

# Sun sign columns

An expanded version of the authors' "Sun Sign Columns: Response to an Invitation", *Skeptical Inquirer* 24(5), 36-40, September/October 2000. The invitation is described in their earlier article History on this website under Sun Signs.

**Abstract** -- The authors contacted several thousand astrologers and two dozen interested scientists and invited their ideas for testing sun sign forecasts and delineations. The invitation was to devise tests, not to perform tests, so nobody had to leave their armchair. A total of 16 astrologers and 14 scientists responded from a total of nine countries. The article contains a brief summary of each response, and a longer summary of each response in an appendix. The most telling comment was from Professor William Grey, a philosopher who has interacted with astrologers and has also organised a national survey of belief in astrology. He commented: "Astrologers have had plenty of opportunity to establish the validity of sun sign astrology via double-blind tests. That they have not done so is most easily explained by the hypothesis that they cannot do so. Sun sign astrology is not knowledge but epistemological hallucination [ie delusion]." As for the tests, there was essentially no difference between those proposed by astrologers and those proposed by scientists, or between those proposed and those already made. This outcome suggests that the existing negative verdict on sun signs is unlikely to change. Readers can safely take the statements made in sun sign books and columns to be pure fiction. The authors sent their findings to the leading astrological bodies in seven countries (AA Britain, CEDRA France, CIDA Italy, DAV Germany, FAA Australia, ISAR and NCGR United States, NVWOA Netherlands) and called on them to declare their position either for or against the existing verdict. Two declined, the rest did not reply. Such indifference hardly enhances astrology's reputation. If the leading astrological bodies in seven countries can show no concern for negative evidence that seems the most clear and consistent in astrology, astrologers can hardly complain if critics dismiss astrology (not just sun signs) out of hand.

## Introduction

If the history of astrology is represented by a loaf of bread, sun sign astrology and sun sign columns do not arise until halfway through the last slice. Columns in particular are a modern invention, being unknown in their present form before the 1930s. There are two distinct types, namely *forecasts* ("Aquarius, romance improves after the 16th"), and *delineations* ("Taurus are stubborn"). The latter includes compatibility ("Gemini and Librans make beautiful music together").

Forecasts with their associated dial-a-horoscope lines are common in newspapers (daily), women's magazines (monthly), and sun sign annuals (yearly), but they are controversial even among astrologers, who tend to see them as either good publicity or gross exploitation. Delineations are almost as common, but appear more in weekend supplements, women's magazines ("secrets of your man's star sign" Mystic Meg), and books (eg *Sun Signs*, *Star Signs*, *Baby Signs*, *Cat Signs*, *Diet Signs*, *Love Signs*, *Money Signs*, *Sex Signs*, *Success Signs*), but among astrologers they are less controversial.

## A question of validity

Among critics the issue boils down to this: Does using actual sun sign astrology add validity to sun sign forecasts and delineations as opposed to simply making them up? Does it provide otherwise unattainable truth and uplift? Or does it merely mislead readers into believing that their "thought for the day" is more meaningful than if it appeared in say Kahlil Gibran or a desk calendar? The verdict from empirical tests is a clear and consistent denial of validity, see Dean & Mather's earlier article History on this website under Sun Signs, and Dean, Mather & Kelly (1996).

Among astrologers the verdict is less clear. As described by the late Charles Harvey, then President of the British Astrological Association, a sun sign delineation "sets out to give a popular account of basic astrological principles which no astrologer would deny", whereas forecasts "have no relation to any kind of astrological fact or tradition" and are therefore "only a pernicious encouragement of superstition and neurosis" (Harvey 1973). But his successor Nick Campion disagrees because forecasts "encourage people to pause for a moment and reflect on their lives, circumstances and feelings [the planets are urging you to improve the working pattern of your life" Patric Walker], ... I love sun sign astrology" (Phillipson 1999).

Even delineations can invoke disagreement among astrologers, for example Glen Perry (1994) refers to "the simplistic, fatalistic, overly generalized pap typical of sun sign books", whereas Linda Goodman (1970) says "an individual's sun sign will be approximately eighty percent accurate, sometimes up to ninety percent."

In fact for more than forty years violent disagreements over sun signs have periodically erupted in astrological journals, always repeating the same issues, rarely appealing to empirical evidence, and unsurprisingly getting nowhere (Dean and Mather 1996). As a countermeasure we had earlier ransacked the scientific and astrological literature for positive evidence but without success (Dean and Mather 1977), and had offered the world's then largest astrology prizes of \$US1000 in 1980, \$2000 in 1982, and \$5000 in 1984 to anyone who could demonstrate the validity of signs, again without success (Dean and Mather 1996).

When confronted with such results, many astrologers agree, claiming that the sun sign is meaningless unless combined with the rest of the birth chart, which could overturn its indications. However, some astrologers claim that existing tests are invalid or inadequate or that sun signs cannot be tested in the first place, arguing for example that positive results await only "more sensitive and imaginative tests" (Harvey 1994), but never specifying what such tests would entail.

Accordingly, in a final attempt to resolve the issue in ways acceptable to both sides, we surveyed the history of sun sign columns, the arguments for and against, and the outcome of empirical tests including our prize competitions (see our earlier article). We circulated the results by various means to several thousand astrologers and two dozen interested scientists, and invited their ideas for testing sun sign forecasts and delineations. In what follows we describe the invitation, how it was circulated, the responses to it, and some implications.

## Our armchair invitation

Regardless of their attitude to sun signs, we invited astrologers and scientists to devise a test for each of the following hypotheses:

- Sun sign forecasts are sufficiently valid for ethical use.
- Sun sign delineations are sufficiently valid for ethical use.

Our invitation was to *devise* tests of sun sign columns, not to *perform* tests, so nobody need leave their armchair. Hence the title. We chose the terms "valid" and "ethical" because their dictionary definitions are clear and unambiguous (valid = accurate, ethical = responsible). This avoided problems due to vague or multiple meanings as might apply had we chosen a term like "truth". Nevertheless, as a precaution, respondents were welcome to use their own definitions, but none of those proposing tests did so. Evidently the terms were unproblematic.

We provided the following guidelines: Tests should cover all twelve signs, and should include enough detail to allow anyone to carry them out without further instructions. Tests should of course be feasible, eg they should not require samples too huge to

be reasonably collected by a typical researcher. Respondents should also specify the results they would accept as disconfirming the hypothesis.

We also gave many examples of the material that tests should be aimed at, such as the following: *Weekly forecast*: Scorpio. After Saturn changes direction on Thursday you will feel less inclined to lead the parade (Patric Walker). *Delineation*: Leo. Usually quite popular. Generous most of the time. Can be arrogant and conceited, so can be unpopular (Aries Super Horoscope). *Compatibility*: Gemini-Virgo. Merry chatter but sexual incompatibility (Russel Grant), Your sex style matches perfectly (Mystic Meg).

We offered no prizes because our invitation was not a competition. If they wished, respondents could send in a position statement without devising a test. Most chose this option.

### Circulation and response

Our survey and invitation were circulated during June–November 1996 by articles in journals, see Dean & Mather (1996); by internet postings kindly organised by Joanna Ashmun on four astrology mailing lists and on alt.astrology; by direct mailout to astrologers, astrological organisations, and scientists (total N=115); and by handouts at the 1996 Astrological Research Conference in London (N=40). The deadline for replies was 31 January 1997.

Altogether several thousand astrologers plus many more on the internet were reached (16 responded), and 28 scientists (14 responded). Given the traditional poor response by astrologers to any kind of invitation (including prize contests) to validate their claims, the response was better than expected. Notably absent were certain astrologers critical of present research or with a special interest in sun signs, see later comment.

The 30 responses came from a total of nine countries (Australia 5, Canada 4, England 8, France 1, Germany 2, Holland 1, Scotland 3, South Africa 1, USA 5). Although categories overlap, the breakdown of responses was roughly 14 astrologers (1 with a PhD), 11 astrology researchers (5 with PhDs) and 5 skeptics (all with PhDs). Of the 30 responses, 18 provided position statements and 12 suggested tests. The responses are briefly summarised below, with more details in the Appendix.

### Position statements

Of the 18 position statements, most were similar to those aired elsewhere (eg see Dean & Mather 1996), so little was new. They can be summarised as follows:

Sun sign columns are nonsense or trivialise astrology (Miles, Niehenke, Peterson, all astrologers). Sun sign columns are only for making money; validity is irrelevant (Davis, Smit, Turner, all astrologers or researchers). Sun signs columns are without validity (Beyerstein, Grey, O'Neill, Patterson, all scientists). Other comments, five positive, three negative. (Ashmun, Best, Campion, Elwell, Fletcher, Lilly, McGillion, Reeves, all astrologers except one scientist). These comments were respectively: Isolating a chart factor does not make it invalid. Just as the sun dominates life on earth, so sun sign astrology could be superior to the whole chart. If sun sign columns seem valid then they are valid, period. Columns could be useful in diverting attention from the real thing, which could be dangerous in the wrong hands. All columns should carry a disclaimer saying they cannot indicate the true capability of astrology. Ethics and validity are personal, not everyone sees the controversy as important. An ethical issue exists because some people do act on sun sign columns. Yes, sun signs reveal the inner cat.

Perhaps the most thoughtful comment came from University of Queensland philosopher Dr William Grey, one of the few philosophers to have met astrologers for chart readings (Grey 1994) and to have initiated a national survey of belief in astrology (Grey 1992): "Astrologers have had plenty of opportunity to establish the validity of sun sign astrology via double-blind tests. That they have not done so is most easily explained by the hypothesis that they cannot do so. Sun sign astrology is not knowledge but epistemological hallucination."

### Suggested tests

The invitation was to devise tests for the hypothesis that sun sign readings (forecasts and delineations) are sufficiently valid for ethical use. Of the 12 suggestions received (see Appendix for details), most were variations on tests already performed, so again little was new. The tests can be summarised as follows:

**Direct tests of sun signs:** Are sun sign indications supported by diaries, traits, events, relationships, disease? (Ertel, Gauquelin, Gill, Kollerstrom, Mather, Simpson, Thoth, or 3 astrologers, 4 scientists.) **Discrimination tests:** Can subjects pick their own sun sign reading? (Blackmore, Farha, Kelly, Schmitz, or 1 astrologer, 3 scientists.) **Attenuation tests:** Without leaving your armchair, derive plausible bounds for sun sign effect sizes after attenuation by other chart factors, by unreliability, and by range restriction. Does anything useful remain? (Dean, scientist and former astrologer.)

For direct and discrimination tests the answer from existing tests is a resounding No. Attenuation tests are new but the answer is an equally resounding No (see later).

### Discussion

The response to our armchair invitation shows that, contrary to what some astrologers claim, designing tests of sun sign readings (forecasts and delineations) is perfectly feasible. But designing a revolutionary *new* test, involving say a completely new paradigm, is something else. The suggested tests involve many useful ideas but they are basically no different from tests already made. Although critics of current research were specifically invited, they made no proposals for new and sensitive tests designed to succeed where others had failed.

The last is disappointing but not necessarily surprising -- sun signs may be already too well researched to leave much hope that innovations remain to be discovered. Furthermore, there was no essential difference between the tests designed by astrologers (eg Gill, Schmitz) and those designed by scientists (eg Blackmore, Ertel). This suggests that the research to date is generally as good as it can get.

Although our aim was to devise tests and not to draw conclusions about sun signs, some general comments seem possible. First, if research to date cannot be much improved, then any validity commensurate with sun sign claims should have been detected by now. Second, even if sun signs were valid in ways yet unknown, one cannot logically write columns based on unknown properties. It would be like claiming pigs can fly in ways yet unknown. Third, our respondents (and non-respondents by their failure to respond) have in effect found no reason to challenge William Grey's comment (that astrologers cannot validate sun signs despite having appropriate tests), nor the existing verdict as summarised sixteen years ago by psychologist Michael Startup (1984:246) as follows:

Since the number of studies [of sun signs] that have been conducted is now quite large, the predictions [delineations] that have been tested are varied, and the data that have been sampled are voluminous, and yet the evidence is so poor, it is probably time for all to agree that enough is enough; the sun-sign idea is simply not valid.

That is, sun signs (whether forecasts or delineations) are not sufficiently valid for ethical use and are for entertainment only. Which of course does not deny their role in imagery as in late medieval paintings. In short, the existing verdict seems unlikely to change -- a point supported by respondents who had made actual tests, see Appendix.

### Our call for action

Nevertheless, as a precaution (suggested by Professor Suitbert Ertel), we sent our findings to the leading astrological bodies in seven countries (AA Britain, CEDRA France, CIDA Italy, DAV Germany, FAA Australia, ISAR and NCGR United States, NVWOA Netherlands) and called on them to publicly declare their position either for or against the existing verdict. Each body had the research orientation and resources to allow an informed declaration; for example the published aims of the AA included promoting "the good name and reputation of astrology among the general public, and especially within the scientific community and the caring professions", and ISAR, the International Society for Astrological Research, had published a massive 466-page anthology *Astrological Research Methods* (Pottenger 1995).

More specifically, we called upon each body to publicly declare their position along the following lines: **Either** (1) To publicly declare that, until research indicated otherwise, sun signs were for entertainment only. **Or** (2) To publicly declare that, based on their own tests, sun signs were sufficiently valid for use other than as entertainment. The declaration should explain how their tests overturned the research to date. **Or** (3) To examine the various tests proposed here, to improve them as necessary, to implement the tests of their choice, and then on the basis of the results to publicly declare as (1) or (2) above. By "publicly" we meant by official press release to the media, and by a notice in their journal and in their advertising material. Our call was circulated in November 1997.

Because each body was known to be concerned about the public image of astrology, and had the wherewithal to allow an informed declaration, we were confident of a good response. But it did not happen.

### Response to our call

After two years only two bodies had replied. NVWOA, the Dutch Society for Scientific Research into Astrology, said that in the Netherlands there had already been wide debate by skeptics on a sun sign disclaimer in the early 1990s, in which NVWOA had not participated because "disapproval of astrology on the basis of sun signs" was not justified. Therefore to avoid further misunderstanding NVWOA would not be responding to our call. NCGR, the American National Council for Geocosmic Research, said that every director had received a copy of our call but none had responded, so we could assume the NCGR "prefers neither to endorse nor condemn [sun sign columns] at this time." The British AA and Australian FAA privately acknowledged receipt but officially remained silent.

The outcome of our call for action was therefore zero out of eight. Eight astrological bodies had been put to the test and all had been found wanting. Such indifference hardly enhances astrology's reputation. If the leading astrological bodies in seven countries can show no concern for negative evidence that seems the most clear and consistent in astrology, astrologers can hardly complain if skeptics dismiss astrology (not just sun signs) out of hand.

Subsequently we submitted the previous version of this article to *Correlation*, the AA journal of research in astrology. The editor (astrologer Pat Harris) rejected it outright on the grounds that it was "not scientific writing and analysis." When we asked what changes were necessary for it to be accepted, she replied "There are no conditions under which I would accept your sun sign material ... Your article is unscientific in its presentation and analysis." In our opinion this sadly, but amply, justifies a dismissive view by skeptics towards astrology.

An example of this occurred on Canadian TV in a segment on "Horoscopes published in newspapers" 18 December 2000. After quoting the Dean & Mather (2000) *Skeptical Inquirer* article, the presenter concluded "This is a dead issue folks. Astrology is superstition. It dulls the mind and can hurt people. There can be accidental value, but better to get that from desk calendar quotations or diaries with daily inspirations."

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## Appendix

A summary of each response appears below according to mode of circulation of the original invitation, ie via (1) articles in astrology journals, (2) internet postings, and (3) various direct mailouts.

### 1. Circulation via articles in astrology journals

**Article** in *Astrological Journal* 1996. Circulation 1400, 4 responses as follows:

Helen Best, London. Sun sign astrology could be superior to the whole chart because it is dominated by the Sun, in the same way that life on earth is dominated by the Sun. But only pop astrologers may be adequately tested, not pop astrology. [She asked what testability had to do with truth. Answer: if by truth is meant something that can be publicly demonstrated, then such a demonstration requires testability.]

Cathie Gill, Ellon (Scotland). Three competent astrologers collectively write one forecast for five weeks in December. At least 6 subjects per sign keep weekly diaries for that month, without being told why. A control group of at least 6 subjects per Mars sign (and without Sun in the Mars sign) does the same. The agreement between each forecast and each diary is determined blind by three judges. The test fails if the correct sun sign does not perform significantly better than the other sun signs and the Mars signs. [This was the most detailed entry.]

Nick Kollerstrom, London. Any decent test of sun sign forecasts must fail. To test sun sign delineations, the elements should be tested rather than signs because of their antiquity, and harmonics should be examined rather than boxes to avoid tropical vs sidereal assumptions. For example the trait frequency from Gauquelin trait lists could be plotted against solar longitude. The test would fail if the amplitude of the best-fit third harmonic was less than half the standard deviation of the individual data points.

Cathy Peterson, Sydney NSW. Serious astrology does not suggest that personality and destiny can be predicted solely from sun sign. If sun signs are sufficient, the rest of astrology is superfluous. Until astrologers distance themselves from sun signs, astrology will be seen as the stuff of newspaper columns, and will be dismissed by educated people. Because such people are effectively the gatekeepers of knowledge in our society, the consequences for astrology of alienating them in this way should be obvious. Unless this issue is addressed, astrology will always be marginalised, and what passes for it will be held up to well-deserved ridicule by people such as Richard Dawkins. Furthermore, casting sufficient doubt on sun sign forecasting should not be difficult. Do unexpected career advancements, new loves, social changes, home renovations, lucky numbers and colours etc, apply to alcoholics, drug addicts, invalids, refugees, the hospitalised, the elderly, the homeless, the starving, the dying? Can one therefore doubt that sun sign forecasts are only for the intellectually docile?

**Article** in FAA Journal 1996. Circulation 750, 1 response as follows:

Raelene Reeves, Newcastle NSW. (A side-issue raised in the article was whether cat signs reveal the "inner cat" or only the cat "as others see them".) Any cat owner will tell you it is the former. How can we know this? We just do. It is the knowledge which passeth all understanding.

**Article** in Indian Skeptic 1997. Circulation unknown, 0 response.

## 2. Circulation via internet postings

**Internet** postings to perhaps 600 astrologers on astrology mailing lists, 6 responses, plus perhaps 100,000 casual readers of alt.astrology, 0 responses. This part of our invitation was handled by Joanna Ashmun, who posted our invitation letter on alt.astrology and on four astrology mailing lists, advising that the entire article would be sent by email on request, and that it was also available online at her Web page. The 6 responses are as follows:

Joanna Ashmun, Redmond WA. Sun sign columns are said to be nonsense because they use isolated factors such as sun sign or fast transits. But if a factor is not nonsense in the whole chart it is not nonsense in isolation, just as sugar in a cake is the same sugar in a spoon. I don't think sun sign columns can do much to raise public awareness about astrology when most people read them for amusement. As amusements go, astrology is harmless enough. But columns can be in demand even though written by non-astrologers, which indicates that customer satisfaction depends on something other than astrological validity.

Paul Fletcher, Toronto. All astrology columns should carry a disclaimer like the following: Sun sign astrology classifies the world population in only 12 ways and therefore cannot indicate the true capability of astrology. Contact a professional astrologer and find yourself one in 5 billion on our planet. [Such disclaimers are common at sun sign places on the Web, many being a bait from astrologers wanting to sell their services. Others on the Web have "entertainment only" disclaimers.]

JoAnne Schmitz, New Jersey. If a sun sign column is based on planetary effects by house and by whole-sign aspect (eg a planet in Cancer is in 4th house for a Sun Aries and also in square), the closer the chart fits these assumptions the closer the column will be to an individual reading. Collect two kinds of subjects, those with Sun in first house (the best fit to the assumptions) and those with Sun in 6th or 8th house (the worst fit). Exclude anyone who knows their own chart. Give them weekly columns from which all cues have been removed, and ask them to pick the one that fits them best. [Unfortunately Schmitz said nothing about sample sizes or how the results might be interpreted.]

Jeffrey Simpson, Vancouver. Sun signs are to astrology as Scrabble is to study of the English language -- flirting rather than serious business. An interesting test would be to compare sun signs between people and their closest (non-family) friends. Would the results support the claims of sun sign astrology re compatibility? [But several others have already made this test using compatible and incompatible marriages, and the answer has been consistently no.]

Chris Turner, Sydney NSW. Sun sign columns exist for one reason only -- to help sales. So they must be entertaining, even when astrologically nothing is happening (which is when the biggest divergences between columnists occur). They must fit the space, yet paying ads always take priority. So columns are subject to attack by sub-editors, usually by pruning or by substituting short words for long ones. But columnists pay well, far better than teaching or consulting or ordinary writing, and are marvellous advertising. To most astrologers they would be an offer hard to refuse. But columnists will not be hired unless they look good, write well, and deliver what the publisher wants, namely readership. Sales are everything. Astrology is secondary. Fighting sun sign columns is a lost cause because the public wants them, and because there is money to be made from them by everyone, not just the astrologer (in fact the astrologer makes the least of all). The best that astrologers can do is openly acknowledge that sun sign columns are not necessarily related to any serious astrology and are only for entertainment, so we at least maintain some credibility.

Tests of published columns are therefore pointless. Nevertheless columns could be written for the purpose. Such columns should be written by qualified astrologers, and should be of a reasonable size, say 60-100 words per sign. Just three lines is ridiculous, and 400 words is too hard to write. Weekly forecasts would be better than daily forecasts (which are also ridiculous) or monthly forecasts (which give too much scope to chance). Probably three months would be enough to ensure a sufficient variety of astrological happenings. To the extent that gender, age and social status can bias a reader's perceptions of a given column, samples should be divided accordingly. [This was the most informative of any entry, see the following **Note**.]

**Note.** Chris Turner's comments are of especial interest because she has a foot in both camps. She runs the well-established Chiron school of astrology in Sydney. She also writes a successful sun sign column for *TV Week*, and has experience with phone lines. Of which more below. Her comments confirm that many people have a need for counselling. So sun sign columns may help to meet this need, however imperfectly.

In my experience the typical reader is female, 20-30's, and probably unfulfilled. Most readers know the difference between columns and serious astrology, and very few take them seriously, but many still think there is something in them because hits do occur even if only by chance. (The same happens in consultations, where occasionally I am given the wrong birth data yet the reading is still spot on.) The chance of a hit is of course greatly improved by being nonspecific, for example by using words like loved one instead of partner, and by avoiding events in favour of moods and their likely outcome (few people have events but most have moods), eg "you may be more irritable this week, so avoid arguments and take it easy." But if a column still turns out to be wrong, readers just laugh it off. More generally, they never remember what it says unless it happens to be right, which jogs their memory. Otherwise they never think about it. In ten years nobody has complained that a forecast was wrong but many have said that a forecast was right. The feedback I get is 95% positive.

Today many sun sign columns have an associated 0055 phone line, one for each sign, which typically provide 400 spoken words vs 50 written words in the column. Although phone lines cost typically \$A3 a call (75c/min regardless of distance or time of day), they attract similar loyalties with a definite hard core of users. I did a 0055 daily horoscope where all advertising suddenly ceased, yet people kept ringing for another two years until I closed it. Many of them begged me to keep it going, some of whom said they never went to work without ringing it first.

There are also 1900 phone lines for dial-a-live-astrologer at \$4.95 a minute. I helped develop 1900 lines a few years ago, and am dismayed at their proliferation and low quality. *New Idea*, the women's magazine on sale in supermarkets, regularly has 20 or 30 ads for psychic lines, mostly from people like Mystic Meg, and 2 or 3 ads for astrology lines. But I see these lines as the way astrology will eventually go because they make astrology available to more people, and because it is cheaper to have 20 minutes on a 1900 line than two hours face to face. For the astrologer they are also very convenient, there is no handling of money, and no office is needed, although of course your chart software does need to be up and running. My average call is 7-10 minutes but 15-20 minutes is not uncommon. The maximum so far is one hour.

The average caller is female, 30's, usually self-employed, and usually at a crossroads where they don't know what to do. The most common questions concern relationships and money, and the busiest time is 10pm to midnight. They seem to need a friendly ear, common sense, and some non-obvious counselling (some get aggressive if it is obvious because they called for answers not counselling). This I provide using the natal chart and transits as a focus, followed by gentle probing to find out how it is manifesting, which usually takes about 5 minutes. Then comes the non-obvious counselling, which they seem very happy with (I get plenty of repeat calls, which tend to be longer), although they can be disappointed if it is not what they want to hear. If necessary I always provide the phone numbers of recognised support groups such as Legal Aid. Most callers have only their birth date, but many go away and call back with their full data when told of the advantages. There is a small hard core who call regularly, usually about the same problem, some not caring who they talk to, and some wanting me specifically. Whatever our opinion of 1900 lines, they do make callers better informed about astrology. **End of Note**

The Hermetic ObservaTory (THOTH), part of a group "pledged to serve the Good, the Beautiful and the True" by helping to found "a new civilization or New World during these turbulent times of transition." If reincarnation is true, immature souls and mature souls may handle sun sign energies differently, thus frustrating research. But if disease status is a measure of soul maturity, the incidence of various diseases should vary according to sun sign. Take computerised hospital discharge records, exclude subjects aged under 30, and examine the relation between sun sign and disease. If sun sign X has disease Y 50% more than other signs, to reliably detect it would require about 600 cases of X. [The relevance of all this to sun sign columns was not clear. However, Hughes S (Nephrology and astrology-- is there a link? *British Journal of Clinical Practice* 1990, 44, 279) found no relation between kidney disease and Libra (rules kidneys and loins) for 360 renal in-patients.]

**Email** via Rudolf Smit to about 50 Dutch skeptics, 3 responded. Reactions were very negative. Sun sign astrology is nonsense anyway so why bother researching it? Do you not have better things to do?

### 3. Circulation via direct mailout

**Mailout** to 139 selected individuals worldwide. Some were contacted directly, others via the secretary of their organisation. Where a person is a member of both X and Y, where X comes before Y in the list below, they are reported under X and not under Y.

**Mailout** via the Secretary of Professor Eysenck's Committee for Objective Research into Astrology to 11 CORA members (ie other than Dean), 2 responses as follows:

Rudolf Smit, Dalfsen (Netherlands). Sun sign delineations and forecasts are just *vermaak*, Dutch for "amusement, entertainment." You like them or you don't. Most people in the Netherlands reading these columns are aware that they are not serious stuff. Many of these columns are not even written by astrologers. If they are written by astrologers they only do it to earn some money, but I have never met any astrologer in the Netherlands who takes sun sign columns really seriously. If people want to be deceived by sun sign columns, then let them. These columns may contain some harm for a few highly unstable people, but that type is easily harmed anyway. The Skepsis (Dutch skeptics) organisation tried to have sun sign columns removed but the newspapers and women's magazines showed no interest. Some years previously one women's magazine had removed its column but this led to a storm of protest. Skepsis tried to involve the major astrological associations in devising a disclaimer for sun sign columns (that they were for entertainment only), but the associations could not agree on one, perhaps realising that it would lead to trouble with the few sun sign astrologers in their midst, and the whole thing fizzled out.

Prof Suitbert Ertel, Göttingen. An alternative approach might be to ask the AA to nominate a committee of astrologers for the purpose of testing sun signs. This way they could take charge of the whole controversy and its resolution. To test sun sign delineations, take any large sample of people (eg extraverts, soldiers) which astrologers agree should show sun sign effects. They need not specify which sun signs. Count the births in each sign and calculate chi-squared or, better, the corresponding contingency coefficient. Repeat after shifting the sign boundaries by +/- 1,2,3 ... 15 days. If sun sign effects are present the 0 days shift (unaltered sun signs) should give the largest coefficient. If it does not then the distribution of births does not conform to the traditional sign boundaries. Such a test still requires the usual corrections for demographic and astronomical effects, but if these are unavailable the results can be disentangled as follows:

(1) Repeat the test with eight control zodiacs obtained by dividing the ecliptic into 8, 9, 10, 11, 13, 14, 15, 16 sectors. As boundaries shift from 0 days, astrology predicts a sudden drop in the coefficient for sun signs but not for the controls. In each case demography (unless its effects happen to coincide exactly with sign boundaries, which is unlikely) predicts only gradual changes.

(2) If several sets of data give positive results, select two or, better, four of similar size which reflect different sun signs but similar demographics. If N=1000 for each set, draw equally but randomly from each set to make various control samples of N=1000 each. Because the controls now reflect four minor signs instead of one major one, the sudden drop as boundaries shift from 0 days should be greatly reduced. If not then demographic effects are responsible.

[Ertel recently provided further ideas for scrutinising sun sign claims in *Correlation* 1998, 17(1), 44-49, also on this website in Not Even Close under Sun Signs. In this case the claims were those made by Gunter Sachs in his extensive 1998 sun sign study *The Astrology File*. Ertel's scrutiny revealed only errors, methodological negligence and noise, with a conspicuous absence of the correspondences expected if Sachs's results were genuinely due to sun sign astrology.]

**Mailout** via the Editor of *Correlation* to the 9 (out of 13) *Correlation* consulting editors not already contacted, 4 responses as follows:

Nicholas Campion (AA President), Bristol. One either reads and appreciates sun sign columns or one doesn't. If it is appreciated then it appears valid, and that's the end of it. Trying to prove validity would be like trying to prove that Beatles music is valid. One either appreciates it or one doesn't. [Here *valid* is used to mean personally meaningful, as opposed to its dictionary meaning of sound, well-founded, accurate.] "The newspaper horoscope fulfills the kind of function societies have always needed since ancient times, like the oracle, with its riddles, or the I Ching. The astrologer speaks universal truths, and the reader engages with the words as they need them. We are accused of being vague and ambiguous, but it is harmless, it can be useful, it's less time-consuming than therapy, cheaper than analysis, and it comes without the dogma of religion." (Campion as quoted in *The Times*, 22 December 1995, page 12, to which the article writer added "And ... it is fun. Like a Christmas cracker.")

Francoise Gauquelin, Paris. Sun sign delineations contain trait words that can be tested via the Gauquelin trait data. For example, if Leos really are good leaders, popular, generous, etc then a count of the signs of persons described by such traits in their biographies should show a significant peak in Leo. But we have already made this sensitive test, and nothing in favour of signs came out of it.

Dr Frank McGillion, London. A major ethical issue exists because some people do act on sun sign columns. "Leo. A good week to invest money." Lose it and sue under the Financial Services Act. It could happen.

Mike O'Neill, London. I have seen no convincing evidence for the validity (or otherwise) of sun signs. Scientifically we do not know whether they are valid or not. Personally I doubt if forecasts will ever be validated, although delineations might be. Not being an astrologer I am not in a position to comment on the ethics of various astrological practices. [But this is like arguing that only murderers can comment on the ethics of murder.]

**Mailout** via Prof Ivan Kelly (chairman) to the 9 (out of 10) CSICOP astrology sub-committee members not already contacted, 2 responses as follows:

Prof Ivan Kelly, Saskatoon. Appropriate tests have already been conducted, eg by Gauquelin on sign delineations and by Fichten & Sunerton on forecasts, with negative results. Nevertheless the testing of sun sign columns is a simple matter -- can subjects (and their close friends) pick their own sign from the other signs? Certain easy conditions must be met, namely the columns must be written by an astrologer of merit, the subjects must have no astrological knowledge, and all giveaway cues must be edited out. Instead of testing by whole signs the subjects could rate each statement (previously mixed at random) for fit on a scale of say 1-5, so the mean ratings for each sign could be directly compared. If the statements were too numerous to be conveniently rated then some of the other signs could be excluded. What would it mean if subjects and their close friends could not pick the correct sign? It would be like claiming we could detect cancer when in fact we could not.

Prof Bryan Farha, Oklahoma City. Select subjects who have little or no knowledge of astrology. Show them the current daily or weekly column in scrambled order with all cues removed. Use a column not readily available locally to minimise cheating. Have them select which of the 12 signs fits them best. Repeat as required until results stabilise. This test was later applied to 63 students at Oklahoma City University (mostly 19-25, range 18-53) who, after 5 pm, had to choose which of 12 daily horoscopes best fitted their day. The horoscopes were from the Dallas Morning News in Texas, 300 km away, and were retyped in random order with sun sign names omitted. There were 6 hits vs 5.25 expected by chance, which is not even marginally significant (binomial p = 0.43).

**Mailout** direct to the 12 (out of 21) contributors to ISAR Anthology on Research Methods not already contacted, 1 response as follows:

T Patrick Davis, Florida. The primary purpose of sun sign columns is to generate income for the author and newspaper by providing a seemingly personal message for each reader. Validity has nothing to do with the matter. I met one such author whose only knowledge of astrology was sun signs (she did not know what an ephemeris was) but she had a talent for words and loved giving advice to others. I have no suggestions for tests because they are pointless. After many decades of work it is clear to me that astrologers have no intention of putting their house in order. They have no interest in research unless it confirms what they already accept and use, or unless it requires no additional effort or supplies, or unless it emanates from a time period when the Earth was assumed to be flat and the center of the universe.

**Mailout** direct to the 12 (out of 23 less 1 deceased and 1 moved) contributors to Key Topic 1 not already contacted, 1 returned address unknown, 2 apologies (no time due to pressure of other work), 2 responses as follows:

Dr William Grey, Queensland. Like a lot of domains of inquiry which are likely to generate extravagant expectations, the claims of sun sign astrology could be endorsed only if they could withstand the rigours of double-blind tests. My view is that astrologers have had plenty of opportunity to establish their credentials. The fact that they have not done so is most easily explained by the hypothesis that they cannot do so. Sun sign astrology is not a body of knowledge, just epistemological hallucination. The interesting remaining questions are about the nature of delusory belief systems, and how it is that more-or-less rational folk cling to their enthusiasms in the teeth of compelling evidence to the contrary.

Dr Peter Niehenke, Freiburg. Sun sign forecasts are nonsense. They are of no use whatsoever. They are at best bad entertainment if done in a way to generally encourage people or to give advice that always applies, as done in some newspapers. Because they mean nothing it is important that they do no harm. Sun sign delineations are acceptable if people are told they are just types that say nothing about individuals. They are an abstraction like descriptions of the typical German or typical American. These typical people actually do not exist. If done in this way, sun sign delineations can be an introduction to astrological symbols, where the sun

sign is just one of many elements that have to be considered in an individual chart.

**Mailout** direct to 30 selected astrologers not already contacted, 1 returned address unknown, 1 response as follows:

Dennis Elwell, West Midlands. Forecasts do provide a suitable jumping off point for a study of the *language* of prediction, and not only in relation to sun signs. At best, newspaper waffle could be a useful smokescreen for the real thing, which could be dangerous in the wrong hands. [The *language* of forecasts has indeed been studied, see Aphek & Tobin, *The Semiotics of Fortune-Telling*, John Benjamins, Amsterdam 1989. Forecasts (p.101) were found to be characterised by a simple and clear style due to space limitations, by vague and imprecise words as in "something may be causing problems", by positive items outweighing the negative items as in "problems dissolve into enjoyment", and by general truths as in "persevere and success will come." As in all fortune-telling, the aim was to maximise acceptance, in this case by all readers. Obviously forecasts so based need have nothing to do with astrology.]

**Mailout** direct to 5 selected scientists not already contacted, 1 apology, 3 responses as follows:

Dr Andrew Patterson, Johannesburg. Predicting events, appearance, personality etc by sun sign cannot be valid, simply because there are more than twelve kinds of person in the world. So testing is pointless. [But even dividing into just two kinds, eg extraverts and introverts, can still be useful.] Incidentally, in 1965 my home was invaded by four armed robbers. I had the relevant dates and times published in the local astrology magazine, and offered a substantial cash prize to anyone who could say what happened that night. Some of the responses were preposterous. My money was safe.

Prof Barry Beyerstein, Vancouver. The main sun sign astrologer in Vancouver is Tim Stephens, whose column *Mystic Stars* appears in several newspapers in British Columbia. A couple of years ago I did a quick test of his columns in one of my classes. It involved about 70 students aged 19-40 with a mean in the early twenties. The results showed that they could not reliably recognize their own week-old horoscope (without sign names of course) after the week's events (supposedly described in the horoscope) had transpired. Because some respondents might have seen the column previously in the local paper, results better than chance would have required re-doing the survey, controlling for this possible leakage. As it turned out, the results were so close to those predicted by the null hypothesis that it looked almost as if we had cooked the data.

Dr Susan Blackmore, Bristol. It seems inconceivable that everyone born under, say, Aries would have the same personality and the same kind of life. But even if only partly true, the predictions for own signs should fit better than those for other signs. [Suitable tests are given in her book with Adam Hart-Davis *Test your Psychic Powers*, Thorsons 1995:152-156, and are similar to those of Kelly and Farha above. In the five years since publication no results have been reported by readers.]

**Mailout** to 24 sun sign columnists whose addresses could be obtained, including (thanks to Dr Gary Posner) the 19 top syndicated columnists in the USA such as Sydney Omarr, 0 response. (Responses from two other sun sign columnists appear above.)

**Mailout** (two or more copies each) to the Secretaries of AFAN, ALL, APA, APAE, AS (Manchester), BAPS, FAS, ISAR, Kepler College AAS, and NCGR, using addresses from the current UT guide. AS was returned address unknown. There were 2 responses, both made personally, not on behalf of the organisation, as follows:

Sue Lilly, BAPS secretary, Exeter. Not everyone sees the controversy as important. Ethics and validity are too personal. Sun sign columns are popular, and have to be light-hearted to keep within the law against fraudulent prediction. Agreement among astrologers on how to generate sun sign forecasts would be useful.

Colin Miles, APA newsletter editor, Hemel Hempstead. When astrologers go along with sun signs, they make it easy for others to treat astrology as entertainment, which in turn makes it much more difficult for serious researchers re funding, plausibility, access to material, and so on. Many years of observation suggests that sun sign columnists are either disbelievers (often only in private) who do it just for the money, or believers (all the way from dim to very bright) who have trouble with numbers and cannot tell the general from the particular. Several years ago I helped to draw up some tests of sun signs, but there has been no time or opportunity to try them out.

**Mailout** (ten copies) via the Secretary to the AA Council, 0 response. Given that the AA's objectives include fostering research for the good of astrology, and promoting the good name of astrology (which sun sign columns are tearing apart), the zero response is disappointing. In an attempt to frustrate those who might wish to discredit the AA on these grounds, we made the AA a special case and extended the deadline to 28 February 1997, but to no effect.

**Handout** to the 30 (out of 44) people not already contacted at the London Research Conference 10 November 1996, 0 response.

### Notable non responses

Among the more notable persons who did not respond were those who had previously attacked sun sign columns (Mike Harding, Glenn Perry, Noel Ty), those who deal in sun signs (Jonathan Cainer, Russell Grant, Kenneth Irving, Derek and Julia Parker), those who are convinced that appropriate tests will give positive results (Charles Harvey), those prominently connected with research (J Lee Lehman, Mark Pottenger, and Beverly Steffert), and those prominently connected with education (Pat Harris PR person for the Faculty of Astrological Studies).

### Our own responses

To be fair, we invited ourselves to respond to our own invitation. Our responses were as follows:

Dean. The invitation is to test the hypothesis that sun sign readings (forecasts and delineations) are sufficiently valid for ethical use. My approach is to fit the sun sign situation to the equations that describe validity attenuation, to apply plausible bounds to the variables, and then to judge if the outcome is plausible. No tests are required, just paper and pencil. Readers can easily repeat the calculation using their own bounds, all without leaving their armchair. For details see the following **Note**.

**Note.** In Dean's approach, define validity in the usual way as the observed correlation (0-1) between sun sign reading and reality. The observed correlation will be affected by errors of measurement in the same way that handwriting legibility is affected by wearing boxing gloves. Here the key equation is: **observed correlation =  $a \times \sqrt{b} \times \sqrt{c} \times d$** , where a is the correlation between sun sign and reality that would be observed if there were no measurement errors, b is the agreement between interpretations of the same sun sign by different readers, c is the agreement between repeated observations of the same reality, d is a correction when subjects are restricted in range on the dimension being predicted, and  $\sqrt{\phantom{x}}$  = square root. All of these quantities (abcd) can be estimated as a first approximation without the need for actual subjects, as follows:

A chart will generally have many factors that are relevant to a given reading. Suppose there are n independent chart factors (of which the sun sign is only one), or n independent clusters of chart factors, each of roughly equal relevance to the reading. (If independence, or at least sufficient independence, is not allowed then of course the case for sun sign astrology collapses.) If the maximum possible correlation between the whole chart and reality is m, where m must be less than 1 because the stars do not compel, then as a rule of thumb  $a = m/\sqrt{n}$ . Both m and n can be estimated by asking astrologers. Suppose their replies suggest m is 0.2-0.8 and n is 10-100. The bounds on a, the true correlation between sun sign and reality, are then  $0.2/\sqrt{100}$  to  $0.8/\sqrt{10}$ , or 0.02 to 0.25.

Now to the two agreements b and c, both expressed as a correlation. Agreement b is between interpretations of the same sun sign by different readers, so it can be measured. For delineations, given that readers would be repeating the same stock meanings, b should be close to 1. For forecasts, given their notorious disagreement, b might be closer to 0. For the sake of discussion suppose the bounds on b are 0.2-0.9 (the observed agreement on interpreting the whole chart is close to 0.1, so 0.2-0.9 could be optimistic). Agreement c is between repeated observations of the same reality, so it too can be measured. For ratings of ability, c is typically around 0.6. It is lower for eyewitness testimony and higher for psychometric tests. For the sake of discussion suppose the bounds on c are 0.4-0.8.

Correction d applies when subjects are restricted in range on the dimension being predicted. If there is no restriction then  $d = 1$ . If 10% or 30% of the range is lost from one end, as might happen if the subjects excluded those who failed a qualifying exam, then  $d = 0.85$  or  $0.75$ . For the sake of discussion suppose the bounds on d are 0.8-1.0. At which point the bounds on abcd have been estimated. So the bounds on the observed correlation between sun sign reading and reality can now be calculated, and are found to extend

a      b      c      d

from a minimum of  $0.02 \times \sqrt{0.2} \times \sqrt{0.4} \times 0.8 = 0.005$   
to a maximum of  $0.25 \times \sqrt{0.9} \times \sqrt{0.8} \times 1.0 = 0.21$

For comparison, the highest correlation that has been consistently observed between sun sign and personality is 0.09 for extraversion. Unfortunately it becomes zero when subjects are ignorant of their sun sign, so the effect is due to role playing not astrology, nevertheless the results show that even very small correlations can be detected.

What is the minimum correlation required for ethical use? As a guide, the minimum correlation generally accepted for the application of psychological tests to

individuals is about 0.4, ie the observed correlation between test score and reality has to be at least 0.4, which gives a hit rate of 70% compared to 50% for tossing coins. If this was the best your dentist could manage, he would be drilling seven of your teeth to be sure of getting every two that actually needed it, so it is hardly marvellous. But it is still well above our upper bound of 0.21.

So we need to raise the upper bound. In general the only way we can do this is to raise  $a$ , which would require sun signs to have far greater validity than has ever been observed. In turn this would leave very little for the rest of the chart to account for, thus denying any isolated-factor excuses about why sun signs can be invalid. For example, to achieve an upper bound of 0.5,  $a$  would have to be  $0.5 / (\sqrt{0.9} \times \sqrt{0.8} \times 1.0) = 0.59$ . If  $m$ , the maximum possible correlation between the whole chart and reality that is consistent with the stars not compelling, is also 0.59, then from  $a = m/\sqrt{n}$  the corresponding  $n$  is 1.0, meaning that only sun signs can have an effect. Alternatively, if sun signs are the most important chart factor and their influence is one third of the total, the limiting case is  $n = 3$  and  $m$  has to be  $0.59 \times \sqrt{3} = 1.0$ . In other words, for sun signs to be sufficiently valid for ethical use, either the rest of the chart must be of no consequence whatever or the stars must compel absolutely. Readers can easily repeat these calculation using their own estimates, and draw their own conclusions, all without leaving their armchairs.

**End of Note**

Mather. Any positive proof would be a step in the right direction, but ultimately, for ethical use, the correlation between sun sign statements and observed behaviour should be at least 0.4, ie the same validity as for the better personality and ability tests. To test sun sign delineations, take a single large assembly of people, say 600 or more at a conference or residential weekend, and proceed as follows: (1) On some pretext not involving astrology, get each person to complete the EPI (which takes 5 minutes) and provide their birth date. (2) Set up 12 groups, each based loosely on disguised sun sign characteristics, and each with a discussion leader who focusses on those characteristics. By discussion, by trial and error, each person finds the group with whom they have the greatest affinity. This would require a suitably large hall or grounds, and might take an hour or two. (3) When everything is finished, get each person to complete a knowledge-of-astrology questionnaire. (4) Correlate the results. This experiment is essentially a test of the information assumed to be contained in sun signs. The spontaneous grouping in (2) allows scope to introduce more information than is commonly used. Any positive results for people ignorant of astrology would indicate a genuine effect.

To test sun sign forecasts, get say 100 people with no interest in astrology to keep a weekly record of the main events in their lives over three months, using preset headings selected for compatibility with such forecasts. During this time collect the published weekly horoscopes of the best sun sign astrologers, and code them using the same headings. Then compare the two datasets by computer to see if the forecasts match the right signs better than they match the wrong signs. Continue the best combinations for another three months to see if their success is consistent. If it is then the success is genuine and not an artifact.

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Sun sign astrology is the form of astrology most commonly found in many newspaper and magazine columns. It is a simplified system of astrology which considers only the position of the Sun at birth, which is said to be placed within one of the twelve zodiac signs. This sign is then called the sun sign or star sign of the person born in that twelfth-part of the year. Solar Chart, AKA Solar Houses, Sun Sign Houses or even Sun Sign Astrology. It's used in both eastern and western schools, with tropical, sidereal or Draconic zodiacs. Solar Charts were developed by ancient astrologers, went underground, then resurfaced in the 1930s when horoscope columns started appearing in newspapers and magazines. You definitely want to get a handle on this if you're going to write sun sign columns! Solar Charts are simple, easy and effective. Here's what you need to know. To find your rising sign using this table, locate your Sun sign in the left column and your approximate birth time in the top row. For example, an Aries Sun person born at 2:20 am would "have a Pisces ascendant. A Capricorn Sun sign person born at 12:06 pm would have Taurus rising. And so on. The Symbols for each sign are listed in the right column. If you do know your exact birth time, you can find your ascendant instantly using the ascendant calculator tool below.

If we've read enough sun sign columns, we're familiar with both the constructive and the dysfunctional expressions of all 12 zodiac signs. We're also well acquainted with each sign's reputation when certain behavioral inclinations are concerned. The passionate intensity of Scorpio, the analytic precision of Virgo or the acute intuition of Cancer just to name a few. So... what about Sagittarius? You ask. For whatever Sun sign columns History, validity, and an armchair invitation. Geoffrey Dean and Arthur Mather. Sun sign columns are therefore perhaps one part astrology and nine parts style. Thus much of the appeal of the late Patric Walker's columns was due to their humility and their uplifting thoughts worthy of Kahlil Gibran, eg "It is time to live by this principle: peace and tranquillity are worth a thousand pieces of gold" and "Remember that true love, respect and friendship cannot be bought." Sun sign astrology is the form of astrology most commonly found in many newspaper and magazine columns. It is a simplified system of astrology which considers only the position of the Sun at birth, which is said to be placed within one of the twelve zodiac signs. This sign is then called the sun sign or star sign of the person born in that twelfth-part of the year.