

The description of the Horos program as used for the purposes of dating the Egyptian zodiacs

We have written the astronomical program entitled “Horos” for the estimation of the dates ciphered in Egyptian zodiacs; it is available freely online at <http://chronologia.polisma.net> and chronologia.org (also see the URLs provided in the bibliography).

The Horos program was written in Fortran. Its objective is the astronomical dating of the ancient zodiacs. It calculates all possible datings using the information on the distribution of planets across the zodiacal constellations, specified roughly. If the source indicates a certain order of planets on the ecliptic, the program marks all the dates that correspond to this planetary order.

The set of planets doesn’t need to be complete. The disposition of certain planets can be random in relation to each other, and fixed for the other planets; such situations are accounted for in the Horos software.

Horos is based on the PLANETAP program written in Fortran ([1064:0]) that calculates the ecliptic longitudes of Saturn, Jupiter, Mercury, Mars and Venus as seen from the Earth. The positions of the Moon on the celestial sphere were calculated with the aid of another program entitled ELP2000-85 (version 1.0), also written in Fortran ([1405:1]). Both programs were written by the specialists from the Parisian Longitude Bureau (“*Bureau des Longitudes*”).

In order to use the Horos software, one has to copy the following files into a separate directory:

HOROS.EXE – the executable binary of the program.

SERIES85 – auxiliary file containing parameters for astronomical calculations. This file cannot be edited (unless the reader is a professional astronomer). In order to make sure that the file wasn’t changed by mistake, one has to verify it. The file should have the size of 68.580 kilobytes, and the date of its creation should read as 3-07-88.

INPUT.TXT is the input data file where one has to specify the data concerning the horoscope to be dated. The program shall read the data from the file and find all the dates that correspond to the specifications on the interval between 500 B.C. and 2000 A.D. The program shall then generate a file named OTVET.TXT in the same directory upon completion of calculations.

The file INPUT.TXT specifies positions in zodiacal constellations (not to be confused with the zodiacal signs as used in astrology) of all or some of the planets from the following list:

The Sun, the Moon, Mercury, Venus, Mars, Saturn and Jupiter.

All of the abovementioned celestial bodies were known as planets in ancient astronomy, which is the term we shall be using herein for the sake of brevity.

The positions of planets in `INPUT.TXT` are specified according to the cyclic “constellation scale”, whose detailed description can be found in `CHRON3`, Chapter 16:10. It was designed for making it feasible to introduce the zodiacal data into the input file directly, just as they are read from the ancient zodiac, so as to eschew consultation with astronomical reference books.

The position of every planet is specified as an interval (from/to), as given between two points of the ecliptic. Moreover, each planet can get a “best point” ascribed to it, or the point of the planet’s approximate location on the ecliptic according to the indications of the ancient zodiac. The primary end served by the “best points” is the definition of planetary order on the ecliptic. The Horos program defines the order of planets as the order of their “best points”. If several planets from an ancient zodiac are drawn in such a manner that estimating their respective order with certainty is a non-option, they should all be ascribed the same best point, in which case the program shall consider any mutual disposition of these planets correct; however, their position in relation to other planets with different best points shall still be subject to verification.

If a planetary position is given as “0 to 12”, the implication is that the planet’s place on the ecliptic isn’t limited in any way at all.

If a best point of a planet (or several planets) has a value greater than 100, it is presumed to be undefined for the planet in question. In this case, any position the planet occupies in relation to other planets on the ecliptic is considered correct.

If the calculated planetary order for the given date differs from the one specified in the file `INPUT.TXT`, we see a corresponding message in the output file (`OTVET.TXT`), accompanied by the symbol “+++++”.

Apart from that, the Horos program calculates the average deviation of calculated planetary positions from the “best points” specified for said planets. We are concerned with the longitudinal deviation – across the ecliptic, that is. Average deviation rates are included in the `OTVET.TXT` file. They can be useful for the approximated comparison of solutions and the degree of correspondence between the calculated planetary positions and the specifications of the zodiac.

The input files for the finite decipherments of the primary horoscopes from the Egyptian zodiacs as mentioned in our book can be seen in Annex 4.

The `INPUT.TXT` file can contain comments – however, the lines that contain actual code and begin with the hash symbol (“#”) cannot be altered. These lines must begin with the hash symbol; they cannot be preceded by any spaces or tabulation.

Lines with code are followed by the respective data lines, which is where one has to enter the data concerning the horoscope under study.

Let us cite an example of an `INPUT.TXT` file with comments and explanations. Bear in mind that the software will interpret any lines that don’t contain the hash symbol as comments.

A SPECIMEN INPUT.TXT FILE

INPUT DATA FOR **HOROS**, THE HOROSCOPE DATA
CALCULATION SOFTWARE

```

@                               DATA
@                               MY ZODIAC
@ SUN MOON SATURN JUPITER MARS VENUS MERCURY
# FROM: ----- #
    11.0  1.0   9.0    11.0  10.0   .0    .0
# TO: ----- #
    1.0  12.0  11.0    1.0  12.0   2.0   2.0
# BEST POINTS: ----- #
    11.5  200   9.5    12.0  11.0   .5    1.0
@                               END OF DATA

```

The “constellation scale” used for introducing data into the file:

```

<0> Aries <1> Taur <2> Gemini <3> Cancer <4>
Leo <5> Virgo <6> Lib <7> Scorp <8> Sagittarius
<9> Capricorn <10> Aquarius <11> Pisces <12=0>

```

NOTES.

This file can be altered arbitrarily; however, the lines with hash signs that precede data lines need to remain intact and unaltered. The order of data lines also needs to be maintained immutable.

Data lines are located at the beginning of the file.

Boundaries of constellations in the ecliptic of 2000 (J2000) in degrees:

<26deg> Aries <51deg> Taurus <89deg> Gemini <117deg>
 <118deg> Cancer <143deg> Leo <174deg> Virgo <215deg>
 <215deg> Libra <236deg> Scorpio <266deg>
 <266deg> Sagittarius <301deg> Capricorn <329deg>
 <329deg> Aquarius <346deg> Pisces <26deg>

We are using an arbitrary integer scale (mod 12) of constellations, specifying the planetary positions in a horoscope thereupon. Each constellation corresponds to an interval whose value equals one. The lengths of these arbitrary units vary; they correspond to the lengths of the zodiacal constellations on the ecliptic. For example, a value of 3.5 corresponds to the middle of the Cancer constellation. The upper and lower boundaries both need to be specified for each planet, as well as the approximate position of the latter. The order of points specifying approximated planetary positions has to correspond to the planetary order of the horoscope; the software verifies this order for every calculated solution.

If a planet isn't included in the horoscope, the boundary values need to be specified between 0 and 12, and the value that corresponds to the approximate location point can equal 200, for instance, or any other

number above 100, which will make the program consider it unspecified. In this case it is estimated from the calculated position of this planet in relation to others in every computation. The program goes over all the planets, and every unidentified planet is placed right in between its calculated neighbours, whose approximate disposition points are already known.

The software shall report all unspecified approximate disposition points.

If several planets in a horoscope occupy the same place, and the planetary order in the group isn't unambiguous, these planets all need to be ascribed the same approximate disposition point. In this case the program shall go through all combinations of planets within the group, choosing the one that it estimates the closest to the calculated combination.

Apart from that, the program calculates the average deviations of planetary positions from the approximate disposition points.

Approximate disposition points don't affect the choice of solutions that one finds in the `OTVET.TXT` file – extraneous solutions bound for rejection are defined by planetary disposition boundaries exclusively. The program allows for deviations of *** degrees maximum (the *** value is chosen by the software).

The output data file is called `OTVET.TXT`.