la recherche psychologique (d'un sexisme criard) sur la mesure du potentiel de créativité, l'analyse du processus de la créativité et l'étude de la personnalité créatrice, dans le but de faire dégringoler les mythes du manque de potentiel créatif chez la femme et de décrire les obstacles qui limitent et amoindrissent sa production créatrice.

Creativity research has generally included efforts to measure creative potential, to identify the stages of creative production, and to study the personality structure and life patterns of individuals who have produced recognized creative works. Most of the conclusions about creativity have been made based only on creative men. Prevailing attitudes towards the study of creativity in women have been that creative women are hard to find, and even harder to study. However, some research does exist and is reviewed in detail in this paper. Firstly, there are studies in which sex differences in creative potential were searched for. While some differences were found in early research, current studies clearly indicate, that on existing measures of creative potential, females are just as creative as males. By far the largest number of studies of creative women have been studies of their personality characteristics. The findings are twofold: creative women in all areas of specialization share common characteristics which are essentially the same characteristics that are exhibited by creative men; and, creative women differ from other women in possessing more characteristics that have traditionally been labelled as 'masculine'. The current conceptualizations of androgynous personality structure are discussed in terms of their relevance to understanding the personality structure of creative women. Finally, some of the traditional barriers to the productivity of creative women as perceived by creative women themselves and as suggested by statistical observations are presented, along with the possibility that some aspects of creative achievement of women have been overlooked: i.e., the innovative processes needed to cope simultaneously with sex-role expectations and career aspirations.

Creativity is often considered an almost magical quality. Indeed, ancient conceptions of the creative individual assumed either divine inspiration or madness. More current definitions include an organizing, pattern-forming, questing quality (Sinnott, 1959), an ability to be aware and to respond (Fromm, 1959), and the process of making, or bringing into being (May, 1959).

When creativity is more specifically related to performance on tasks designed to predict or assess creative potential (e.g., the Torrance Tests of Creative Thinking, the Guilford 'Uses' Text), the components of creativity are commonly defined as 'originality', 'flexibility', 'fluency', 'elaboration', and 'divergent thinking'. The scoring of these tests tends to emphasize the quantity and originality (or rarity of occurrence) of responses.

However, whether the definitions are general or task-specific, the essence of creativity is an approach to problem-solving which emphasizes elements of originality, divergent thinking, and pattern formation.

A large body of research has been accumulated on creative individuals. However, most of the existing research is actually research on creative men. Creativity in women, if mentioned at all, is usually quickly dismissed for reasons such as the following:

The study has been limited to men because of the lack of a yardstick by which to estimate the success of women. By means of rating techniques, it is possible to identify fairly accurately outstanding chemists, astronomers, mathematicians, or psychologists, but no one yet has devised a method for identifying the best housewives and mothers, and this is what the vast majority of women aspire to be. (Terman & Oden, 1947, p. 311).

More recently, Gowan, then editor of *The Gifted Child Quarterly* and the author of *Development of the Creative Individual* (based on an all-male sample), has claimed that women are less creative than men for reasons such as 'women represent a lower evolutionary type', 'the possibility that the pathway towards creativity in women may be fraught with more hazards to their mental health' and 'the fact that women have a physical outlet for creativity in the bearing of children' (Gowan, 1976, p.121).

A few researchers (Catell, 1903; Castle, 1913; Cox, 1926; Goertzel & Goertzel, 1962) have studied eminent achievers of the past trying to identify common elements in their personalities or life histories. In these studies also, the researchers seem to have despaired of finding female creative achievers:

Castle undertook to make a statistical study of the thousand most eminent women of history, similarly selected, but found that in recorded history there were not that many women who could be considered eminent in any reasonable sense of the term (Terman & Oden, 1947, p. 371).

Thus, the contentions concerning creativity in women have been that: 1) women are necessarily less creative than men; 2) it is too difficult to measure creativity in women when it does occur. In this paper, we survey and analyze the existing research on sex differences in creativity and more specifically, on creativity in women.

Overall, creativity research has involved efforts to : 1) describe the intellectual processes associated with creativity; 2) assess levels of creative potential in individuals; 3) find ways of predicting creative achievement; and 4) analyze the personality or life history of individuals whose achievements have been deemed highly creative. The existing research on creative women and girls has been primarily limited to studies looking for sex differences in creative potential (particularly in children), and to studies of the personality and lifestyles of highly creative women. However, the majority of existing studies, as is true of studies of gifted females in general (Blaubergs, 1978a), have focused on the personality of creative females in comparison to other females and to creative males.

Sex Differences in creative potential?

Numerous comparisons have been made between the scores of girls and boys on various measures of creativity. Torrance (1972) has reported that:

Beginning in 1958 and continuing into the early 1960's, it was found that boys in the United States consistently excelled girls in most measures of originality and that girls excelled boys in ability to elaborate ideas and in most verbal measures of creative thinking (Torrance, 1972, p. 597).

Other investigators have also sporadically reported similar sex differences. However, two recent reviews of the literature on sex differences have concluded that there is no evidence of overall superiority of one sex over the other in creative potential. Additionally, most of the differences that were reported in the early literature have not been replicated in more recent studies. Torrance (1972) observed that '[i]n the 1960's and into the 1970's, sex differences in measured creative thinking abilities began to fade out' (p. 597). Similarly, Kogan concludes that 'sex differences in various cognitive functions have diminished in recent years' (Kogan, 1974, p. 12).

Although the studies of creative potential clearly indicate that there are no sex differences in creative potential, it needs to be made clear that little evidence exists of the predictive value of measures of creative potential, i.e. creative potential does not necessarily result in creative achievement. Very few longitudinal studies of the predictive value of creative measures have been conducted. However, one study does suggest that measures of creative potential do predict adult creative behavior for both women and men (Torrance, 1972). Torrance surveyed 117 women and 119 men who had been previously tested as high school students on the Torrance Tests of Creative Thinking. He found no sex differences of any of the criteria of adult creativity that he used: quantity of creative achievements, quality of highest creative achievements and creativeness of aspirations. He also found that the creativity tests correlated with the combined adult creativity criteria at

a statistically significant level for the sample as a whole, and for the women as well as the men. However, since the correlation was slightly lower for the women, he concluded that there is 'some credence to the belief that women are less predictable than men'. The reason may well lie in his finding that, for women, the number of children correlates negatively with all criteria of adult creativity, while, for men, the number of children is unrelated to the quantity of creative achievement. This observation will be discussed further in a later section of this paper.

In conclusion, much evidence exists that there are no sex differences in creative potential, but additional longitudinal studies are needed before any firm conclusions can be reached about the predictive value of tests of creative potential for later creative achievement. Factors other than potential are probably important and these factors may differ for women and men.

Personality of creative women

Personality studies of creative women have either focused on creative women in general or on creative women with particular interests or skills, e.g. women with artistic interests, creative women mathematicians. In some studies, comparisons are made with men in the same field of achievement while in other studies, comparisons are made between groups of women.

General comparisons. In a study of Mills College senior women, Helson (1967a) found that women who were identified as creative scored high on measures of originality, complexity of outlook, independence of judgement, inquiringness and sense of destiny, need for autonomy and receptivity to inner life. This cluster of personality traits is remarkably similar to traits that have been identified in other studies of creative individuals, both female and male.

Two studies of the personality of creative adolescents have also resulted in similar findings. Cashdan and Welsh (1966) studied both female and male adolescents who had been identified as high or low in creativity. They included students in art and in natural science. Regardless of sex or speciality, the highly creative adolescents were found to be independent, nonconforming individuals who were open to experience and actively sought change. Schaefer (1970), in a study of ten exceptionally creative adolescent women, identified a number of common experiences, interests and traits. Many of the traits were again those commonly associated with the creative personality: emotional independence, openness to change and impulse expression, imagination, curiosity, aggressiveness, autonomy, and emotional sensitivity.

Helson (1967b, 1968) also explored sex differences in creative style. She concludes that there is support for an hypothesis of two types of consciousness: patriarchal, which is represented as assertive, objective, analytical and purposive; matriarchal, which is viewed as a 'brooding' over emotional content until organic growth 'comes forth'. She further describes creative women as having low control, little flexibility and little confidence in dealing with the outside in comparison to creative men. She suggests that such differences in cognitive style may be responsible for less creative productivity by women than men.

Finally, in a very comprehensive study, Yu (1977) compared creative women in traditionally male professions with those in feminine sex-typed professions and found both groups to be highly similar in personality characteristics: reserved, intelligent, assertive, sensitive, self-opinionated, imaginative, self-assured, experimenting, self-sufficient, controlled and self-driven. Significant differences were found on only three personality variables: highly creative women in traditionally male professions were less reserved and more venturesome

and forthright than were the high-creative women in traditionally female professions. In general, however, the highly creative women in both professional categories shared the basic personality characteristics of creative persons.

Studies of artists and writers

Studies of women with artistic and imaginative interests and abilities have been conducted with varied groups of individuals. Helson (1966) tested college women who were nominated by faculty members as highly creative and who had had strong imaginative and artistic interests as children. Bachtold and Werner (1973) tested women authors and artists who were listed in *Who's Who* books. Finally, Amos (1978) tested female and male artists whose specific areas of active creative endeavor were painting, printmaking, drawing or sculpting. He used a set of weighted criteria including formal training, weekly working hours, money earned through sales or original art work, participation in juried and nonjuried art shows, and pieces of art work completed per year. The findings concerning the personality characteristics of the artistically creative women were quite similar despite the different measures used in the various studies.

Helson (1966) found the sample college women to be characterized by enduring interest in imaginative and artistic activity, mistrust of personal relationships, impulsivity, rebelliousness, investment in inner life, independence of judgement. However, compared to women in general, the artistically inclined women showed stronger symbolic interests, stronger need for autonomy, lesser need to act on impulses and stronger motivation to take a creative role.

Bachtold and Werner (1973) found that compared to women in general, their sample of authors and artists were more aloof, intelligent, emotional, aggressive, adventurous, imaginative, radical and self-sufficient, and less group-dependent and controlled. Additionally, the authors were more sensitive and less controlled than women in general.

Sex differences are usually found on the following scales of the California Psychological Inventory: Socialization, Communality, Responsibility, Achievement via Conformance, Self-control, and Good Impression as well as on Femininity and Tolerance. Amos (1978) found differences only on the latter two scales in his study of creative artists and concluded that creative artists are resistant to societal reaction in terms of their personalities as well as their art.

Studies of scientists and mathematicians

Women scientists (biologists, microbiologists, chemists, biochemists) have been found, like their male counterparts, to be more intelligent, socially aloof, assertive, serious, confident and self-sufficient than women and men in the general population (Bachtold and Werner, 1972).

Helson (1971) in a study of creative women mathematicians found that the women characteristically showed rebellious independence, narcissism, introversion, rejection of outside influence, strong symbolic interests, a marked ability to find self-expression and self-gratification in directed research activity and flexibility both in general attitudes and in mathematical work. She notes that these personality traits appear in male as well as female creative mathematicians, but that they occur more clearly in women.

Overview. The following conclusions emerge from the findings of the studies on the personality of creative women:

- 1) Highly creative women are characterized by essentially the same cluster of personality traits regardless of their age or the professional field in which they excel.
- 2) The personality traits of creative women in specific



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professional fields very closely resemble the personality profile of creative men in the same field.

- 3) Creative females and males resemble each other much more closely than do females and males in the general population.
- 4) Creative females and males resemble each other in personality structure more than they resemble members of their own sex who are less creative.

The basic set of personality characteristics that characterize highly creative individuals regardless of sex or professional field includes self-confidence, need for autonomy, openness to experience, originality, flexibility, tolerance for ambiguity, stubbornness, persistence, independence, willingness to take risks and lack of self-control. However, in each study of differing groups of individuals, some differences from this basic pattern were observed.

In the next two sections of the paper, we present two theoretical models of the personality structure of creative women and discuss in detail the observed lack of sex differences in personality of creative individuals in relationship to the concepts of femininity, masculinity and androgyny.

Theoretical models of the personality structure of creative women

The Bruch-Morse model of creative-productive women. In a series of papers and articles (Bruch, 1972; Bruch & Morse, 1972; Morse, 1978; Morse & Bruch, 1978), Bruch and Morse have refined a descriptive model for the personality characteristics that they believe to both characterize creative women who are productive and to enhance the creative productivity of women. Creative-productive women are presented as rejecting 'both overly feminine passivity and the overly masculine posture of aggressive dominance', but instead as combining the traditionally masculine characteristic of independence with the traditionally feminine characteristic of concern for others (Morse, 1978, p. 460).

Bruch and Morse have developed a 'Self-Descriptive Check-

list' in which the answers are coded as indicative of one of four classifications of women: 1) dependent, 2) independent, but family-involved, 3) independent, and 4) counter-dependent. Both the dependent and counterdependent categories are deemed non-productive, yet some of the responses in the counterdependent category appear to be potentially indicative of significant productivity and achievement, e.g., attending a meeting on 'Labor Unions Specializing in Women's Rights', or reading a book on do-it-yourself household repairs, auto racing, or body-contact sports. Morse (1978) seems to feel that women who are strongly committed to women's rights or are interested in traditionally masculine endeavors cannot be creatively productive because they are rejecting their femininity. She actually proposes counselling or therapy to 'help the woman to accept herself and her femininity' (p. 464). Nevertheless, the model is essentially one of an androgynous personality that combines, in moderation, some traditionally masculine with some traditionally feminine personality characteristics.

Helson's 'Company of Friends'. A very imaginative characterization of the personality of the creative woman has been offered by Ravenna Helson. Helson argues that a 'phallogocentric' style of creativity, a style emphasizing purposiveness, analysis, forcefulness and penetration, has been implicitly assumed in discussions of creative functioning. She juxtaposes to this phallogocentric style of creativity a model which provides for the blending of initiative, intellect, independence and symbolic creativity in a traditionally feminine style:

... this schema presents the creative woman as a *company of friends*, that is, as a constellation of personified functions. In the center is either the Maiden representing the receptivity, or the Pregnant Virgin representing an emotionally charged mass of developing ideas. The more conscious functions which protect the center and shape the material are the Owl, representing reflection and intuitive inner vision, and the Dwarf representing ingenuity, stubbornness and craft. Less conscious functions also related to the center are the Serpent Lady, representing the erotic, narcissistic, graceful and manipulative, and the Bear, representing maternal protectiveness and endurance. ... The schema is intended to illustrate the variety of archetypal resources available to women, and how functions regarded as typically masculine may be integrated into a feminine personality. (Helson, 1972, p. 43)

Helson is, in essence, presenting an androgynous, but feminine-focused conceptualization of the personality of creative women. As in the Bruch and Morse model, the overly dependent and passive aspects of a traditional concept of femininity are not included.

Femininity, Masculinity, and Androgyny in Creative Women

A large number of early studies on creative individuals included a finding that creative individuals appear to exhibit characteristics traditionally associated with members of the opposite sex. For example, Barron (1957), MacKinnon (1962) and Sanford (1966) found that creative males scored higher on measures of femininity than controls while Barron (1965), Helson (1966), and Littlejohn (1967) found that creative females scored higher on characteristics that have traditionally been considered masculine. In a more recent study, Suter and Domino (1975) concluded that highly creative college women were not significantly more masculine than low creatives, but that they had a broader, less-stereotyped sex-role identification than low creative women.

Some interpretations of such findings have focused on the concept that creative women possess the allegedly masculine characteristics of independence and assertiveness, while creative men possess the allegedly feminine characteristics of aesthetic

sensitivity and awareness of inner-feelings (Bruch, 1972). One outcome of such interpretations is the warning issued by Bruch (1972) and by Morse (1978) for creative-productive women: do not become overly masculine. The problem in such interpretations lies in the belief that certain characteristics and behaviors are inherently masculine or feminine. There is however considerable evidence that women actually integrate their achievement and their personality with their own concept of femininity, e.g. Lesser, Krawitz, and Packard (1963) found that 'achieving girls perceive intellectual goals as a relevant part of their own female roles', and Stein and Bailey (1973) conclude that 'females who engage in achievement striving define achievement in the intellectual activities as more feminine than those who do not pursue these activities'.

Thus, the issue of interpretation of certain behaviors and attributes as feminine versus masculine involves the issue of which definition is appropriate, the individual's own definition or a traditional societal expectation.

In fact, the traditional masculinity-femininity scales themselves are based on the concept of single bipolar dimension of personality that incorporates the cultural stereotype of independence, aggression, and an instrumental focus as masculine and dependence, passivity and a nurturing emotional focus as feminine.

Constantinople (1973) has provided a detailed critique of the traditional masculinity-femininity tests. She concludes that such tests are inadequate in large part because of the assumption of bipolarity, i.e. if one is more masculine, that makes one less feminine. She contends that multidimensionality clearly exists in actual personality structure.

A related problem with the use of masculinity-femininity scales is that only certain items on the scale may be responsible for the differences between creatives and noncreatives. For example, Roe (1963) suggests that creativity requires high levels of independence and of sensitivity. Similarly, Suter and Domino (1975) suggests that the significant factor indicated by the masculinity-femininity scores of high creative women is specifically the passivity-activity dimension. Thus using the composite scores of masculinity and femininity may obscure the actually relevant dimensions of the creative personality.

Finally, the conceptualization of masculinity and femininity as a single dimension has been recently extensively challenged by the development of a new scale for measuring personality. Bem (1976) has stated that her major purpose was 'to help free the human personality from the restricting prison of sex-role stereotyping and to develop a conception of mental health which is free from culturally imposed definitions of masculinity and femininity' (p. 47). In her research, she found that women who possess traditionally masculine characteristics, whether or not they also possess traditionally feminine characteristics as measured on the Bem Sex-Role Inventory, function effectively in both the instrumental and the expressive domains. She concludes that 'the major effect of femininity in women — untempered by a sufficient level of masculinity — may not be to inhibit instrumental or masculine behaviors *per se*, but to inhibit any behavior at all' when the appropriate behavior is unspecified (p. 59). Basically, Bem's personality measure is one of the balance of masculine and feminine characteristics, with the possession of both considered healthy and adaptable for both sexes.

With regard to creativity, it seems probable that the capacity to produce highly creative work requires a blending of both masculine and feminine characteristics, a responsiveness and openness to experience, that cannot be accounted for by a single bipolar dimension of masculinity-femininity. However, extensive research is needed using the newly developed

measures of androgyny (Bam, 1976; Berzins, in press) to determine whether creative women may be better characterized as androgynous rather than as less 'feminine' or more 'masculine'.

Lifestyles and productivity of creative women

Torrance's (1972) findings were clear concerning the relationship of children to creative women's productivity: the more children, the fewer creative achievements. In a review of the lifestyle choices of gifted women in general, Blaubergs (1978b) has further observed that 'Many outstanding women have chosen the alternative of not marrying' and that 'Divorce has always been common in eminent women' (p. 10). Castle (1913), surveying eminent women from 26 countries found that 11.6% of the marriages ended in separation or divorce. Olsen (1970) observed that most of the women who have produced great literary works in this and the previous century either never married, married late, or were childless and almost all had servants.

Creative women themselves have often commented on the frustrations. Yu (1977) surveying highly creative women of this decade found them to be more likely to report role conflict, and to be less likely to express pleasure in motherhood than less creative women. Woolf (1966) has written of having to 'kill the angel of the house' in her personality (the nurturing, housekeeping, caretaking elements) in order to get her first novel written. Olsen (1970) also writing of efforts to write while meeting family responsibilities, admits that

In the twenty years I bore and reared my children, and usually had to work on a job as well, the simplest circumstances for creation did not exist. (p. 43)

As Mannes (1974) observes, attitudes towards women are such that interruptions are endless:

A man at his desk in a room with a closed door is a man at work.
A woman at a desk in any room is available.

Many women have made conscious decisions between marriage and work, or between children and work. In her recent autobiography, Margaret Mead (1972) describes her own decisions as follows:

Luther and I had always planned to have a lot of children — six, I think But that autumn a gynecologist told me that I never would be able to have children This changed the whole picture of the future. I had always expected to adjust my professional life to wifehood and motherhood. But if there was to be no motherhood, then a professional partnership with Reo, who has actively interested in the problems I cared about, made more sense. (p. 164)

Thus, she divorced Luther and married Reo.

Integration of roles is becoming increasingly frequent for women.

In Torrance's (1972) sample of highly creative women, only 5.1% were pursuing a lifestyle as homemaker, compared to 57% of the women born around 1910 — who comprised the most recent follow-up of Terman's gifted sample (Sears & Barbee, 1977). However, 52.6% of the highly creative women in Torrance's sample were pursuing a 'career-and-family' lifestyle, compared with only 36.2% of the less creative women in the sample. Nevertheless, the highly creative women considered their highest achievements to be their career accomplishment, while the less creative women more frequently rated highest their achievements in family, child rearing, and marriage accomplishments (Torrance, 1972, p. 600).

In order to achieve their goals, it may be the case that creative women have to narrow their focus. For example, Helson (1966) reported that highly creative women have fewer strong interests than women in general, while creative men do not differ in this respect from men in general.

Finally, there is the question of the channeling of creativity. Groth (1975) has proposed an interesting distinction between product creativity which results in an innovative and original product, and process creativity which results in an ordinary product that, however, was brought into existence by an innovative and original process. Growth suggests that process creativity is generally a feminine style, albeit one that is necessitated by circumstances. She gives the example of a woman professor who juggles the roles of graduate school, teaching and raising children alone. The products are relatively ordinary: a doctorate, knowledgeable students and a home for children, but the ability to succeed in three major roles simultaneously involves original and innovative processes. Groth contends that such different forms of the expression of creativity may account for some of the differences between the observed productivity of women and men when traditional measures, i.e. product only, have been used.

Conclusion

The existing research clearly indicates that women have no less creative ability than men.

Women who are highly creative share similar personality traits, whatever their professional field and are also quite similar in personality to creative men. Creative men defy sex-role stereotypes and perhaps may best be characterized as androgynous in personality.

Throughout history, and even in present society, women's creative achievements are often not recognized as such or are deliberately ignored. A great many women with creative ability have probably not had the necessary time or circumstances to express their creativity. The most important area for further research on creative women is on the creative coping strategies that women are developing in order to realize their potential in a society that still imposes sex-role restrictions even on its most capable women.

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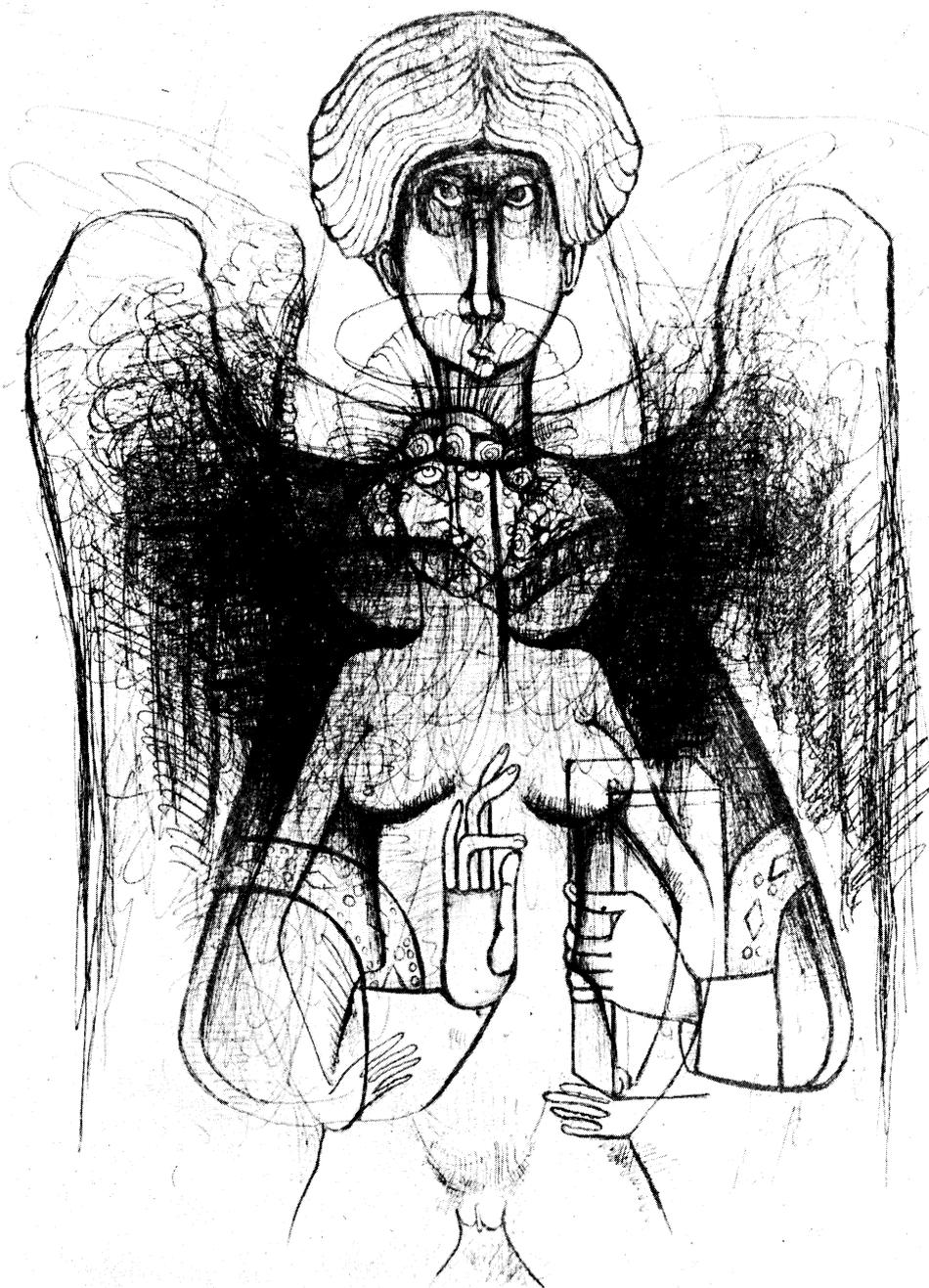
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