

POPULAR HOROSCOPES AND THE "BARNUM EFFECT"*¹

Dawson College, Montreal, Quebec

CATHERINE S. FICHTEN AND BETTY SUNERTON

SUMMARY

The following were investigated in a series of studies on 366 college students: (a) individual differences associated with horoscope reading habits, (b) the reliability and validity of daily and monthly horoscope forecasts and astrologically based personality descriptions, and (c) the effects of knowing the zodiac sign on the perception of the usefulness of horoscope forecasts and on the accuracy of astrologically based personality descriptions. Results indicate that females were more likely to read their horoscopes. Although locus of control was unrelated to horoscope reading habits, Neuroticism on the EPI was closely related. Daily and monthly forecasts were shown to be unreliable and invalid. Astrologically based personality descriptions were found to have some reliability. Knowledge of zodiac sign was found to affect ratings of horoscope usefulness and accuracy of astrologically based personality descriptions. Such personality descriptions, even when not identified by zodiac sign, were shown to have some validity, at least in the eyes of readers. These results are explained by familiarity effects and by the "Barnum effect."

A. INTRODUCTION

In the United States an estimated 90% of daily newspapers carry horoscopes (13), and 30% to 60% of the population admit to some belief in astrology (5). Given their pervasiveness, surprisingly little is known about horoscopes or about horoscope readers.

A number of studies have investigated the relationship between horoscope reading habits and personality. The most frequently explored variable has been locus of control. The findings of these studies have been

* Received in the Editorial Office on March 21, 1983, and published immediately at Provincetown, Massachusetts. Copyright by The Journal Press.

¹ This research was partly supported by an Institutional Research Grant from Dawson College. Thanks are due to Lillian Fox and Naomi Goodz for their thoughtful comments on an earlier draft of this article, to Nikki Hammond for patience and forbearance, and to Rhonda Amsel for computer wizardry.

contradictory. Scheidt (14) found that external locus of control was related to positive attitudes toward paranormal phenomena; however, Sosis, Strickland, and Haley (21) found no relationship between locus of control and interest in astrology. McGarry and Newberry (10), in an attempt to reconcile the conflicting results, have merely added to the confusion. They found that while high involvement with paranormal practices was related to internal locus of control, low involvement was not related to external locus of control.

Locus of control has also been studied in relation to acceptance of vague, general personality descriptions as accurate characterizations of oneself. The results in this area have been contradictory as well. Snyder and Larson (19) found that external locus of control was related to the acceptance of such descriptions, yet Snyder (17) was unable to replicate these results.

Snyder and his colleagues have carried out extensive studies of the acceptance of vague, general personality descriptions which contain statements with a high base rate of occurrence in the population. The acceptance of such descriptions has been called the "Barnum effect" by Meehl (11) after P.T. Barnum, whose circuses' success was thought to be based on the notion that there should be a "little something for everybody" (20). Snyder has reported on the acceptance of "Barnum" personality descriptions ostensibly based on psychological tests and interviews (17, 19) as well as on signs of the zodiac (18). In their review of the literature, Snyder *et al.* (20) expressed doubts about the usefulness of investigating personality characteristics independent of situational factors that elicit acceptance. The studies they reviewed indicate that a number of situational variables appear to be highly relevant. Factors which have been shown to affect acceptance of Barnum descriptions include: (a) the generality of statements, (b) the high base rate of occurrence in the population of certain characteristics, (c) the degree to which descriptions are ostensibly individualized for the person, and (d) the favorability of descriptions.

But can personality variables and the Barnum effect completely explain why people read daily and monthly horoscope forecasts and why they feel that the personality description of their own sign is surprisingly accurate? Can it be alternatively true that forecasts are read because they provide information that is possibly personally useful and because astrologically based personality descriptions are possibly accurate? Kelly's (8) review of the literature showed that there are many different theoretical views proposed by astrologers and that there is little evidence to support or, indeed, to dispute, astrological claims. Few studies have assessed either the per-

sonal usefulness of forecasts or the accuracy of astrologically based personality descriptions (i.e., their validity). It is also not known whether different astrologers, when compiling forecasts or personality descriptions for a particular sign, make similar predictions (i.e., reliability). Almost nothing is known about the most frequently read astrological information: daily and monthly forecasts and brief personality descriptions appearing in newspapers and magazines.

In the present investigation, the following questions were explored. What personality factors and individual differences are associated with horoscope reading and with belief in astrology? How reliable and valid are daily and monthly horoscope forecasts and astrologically based personality descriptions? What is the role of knowing the zodiac sign in judgments of horoscope forecast usefulness and of personality description accuracy? Why do even "nonbelievers" often feel that the personality description for their own zodiac sign is surprisingly accurate?

B. METHOD

Three hundred and sixty-six college students (M age 17.5; range 16-22) enrolled in Introductory Psychology courses from 1980 to 1981 served as Ss.

Individual differences associated with horoscope reading were assessed by having some Ss complete the Eysenck (4) Personality Inventory (EPI) and others complete the Rotter (12) Internal-External Locus of Control (I/E) Scale; all answered questions concerning their grades and horoscope reading habits.

Validity of daily and monthly horoscope forecasts was evaluated by having some Ss rate the previous day's forecasts for all 12 zodiac signs and having others rate the previous month's forecasts. Daily forecasts were taken from two high circulation daily newspapers.² Ratings were made on a 10-point scale of personal usefulness ("How personally useful would this forecast have been for you if you had read it yesterday?") by 192 Ss. Ss rated both sets of forecasts. Some Ss rated daily forecasts identified by the appropriate zodiac sign; others rated the same forecasts without knowing the signs. The same procedure was followed for monthly forecasts. One hundred and fifty Ss rated the previous month's forecasts for all 12 zodiac

² Forecasts were from the *Gazette* (Montreal, astrologer Sydney Omarr) and from the *Toronto Globe and Mail* (astrologer Jeane Dixon). Forecasts from different cities were used in order to control for the possibility that Ss, all of whom resided in Montreal, were familiar with the Montreal forecasts.

signs. Monthly forecasts were taken from two high circulation "women's" magazines.³ All *Ss* rated both monthly forecasts without knowing the zodiac signs.

Reliability of daily forecasts was assessed by having nine frequent horoscope readers (at least three times per week) spend a minimum of 30 minutes attempting to match the daily forecasts, which were not identified by zodiac sign, from the two newspapers mentioned above. The same procedure was followed for monthly forecasts by five other frequent horoscope readers.

Validity of astrologically based personality descriptions was evaluated by 203 *Ss* who rated 13 one-paragraph personality descriptions on a 10-point scale ranging from "not at all like me" to "very much like me." Twelve paragraphs were astrologically based personality descriptions taken from two different "purse size" horoscope booklets⁴ (references to ruling planets and predictions for the future were deleted). Ninety-eight *Ss* rated the descriptions from one of the purse-size booklets; an additional 105 *Ss* rated those from the other set. The 13th personality description was the Barnum paragraph described by Snyder *et al.* (20); it contains vague statements with a high base rate of occurrence in the population and is usually perceived as highly accurate when attributed to credible sources. Some *Ss* read all descriptions identified by the appropriate zodiac sign (the Barnum paragraph was presented as a description of the average college student), while others read the description without knowing the appropriate zodiac signs.

To assess the reliability of astrologically based personality descriptions, 17 *Ss* who believed that astrologically based personality descriptions were valid and who had spent a minimum of two hours on the task attempted to match the 12 personality descriptions, which were not identified by zodiac signs, from the two purse books.

C. RESULTS

1. *Personality and Individual Differences*

Ss read their daily forecast, on the average, 1.09 times per week. Sixty-four percent had read a personality description of their own sign; they found these to be moderately accurate ($M = 5.44$ on a 10-point scale, with

³ Forecasts from *Vogue* (astrologer Marie Elise Crummere) and from *Glamour* (astrologer not named) were used.

⁴ Descriptions from *Globe Mini Mags* (1981, astrologer John Naylor) and from *Dell Purse Books* (1981, astrologer Sally Joyce) were used.

10 being "very accurate"). Females read their daily forecasts more frequently, $t(341) = 2.19$, $p < .05$, indicated that forecast information was more personally useful, $t(321) = 4.52$, $p < .001$, and that the personality description of their own sign was more accurate, $t(114) = 2.03$, $p < .05$, than did males.

Neither scores on the Rotter I/E Scale nor grades in psychology were related to horoscope reading habits. Scores on the Neuroticism Scale of the EPI, on the other hand, were found to be significantly positively correlated with reading frequency, Pearson $r(19) = .671$, $p < .001$, and forecast usefulness ratings, $r(17) = .577$, $p < .01$, but not with ratings of the accuracy of personality descriptions. Reading frequency was found to be positively related to judgments of forecast usefulness, $r(200) = .391$, $p < .001$.

2. Reliability of Forecasts and Personality Descriptions

Daily and monthly forecasts were correctly matched only at chance levels. However, an average of 4.12 of the 12 personality descriptions were matched correctly by the 17 Ss; the probability of such results being due to chance is less than 5% (1).

3. Validity of Forecasts and Personality Descriptions

Results, presented in Table 1, show that when Ss made ratings without knowing zodiac signs, it was found that they rated their own daily forecast

TABLE 1
PERCEIVED VALIDITY OF DAILY FORECASTS AND PERSONALITY DESCRIPTIONS

Source	Own sign	Other 11 signs	"Barnum"
<i>Daily forecasts</i>			
Montreal newspaper			
Identified by sign	3.68	2.09	
Not identified	3.14	2.59	
Toronto Newspaper			
Identified by sign	4.81	2.19	
Not identified	2.62	2.38	
<i>Personality descriptions</i>			
Purse Book A			
Not identified	4.59	4.10	5.64
Purse Book B			
Identified by sign	6.73	4.27	6.18
Not identified	5.99	5.07	6.06

Note: The higher the mean score, the greater the perceived usefulness or accuracy; maximum score = 10.

(for yesterday) from the Montreal newspaper as somewhat more personally useful than the forecasts for the other 11 signs, $F(1, 160) = 4.68, p < .05$. However, these results were not replicated when forecasts from a Toronto newspaper, where possible familiarity with forecasts was eliminated, were rated. Thus, it appears that daily forecasts were not valid.

No differences were found between 150 Ss' ratings of the personal usefulness of their own and others' monthly forecasts; this was true for forecasts taken from both magazines used. These results suggest that monthly forecasts were not valid.

As shown in Table 1, when no information on zodiac sign was provided, Ss' ratings of personality descriptions showed that they judged the Barnum paragraph description to be the most like their own personality; this was true for two different samples and two different sets of astrologically based personality descriptions: $F(2, 194) = 14.81, p < .001$; $F(2, 164) = 6.11, p < .01$. However, when one of the two sets of astrologically based descriptions was used (Purse Book B) and when zodiac sign was not known, Tukey hsd tests showed that Ss judged the personality description for their own sign to be as accurate as the Barnum paragraph (and both of these were rated as more accurate than the personality descriptions of the other 11 zodiac signs): $Q = 4.108, k(164) = 3, p < .05$; $Q = 4.434, k(164) = 3, p < .01$, respectively. When the second set (Purse Book A) of personality descriptions was used, Ss rated their own sign as no more accurate than the other 11 signs.

4. *Role of Knowledge of Zodiac Sign and Previous Experience*

Means in Table 1 show that Ss who made ratings knowing which daily forecasts applied to their own zodiac sign rated these as more personally useful than the forecasts and descriptions for the other 11 signs; this was true for both the Montreal, $F(1, 30) = 9.61, p < .01$, and the Toronto, $F(1, 30) = 18.41, p < .001$, newspapers. When the scores of Ss who made ratings knowing the zodiac signs were compared, in the same analysis, to those made by Ss who did not know the signs, results indicate that Ss who knew which forecast and description applied to their own zodiac sign rated these as relatively more personally useful and rated the other 11 signs as less personally useful than did Ss who did not know which forecast applied to their own sign: $F(1, 190) = 2.82, p < .10$ for the Montreal and $F(1, 154) = 15.26, p < .001$ for the Toronto newspaper.

When Purse Book B personality descriptions were identified by zodiac sign results on perceived accuracy show a significant main effect, $F(2,$

42) = 9.23, $p < .001$. As shown by the means in Table 1, Ss judged the personality description for their own sign to be as accurate as the Barnum paragraph and judged both of these to be more accurate than the personality descriptions of the other 11 zodiac signs: $Q = 5.786$, $k(42) = 3$, $p < .01$; $Q = 4.434$, $k(42) = 3$, $p < .01$, respectively. Furthermore, Ss who knew which description applied to their own zodiac sign tended to rate these as relatively more accurate and tended to rate the other 11 signs as relatively less accurate than did Ss who did not know which description applied to their own sign, $F(2, 206) = 2.56$, $p < .10$.

Ss who had, at some time in the past, read a description of their own sign's personality rated their own sign's description, when this was not identified by sign, as more accurate ($M = 6.38$) than did Ss who had never read ($M = 5.26$) such a description, $t(169) = 2.48$, $p < .05$.

D. DISCUSSION

Sex differences. The findings in the present study that females were more likely to read and to believe in horoscope forecasts and in astrologically based personality descriptions is consistent with the data of Sosis *et al.* (21), who found similar sex differences in college students. Sosis *et al.* offered three possible explanations for their findings. The greater concern with astrology by females may be an attempt to adopt a passive stance in order to escape from recent pressures to achieve in academics and careers, a means by which females, who often feel relatively powerless, can exert more control over their lives, and "a sex-typed superstitious pastime" (p. 70). None of these explanations is supported by evidence. For example, Bastedo (2) cites Gallup Poll results which show that believers in astrology tend to be less educated and tend to occupy low status jobs, a finding which is not consistent with the first explanation. The present study's finding of no relationship between locus of control and horoscope reading habits argues strongly against Sosis *et al.*'s second point. Sosis *et al.*'s third possibility is not really an explanation at all. Another possible explanation is at least supported by informal research: females may believe in astrology simply because horoscopes are usually found in the "women's" sections of daily newspapers and in "women's" magazines. The search for stimulus materials for the monthly forecasts used in this study necessitated a perusal of many "neutral" (e.g., *Time*, *Newsweek*), "women's" (e.g., *Vogue*, *Glamour*) and "men's" (e.g., *Playboy*, *Penthouse*) magazines. Only the "women's" magazines carried horoscopes. It is difficult to determine which came first, women's interest in astrology or publishing policy. Nevertheless,

women are more likely to be exposed to astrology; this, of course, can stimulate greater interest.

Personality and individual difference variables. Neuroticism scores on the EPI were found to be positively related both to reading frequency and to belief in horoscopes. These results are of considerable interest as the EPI has been used in a number of controversial studies of astrology (see 8 for a review). Various investigators (9, 16) have found support for the astrological prediction that people born under the so called water signs (Cancer, Scorpio, Pisces) exhibit greater Neuroticism than those born under other signs. Others (7, 23) have not been able to replicate these results. The present findings suggest that since a concern with astrology is related to Neuroticism, future studies of astrological predictions using the EPI should control for the horoscope reading habits of Ss in each zodiac sign.

Locus of control and grades were not found to be related to horoscope reading frequency or to belief in astrology. The absence of a relationship between either grades or locus of control and belief in astrology is consistent with the data of both Sosis *et al.* (21) and McGarry and Newberry (10). In college students, belief in the paranormal is, therefore, probably not due to lack of intelligence. Nor is belief in astrology simply an attempt to exert control over one's life.

Reliability of forecasts and personality descriptions. The results indicate that daily and monthly horoscope forecasts have little reliability; i.e., forecasts for each sign made by one astrologer were found to be unrelated to forecasts made by another. There are at least three possible reasons for this: different astrologers may focus on different aspects of daily life, vague wording of forecasts may preclude accurate pairing, and astrologers using different theoretical formulations may make different, sometimes even conflicting predictions. In the present investigation, an attempt was made to eliminate the first reason by using stimulus materials from publications with similar readership. Thus, forecasters would have been expected to have focused on similar life situations.

Astrologically based personality descriptions, on the other hand, were found to have some reliability. Ss were able to match personality descriptions formulated by different astrologers at better than chance levels. Bastedo (2), who subjected large numbers of astrologically based personality descriptions to content analysis, also found considerable agreement among astrologers concerning traits which characterize each sign.

Perceived validity of forecasts and personality descriptions. Daily and monthly horoscope forecasts were not perceived to be valid by the Ss in

this study. When zodiac sign was not known, *Ss*' ratings of the personal usefulness of forecasts indicated that the forecast for their own sign was no more personally useful than the forecasts for the other 11 signs. However, when zodiac sign was known, *Ss* rated the forecast for their own sign as more personally useful than the forecasts for the other signs. These results suggest that one of the reasons for belief in astrology is knowledge of zodiac sign. When sign is known, as it is in all horoscopes, people may be motivated to ignore predictions that do not fit and to focus on predictions which do. It is easier to recall, "When my horoscope said beware of accidents, I broke my leg," than it is to recall, "When my horoscope said beware of accidents, I did not have an accident." "Illusory correlations" between two variables that are present are much more easily made than between one variable which is present and another which is absent (3, 22).

The present study was concerned with the perceived validity rather than the construct validity of astrologically based personality descriptions. Thus, positive findings should not be interpreted as support for astrological principles. When the perceived validity of personality descriptions was assessed, it was found that the Barnum paragraph was judged by *Ss* as the most accurate description of themselves. This was true both when zodiac sign was known and the Barnum paragraph was identified as a description of the average college student and when zodiac sign was not known. In addition, when zodiac sign was known, *Ss* rated the description of their own sign to be more accurate than the description of the other 11 signs. An unexpected finding was that when zodiac sign was not known and Purse Book B descriptions were used, *Ss* rated their own sign's description to be more accurate than the descriptions of the other 11 signs. However, these results were not replicated when Purse Book A descriptions were used.

A number of possible explanations of the present findings on the perceived validity of astrologically based personality descriptions can be made. However, explanations based on the effect of knowing the sign, on the role of situational variables, and on the Barnum effect cannot explain all of the findings.

Zodiac sign and situational variables (e.g., generality of statements, characteristics with a high base rate of occurrence in the population, descriptions ostensibly individualized for the person, favorable wording) have been shown to influence acceptance of astrologically based personality descriptions (15, 18). However, neither knowledge of sign nor situational factors can explain the superiority of the Barnum paragraph or the finding that when zodiac sign was not known and Purse Book B was used, *Ss*

rated their own sign's description as more accurate than the descriptions of the other signs. Thus, knowledge of sign and situational factors can explain some, but not all of the present results. Indeed, Hampson, Gilmour, and Harris (6), in a series of three studies, have shown that people do not accept personality descriptions simply because of demand characteristics or because of social desirability or because they cannot distinguish true from false information about themselves.

In addition, despite the presence of the Barnum effect, it is difficult to account for the finding that even when zodiac sign was not known Ss rated their own sign's description as more accurate than the descriptions of the other 11 signs.

In order to explain this unexpected finding, a supplementary analysis of the data was carried out. The ratings of Ss who had, at some time in the past, read a description of their "own sign" personality were compared to those of Ss who had not. It was found that Ss who had read such a description rated their own sign's description to be more accurate than did Ss who had never read a description of their own sign. These results suggest that familiarity may explain the finding that one's own sign's description was rated as more accurate than the other 11, even when zodiac sign was not known. Two possible mechanisms underlying the effect of familiarity on acceptance of personality descriptions can be proposed. Having read that, "As a Virgo, you are an honest person," one's self assessment may come to include the trait "honest." A personality description which stresses honesty may therefore be accepted as an accurate characteristic of oneself. Alternately, having some previous information about one's supposed character traits (e.g., "I'm a Virgo. Virgos are honest.") may give one the opportunity to notice, and subsequently to recall, instances of behavioral confirmation (e.g., "I returned the bus ticket to the man who dropped it. This was really honest of me.") Thus, familiarity may operate, in this instance, through having repeatedly noticed oneself behaving in an honest fashion.

Once the effects of familiarity with one's astrologically based personality description are recognized, it is possible to account for all of the findings related to the acceptance of astrologically based personality descriptions. The data indicate that 1. astrologically based personality descriptions have some reliability, 2. knowing that a particular description applies to one's own sign increases its perceived validity, 3. the Barnum description is seen to be as accurate as one's own zodiac sign's personality description even when descriptions are identified by the appropriate sign, and 4. people who

have read a personality description of their own zodiac sign at some time in the past rate their own sign's description to be more accurate than do people who have never read a personality description of their own sign, even when descriptions are not identified by zodiac sign. These results suggest that acceptance of astrologically based personality descriptions are due to 1. the reliability of such descriptions, 2. knowing that the description is for one's own zodiac sign, 3. the Barnum effect, and 4. familiarity. Even "nonbelievers" may feel that the personality description of their own sign is remarkably accurate because they may recognize elements of the description and confuse familiarity with accuracy.

Many "believers" and even some "nonbelievers" feel that astrologically based personality descriptions provide accurate characterizations of people. Explanations for the perceived validity of such descriptions can be offered without resorting to astrological tenets. But what have yet to be investigated are the consequences of such beliefs; whether one's reading of, e.g., "As a Virgo, you are gregarious and outgoing," would affect one's self-assessment or behavior and perhaps create a self-fulfilling prophecy.

REFERENCES

1. AUTUMN, S. A General Reasoning Solution to the Two-pack Matching Problem. San Francisco: Langley-Porter Neuropsychiatric Institute, 1963.
2. BASTEDO, R. An empirical test of popular astrology. *Skeptical Inquirer*, 1978, 3, 17-38.
3. CHAPMAN, L., & CHAPMAN, J. Illusory correlation as an obstacle to the use of valid psychodiagnostic signs. *J. Abn. Psychol.*, 1969, 74, 271-280.
4. EYSENCK, H. J. Manual for the Eysenck Personality Inventory. San Diego: Educational & Industrial Testing Services, 1968.
5. GAUQUELIN, M. The Scientific Basis of Astrology. New York: Stein & Day, 1969.
6. HAMPSON, S., GILMOUR, R., & HARRIS, P. Accuracy in self perception: The "fallacy of personal validation." *Brit. J. Soc. & Clin. Psychol.*, 1978, 17, 231-235.
7. JACKSON, M. P. Extraversion, neuroticism, and date of birth: A southern hemisphere study. *J. of Psychol.*, 1979, 101, 197-198.
8. KELLY, I. W. Astrology and science: A critical examination. *Psychol. Rep.*, 1979, 44, 1231-1240.
9. MAYO, J., WHITE, O., & EYSENCK, H. J. An empirical study of the relation between astrological factors and personality. *J. Soc. Psychol.*, 1978, 105, 229-236.
10. MCGARRY, J., & NEWBERRY, B. Beliefs in paranormal phenomena and "locus of control": A field study. *J. Personal. & Soc. Psychol.*, 1981, 41, 725-736.
11. MEEHL, P. E. Wanted—A good cookbook. *Amer. Psychol.*, 1956, 11, 262-272.
12. ROTTER, J. Generalized expectancies for internal versus external control of reinforcement. *Psychol. Monog.: Gen. & Appl.*, 1966, 80, Whole No. 609.
13. RUBIN, Z., & MCNEIL, E. B. The Psychology of Being Human: Brief Update Edition. New York: Harper & Row, 1979.
14. SCHEIDT, R. Belief in supernatural phenomena and locus of control. *Psychol. Rep.*, 1973, 32, 1159-1162.
15. SILVERMAN, B. I. Studies of astrology. *J. of Psychol.*, 1971, 77, 141-149.

16. SMITHERS, A., & COOPER, H. Personality and season of birth. *J. Soc. Psychol.*, 1978, **105**, 237-241.
17. SNYDER, C. R. Acceptance of personality interpretations as a function of assessment procedures. *J. Consult. & Clin. Psychol.*, 1974, **42**, 150.
18. ———. Why horoscopes are true: The effects of specificity on acceptance of astrological interpretations. *J. Clin. Psychol.*, 1974, **30**, 577-580.
19. SNYDER, C. R., & LARSON, G. A further look at student acceptance of general personality interpretations. *J. Consult & Clin. Psychol.*, 1972, **38**, 384-388.
20. SNYDER, C. R., SHENKEL, R., & LOWERY, C. Acceptance of personality interpretations: The "Barnum effect" and beyond. *J. Consult. & Clin. Psychol.*, 1977, **45**, 104-114.
21. SOSIS, R. H., STRICKLAND, B. R., & HALEY, W. E. Perceived locus of control and beliefs about astrology. *J. Soc. Psychol.*, 1980, **110**, 65-71.
22. TVERSKY, A., & KAHNEMAN, D. Availability: A heuristic for judging frequency and probability. *Cogn. Psychol.*, 1973, **5**, 207-232.
23. VENO, A., & PAMMENT, P. Astrological factors and personality: A southern hemisphere replication. *J. of Psychol.*, 1979, **101**, 73-77.

*Department of Psychology
Dawson College
350 Selby Street
Montreal, Quebec
Canada H3Z 1W7*