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ASPECTS IN MUNDO

by

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Several terms in contemporary use are huddled under the umbrella of aspects in mundo: mundane conjunctions, squares and oppositions, parans, paranatellontai, mundane aspects and aspects in the mundane sphere. They all refer to that category of aspects which takes the Earth's equator as the point of reference, hence the Latin word *mundo* from *mundus*, that is, "the world." Accordingly, instead of celestial longitude, which is the argument for aspects in zodiaco, aspects in mundo are generally reckoned in right ascension expressed in time, or less often in degrees of arc without a zodiacal sign attached. Mundane aspects have fallen out of general use because they are regarded as too much of a bother to calculate from scratch, and right ascension has been omitted from most astrological ephemerides for decades. The only astrological ephemeris in print that gives right ascension as a tabular entry is The American Sidereal Ephemeris--no doubt because siderealists consider aspects in mundo the strongest class of aspects.

Few Westerners embrace the sidereal zodiac, but right ascension, or RA as it is commonly called, is a tropical, not a sidereal coordinate, and can be part of the lexicon of both major schools, especially since it played a role in Medieval, Renaissance and Enlightenment Age Western astrology. However, until the advent of computers, unless one of the national astronomical ephemerides was available such as the (French) Connaissance des Temps, The (British) Nautical Almanac and Astronomical Ephemeris or the American Ephemeris & Nautical Almanac (now retitled The Astronomical Almanac), the only options were to buy the excellent American Sidereal Ephemeris, or calculate right ascension and declination from celestial latitude and longitude, a process few astrologers have been willing to undertake. For the undaunted, the

formulae for the conversion of celestial longitude and latitude to right ascension and declination are appended to the end of this article.

The rationale of mundane aspects and the requisite use of right ascension and declination has now been incorporated into most of the big, general purpose astrological programs by an option for aspects in mundo; and since these aspects are not referenced to the ecliptic, they give the same results no matter which zodiac or ayanamsa is employed.

Generally, astrologers favor longitude while astronomers favor right ascension, although many astrological applications employ R.A.: astrocartographic lines are always calculated and drawn from right ascension and declination coordinates; the local sidereal time of a horoscope is really the right ascension of the local meridian; and the rising, culminating, setting and anti-culminating positions of the bodies, that is, their positions in mundo, are most easily grasped when expressed in terms of right ascension for bodies which are not on the ecliptic. Unless a body is directly on the ecliptic, it will not rise, culminate or set precisely with its ecliptic position, but rather with some other position which varies with one's terrestrial latitude and the declination of the body. Only the Sun is always on the ecliptic, but most of the planets can have enough celestial latitude off the ecliptic to make a significant difference vis-à-vis their rising and setting positions in zodiaco which are merely schematic, and their rising/setting positions in mundo which are actual. Saturn can have more than $2\frac{1}{2}^\circ$ of latitude, Mercury almost 5° , the Moon more than 5° , Mars almost 7° , Venus more than $8\frac{1}{2}^\circ$ and Pluto more than 17° .

Consequently, since horoscopes are judged mainly in terms of celestial longitude, the other coordinates--celestial latitude, right ascension and declination, which contain relationships not apparent from the perspective of mere longitude, are completely missed, unless the positions of the planets in mundo are calculated. The table which contains these data is called a speculum.

Celestial longitude (see figure 1) is reckoned along the ecliptic which is the plane of the Earth's orbit around the Sun, measured eastward from the vernal equinox from 0° to 360° in 30° sections which are the tropical signs; or eastward along the ecliptic with α Virginis (Spica)

defined as $29^{\circ}10'06''$, also measured from 0° to 360° in 30° sections which are the sidereal signs. This is the fiducial of the Fagan-Allen ayanamsa used by western siderealists. The principal ayanamsa used in Vedic astrology, Lahiri, defines Spica as $0^{\circ}00'00''$. Celestial latitude is measured above and below (north and south) the ecliptic from 0° to 90° at right angles to the ecliptic, such that 0° latitude is the ecliptic itself.

Right ascension is measured along the celestial equator, which some may think a misnomer, because the celestial equator is really the terrestrial equator extended beyond the limits of the Earth. In fact, right ascension and declination are directly analogous to terrestrial latitude and longitude extended out into space. Right ascension is measured eastward from the vernal equinox usually in time, i.e., hours, minutes and seconds from 0 to 24. Declination is measured from the celestial equator, where its value is 0° , north and south to the poles, where it has 90° . A body will appear in the zenith of the terrestrial parallel which has the same value as its declination, which means that a star, planet, spacecraft or meteor will not appear directly overhead if you live at 37° north latitude, unless the body has 37° north declination. Note that the Earth's poles, which are just the terrestrial poles extended off the planet, are inclined at an angle to the ecliptic. This angle, currently $23^{\circ}26'14''$ (although it varies by almost $2\frac{1}{2}^{\circ}$ over a period of 40,000 years), is the obliquity of the ecliptic. It accounts for the seasons. If the Earth's poles were perpendicular to the ecliptic plane, there would be only one invariable season on the Earth. The right ascension and declination system is the same kind of grid system as terrestrial longitude and latitude and celestial longitude and latitude, but the obliquity of the ecliptic makes the orientation of right ascension and declination different than the ecliptic grid by the value of the obliquity.

The hidden relationships in Albert Einstein's horoscope (see figure 2) illustrate the value of mundane aspects, especially since his chart has been worked to death in unconvincing attempts to find the signature of genius. Einstein's Mercury is more than 66° from his Mars which is essentially no aspect, although some brave souls may call it a weak sextile, but even they would

surely admit that not much could be expected from it. However a look at his speculum shows that his Mercury had right ascension $0^{\text{h}}12^{\text{m}}10^{\text{s}}$, i.e., that value of sidereal time was in the meridian when Mercury culminated. His Mars, exalted in Capricorn (both tropically and sidereally) in the seventh house, bodily set in the west when $0^{\text{h}}10^{\text{m}}25^{\text{s}}$ was in the meridian. Therefore Mercury and Mars were simultaneously precisely angular only 1 minute and 45 seconds apart. Since 4 minutes of time equals 1 degree of arc, this aspect is less than $\frac{1}{2}$ degree from the precise to the second contact. The relationships of planets, or lack of it, in zodiacal longitude is of no account when they are in the angles, rather, only their relationship in RA expressed in terms of the meridian is what constitutes the aspect.

Often there is no conceivable zodiacal relationship between the bodies that make the closest aspect in the chart, and yet without recourse to the perspective afforded by mundane aspects, it will never be discovered unless the chart is examined for primary directions in RA. In Einstein's case, it's not obvious that Mercury and Mars are in mundane aspect because they weren't angular when he was born, but the power of the aspect at the birthplace is not diminished because the planets become simultaneously angular later. That the relationship has formed between bodies such that they *would* be on angles for the birth time and place is what makes the aspect. Moreover, the effect is imprinted on the psyche as with zodiacal aspects; and even though the effect can be diminished by moving to a locale that weakens the aspect, this writer's experience suggests that mundane aspects effective at the birth parallel are never rendered null and void in terms of the character traits they symbolize, but their circumstance potential is compromised if the native moves away from the places where the planets are strongest. Instead of judging Einstein's Mercury solely from its conjunction with Saturn, Mars has to be added to the mix. In the 20/20 of hindsight it's clear that the acuity and deeply penetrating insight of the Mars-Mercury mundane square, complimented his extraordinary capacity to render order out of abstraction, symbolized by Saturn conjunct Mercury in sidereal Pisces. With both traditional

malefics working on his Mercury, it is noteworthy that his work led directly to the development of atomic weapons.

If you are without a computer program to do it for you, there is no shortcut around the calculation to find when a planet rises and sets. Einstein's Mars had almost 1° of south celestial latitude, and his Mercury was not exactly on the ecliptic either, so it won't do to simply count the degrees in longitude between angle and planet, because his planets were not exactly angular when their ecliptic positions were. Furthermore, the signs and constellations rise and set with rates that vary as a function of one's terrestrial latitude; so the rule of thumb for horizon contacts is, "Never use a rule of thumb--always calculate to avoid grossly inaccurate results."

To determine when a planet or star rises or sets, the diurnal semi-arc of the body must be found, which is nothing more than the morning arc, expressed in time, between the ascendant in question and the upper meridian. To get the semi-arc you must know the ascensional difference of the body, which is only the difference between the rising time of a body in oblique ascension and a body rising perpendicular to the horizon in question, i.e., the angle between the ecliptic and your horizon, and a right angle to your horizon. The formula is:

$$\text{sine ascensional difference} = (\text{tangent declination}) (\text{tangent latitude})$$

where declination is the declination of the body and latitude is the terrestrial latitude of the place. If the ascensional difference (a/d) is positive, add it to 90°; if negative, subtract it from 90°. Do the reverse for the southern hemisphere, i.e., you would subtract a positive a/d etc. if you live in the southern hemisphere. Having added or subtracted the a/d as necessary, divide it by 15 (because 15° = 1 hour of time). The quotient or result of this division is the diurnal semi-arc of the planet or star. To find the local sidereal time when the planet rises, subtract the semi-arc from the right ascension of the planet. To find the local sidereal time when the planet sets, add the semi-arc to the right ascension of the planet. This little calculation may seem imposing to

those who haven't done it, but with a pocket calculator it's easy; and with a quick review of a high school trigonometry book, it will become clear.

For Einstein we first get the right ascension and declination of his Mars from the American Ephemeris & Nautical for 1879, interpolating from the tabular values in the same way that ecliptic longitudes are found. We find that his natal Mars had RA 19^h56^m33^s and 21° 37' 59.5" south declination. The latitude of Ulm, Germany, the birthplace is 48° N 24'. So then we have:

$$\sin a/d = (\tan 21^\circ 37' 59.5'')(\tan 48^\circ 24')$$

Then the numerical values are put into decimals of degrees which renders:

$$\sin a/d = (\tan 21.633194^\circ)(\tan 48.400000^\circ)$$

Then we find the tangents of these numbers which yield:

$$\sin a/d = (0.396598)(1.126327)$$

Multiplying these we get:

$$\sin a/d = 0.446698$$

To get the degree value of the sine of the a/d, just enter the number and then take the arc sin of it which gives 26.532118. This is the a/d. Since the declination of Mars is negative (south) we subtract the a/d from 90:

$$\begin{array}{r} 90.000000 \\ - 26.532118 \\ \hline 63.467882 \end{array}$$

Then we divide this result by 15:

$$\frac{63.467882}{15} \text{ which gives } 4.231192 \text{ hours, or } 4^{\text{h}}13^{\text{m}}52^{\text{s}}.$$

This is Mars' semi-arc. Now to find the sidereal time transiting the meridian when natal Mars sets, we add the semi-arc to Mars' RA:

$$\begin{array}{r} 19^{\text{h}}56^{\text{m}}33^{\text{s}} \\ + 4^{\text{h}}13^{\text{m}}52^{\text{s}} \\ \hline 24^{\text{h}}10^{\text{m}}25^{\text{s}} \end{array} \text{ which is the same as } 0^{\text{h}}10^{\text{m}}25^{\text{s}}.$$

Thus it is clear that Einstein's Mars and his Mercury, which was in the meridian with $0^{\text{h}}12^{\text{m}}10^{\text{s}}$, enjoyed a relationship which caused them to be simultaneously angular. This process is enough of a bother that most people want to avoid it and to rely on a program, because the computation just described must be done for each planet on both sides of the horizon, and the RA of the planet must be found for both sides of the meridian. But the result of avoiding the procedure is that the majority of practicing astrologers are confounded by the program option. It is only when something modestly laborious like this exercise in mundo has been understood, to the extent that it can be performed easily by hand, that the program option will be appreciated and used.

What is missed if the technique is not learned is very great indeed. Take for example the horoscope of Rob Hand, the best known American astrologer today (see figure 3). The important relationships with his Sun appear to be limited to the conjunctions with Mercury and Venus and the opposition to Saturn. The opposition to Uranus (11°) is much too wide to be effective and the 6° trine to Pluto is exceedingly weak if, indeed it is operative at all, inasmuch as neither planet is angular and they are both under the Earth. Actually, the opposition of the Sun to Saturn, which appears to be $4\frac{1}{2}^{\circ}$ from exact in zodiaco, is only 2° from exact in mundo because Saturn had almost 2° of south latitude and therefore rose well after its ecliptic degree. One might guess that Saturn was the dominant player in respect of his solar influences. But the closest aspect in his horoscope is the mundane square between Neptune and the Sun, barely more than $\frac{1}{4}^{\circ}$ from the exact to the second contact. In the opinion of Charles E. O. Carter (1887-1968), arguably the greatest English tropical astrologer of this century, Sun-Neptune is the most common astrological signature. Certainly it describes the orientation of Hand's talents which otherwise would probably have been directed toward the hard sciences. The relationship between his Sun and Neptune in zodiaco is close to a quintile, but in 27 years experience, this writer has found no value in them whatsoever. It is the paran square that constitutes the aspect. Astrological talent *per se* should not be attributed to everybody with Sun-Neptune combinations.

George Washington had the exact mundane square too, and while he may have been a closet occultist in his capacity as a Free- mason, there is no evidence that he embraced astrology.

In Hand's case the Sun was in the ascendant when Neptune culminated in the meridian. Aspects in mundo also occur below the Earth. The second closest aspect in his chart is a mundane square between Uranus and Pluto. His natal Pluto had RA $8^{\text{h}}43^{\text{m}}33^{\text{s}}$; this is the sidereal time with which his Pluto culminated through the upper meridian.. The point exactly opposite this sidereal time is 12 hours later, or RA $20^{\text{h}}43^{\text{m}}33^{\text{s}}$ which is the sidereal time when Pluto was at the lower meridian. His Uranus rose when the meridian held $20^{\text{h}}45^{\text{m}}42^{\text{s}}$. The difference in time between Pluto at the lower meridian and rising Uranus is 2 minutes and 11 seconds of time, which is slightly more than $\frac{1}{2}^{\circ}$ of arc, yet these planets are separated by 65° of longitude. Because they are so slow in motion, many millions of people have these aspects, but the contact will not manifest in an obvious manner until it is much closer, and even then, generally among people who have the combination in angles, or with the lights. But an individual born at a parallel which caused them to be closely mundane square would get a strong dose of what they are about, no matter what their zodiacal relationship. Uranus and Pluto together are usually disruptive in the extreme but not necessarily in a negative way. For example, by 1920 when Uranus and Pluto were trine, the work of American astronomer Harlow Shapley was accepted as nearer the truth than the older prevailing view of the universe. Shapley had posited that the Milky Way galaxy was at least ten times bigger than heretofore thought; and the Sun of our solar system was thought to be near the center of it. Shapley's work proved the Sun to be at the edge of the galaxy. Then, only three years later, another American, Edwin Hubble, proved by his discovery of Cepheid variable stars in the Andromeda nebula in 1923, that the galaxy was more than three and a half times bigger still, than Shapley had thought, i.e., at least 35 times bigger than the view of the cosmos embraced before World War I. Uranus and Pluto were still closely trine in 1923. Together they radically alter and expand one's perspective on the true nature of the world. Similarly, Hand and Robert Schmidt's work on Project Hindsight

have shed light on the nature of early Greek astrology, until now substantially misunderstood and much of it unknown. It takes a close aspect to do that. 65° sextiles (in name only) don't have the power to manifest what is implicit in the relationship.

Siderealists have a reputation for calling events with occasionally startling precision, although in truth, it is usually after the fact when aspects in mundo have been examined. The explosion of TWA's flight 800 on July 17, 1996 is a classic example. The plane disappeared from radar at 8:48 p.m. EDT and most of it entered the water at 71° W 39' and 40° N 41'. The transiting Sun was applying to the opposition of Neptune in Capricorn in zodiaco within $\frac{3}{4}^\circ$ of longitude, which suggests sabotage. However, because Neptune had north celestial latitude, it rose in mundo before its longitude position. For 8:48 p.m. at the crash coordinates, taking into account the Sun's RA and declination, it would have set with a sidereal time of 15^h07^m45^s transiting the meridian; Neptune would have risen with 15^h07^m47^s in the meridian. Two seconds of time is .008 of a degree. The Sun had already set and Neptune had already risen at the time of the crash, which demonstrates again that planets don't have to be actually in the angles for the mundane relationships to operate. If their angular potential is exact for some parallel, they come into manifestation there as though they were on the angles, and very often within a few seconds of the precise contact in RA. It is demonstrably clear after many years of observation, that natural and unnatural disasters as well, time out exactly far more often in right ascension than they do in longitude. But since the Sun is paran square Neptune at some locale always, that fact begs the question, "Why there and then?" The mundane opposition between the setting Sun and rising Neptune was only exact at the time of the crash at the parallel through the crash site, which fixes the latitude. Pluto applying to the meridian fixes the longitude approximately, moreover Pluto was mundane square the Moon by less than 1° - which suggests being singled out, marked by fate and points to the place where the paran operates as the focus of attention. Note that the Moon and Pluto were more than 99° in longitude in longitude, which is much too far beyond a zodiacal square to be productive of anything but the mildest effects, if

anything at all. However, precisely straddling the meridian of the crash site, which held $15^{\text{h}}45^{\text{m}}51^{\text{s}}$, were the alpha and beta stars in Serpentis (the Serpent) with RA $15^{\text{h}}44^{\text{m}}07^{\text{s}}$ and $15^{\text{h}}46^{\text{m}}03^{\text{s}}$ respectively. Unukalhai, the alpha star is, according to Ptolemy, of the nature of Mars and Saturn and gives accidents and violence, among other things.

In a larger sense, planetary conjunctions with the longest synodic periods define eras. Transits to those positions are symbolic of matters of great import and scale. The longest of all is the 493 year period between Neptune-Pluto conjunctions. The most recent one was in 1891 and 1892 for the exact conjunctions in longitude, and 1892 and 1893 for the exact conjunctions in RA. The conjunction of Neptune and Pluto in the 1890's was the first time in many tens of thousands of years that it had occurred closely conjoined to Aldebaran and opposite Antares, the alpha, or brightest stars in Taurus and Scorpio respectively, both decidedly martial in effect, especially the latter.

Long before their conjunction in longitude, Neptune and Pluto appeared on the horizon together at the same moment, setting at very sparsely populated parallels. The setting conjunction in mundo descended out of the Arctic in the spring of 1880 separated by 15° of celestial longitude and almost 12° of celestial latitude, yet setting together in mundo because of the geometry of the oblate spheroid which is this Earth. The mundo conjunction took three more years to traverse the $6\frac{1}{2}^{\circ}$ of terrestrial latitude down into the 50's. In the winter of 1883, when drawn up close in mundo in and near their stations, they set through the 59th parallel of north latitude when the meridian held $10^{\text{h}}42^{\text{m}}$ of sidereal time. By the summer when they were again in and near their stations, they set together in mundo at 53° north when the meridian held $10^{\text{h}}48^{\text{m}}$, and so on for the next twenty years, see-sawing back and forth across a few degrees of latitude each year (see figure 4). All the people born in the latitudes where the paran between Neptune and Pluto was operative had it as a natal aspect. So most of the generation that fought World War I had this combination, which is why the age cohort of the war casualties was born overwhelmingly in the 1880's, and 1890's.

The 19th century did not experience a general war after Napoleon's defeat at Waterloo in 1815, which is not to say that the world had been a quiet and peaceful place since then. There certainly had been many wars since that time; the worst of them (in the West) being the American Civil War, often called the first modern war, that killed more than 600,000. But there had never been a general war between fully industrialized powers before World War I, which brought every major industrialized power into the conflict, and which ranged over a more extensive territory than any other war before it, on both land and sea, and for the first time, in the air. World War I began in the early morning hours of August 4, 1914, when the Germans entered Belgium with four armies, and with three more poised to invade France. The seven German armies hurled at France and Belgium contained the unprecedented invasion force of 1,500,000 men. That morning, just after dawn, the Sun became involved in a mundane square with Uranus, precise to the second of arc; both bodies were also within scant seconds of arc to the exact mundane T square with Antares on an adjacent angle, all this through the Ardennes region of Belgium which was the invasion route. Yet the Sun and Uranus did not only configure Antares, the rival of Mars: directly opposite the heart of the Scorpion was Aldebaran and the Neptune-Pluto conjunction of 1891. Worse, transiting Pluto had moved into position such that it simultaneously engaged the natal Neptune-Pluto parallels of most of the combatants through the parallels where fighting began, from Riga in the Baltic to the Mediterranean and even African parallels (where there was naval action off the African coasts).

The proximity of transiting Pluto to the rising positions in mundo of the long term Neptune-Pluto conjunction, varied with the age of the natives, the terrestrial latitudes of their births and where they served in their armed forces. It may well be asked how Pluto could rise with the same sidereal time that it had twenty or more years before. The answer has mostly to do with Pluto's celestial latitude, declination and right ascension rather than its longitude. It should be borne in mind as well that the Neptune-Pluto conjunction, when it appeared on the horizon, was particular to a range of sidereal times and terrestrial parallels, in both hemispheres, which

varied slowly over two decades. Pluto's lone transit of a combination of which it was a part, and to places where it previously held sway twenty years before, is counter-intuitive in terms of longitude, but makes perfect sense if one's orientation is the equator instead of the ecliptic. The people most affected, in the northern hemisphere, were those born between 1892 and 1901.

Because Pluto moves so slowly, it continuously engaged the natal Neptune-Pluto parans of millions for the duration of the war and beyond it, to include the influenza epidemic of 1919 which killed more than twice the number of people worldwide than the soldiers lost in combat during the war (but mainly at lower latitudes than the killing fields in northern France). While Pluto held millions in its grip via its contact with their natal Neptune-Pluto mundo conjunctions, and Uranus rose in mundo through Europe precisely mundane square Antares and Aldebaran through various contested latitudes, Saturn rushed in to cut a swath in mundo through the parallels that held both the natal Neptune-Pluto mundo squares and transiting Pluto. Such a tremendous concentration of long term malefic energies intermingled is the signature of war. The entire situation was periodically exacerbated by the entry of Mars into the combination and the continued prominence of transiting Saturn and Uranus (especially the former) in mundane squares and some zodiacal configurations to the Neptune-Pluto natal combinations of the combatants and the Antares-Aldebaran axis. During some ghastly periods in 1916 and 1917, the casualties were so great that governments feared revolution in the streets had the true figures been known. At one point in 1916, the British sustained 60,000 casualties in a single day, 20,000 of whom were killed. Casualties of 50,000 in a week were not uncommon. Total losses are estimated at more than 9 million killed for all combatants in fifty-one months of combat.

The World War I astrological situation has immediate relevance for some parts of the world because another very much like it will form up again in 1998, 1999 and 2000. In those years transiting Pluto will come to the conjunction of Antares, and oppose Aldebaran and the Neptune-Pluto conjunction of 1891 exactly, first in RA beginning in the winter of 1997-8, when Pluto will arrive at Antares in mundo in January 1998, and then in longitude in 1999. Transiting

Uranus in the winter of 1997-8 will be in the very same place in the middle of sidereal Capricorn that it held at the beginning of World War I, mundane square Antares, Aldebaran and the Neptune-Pluto conjunction of 1891. In the 1990's, because Pluto contacts these two stars and the 1891 conjunction through the M.C.-I.C. axis, the relationship applies equally to all meridians, i.e. the entire planet. World War I was symbolically triggered by the Sun, which is usually the chronocrator in mundane astrology. In January 1998 when the Sun is conjunct Uranus, the stage will be set essentially as it was in 1914.

Very few people are alive now who have the Neptune-Pluto conjunction as a natal condition either in mundo or zodiaco. But since we are still living in the modern industrial era invoked by the Neptune-Pluto conjunction of 1891, something particularly momentous, unwelcome and violent is very likely to affect it beginning barely more than a year from this publication date (December 1996). Actually, with Jupiter in Saturn's house (sidereal Capricorn) throughout 1997, and with Saturn in one of Jupiter's houses (sidereal Pisces), a serious downturn in finance, production and trade will probably be well underway, in the U.S. at least, since transiting Saturn will still be opposing its August 1982 bull market positions in the winter of 1997-98. Transiting Neptune which begins the year mundane square transiting Saturn through the high 30's and low 40's (of latitude) will square the Mars-Jupiter conjunction of the 1982 bull market in the middle of the year, immediately followed by transiting Saturn opposing the bull market Mars-Jupiter conjunction. Rising prices and expectations, especially the variety that are built out of hot air, are usually associated with Jupiter-Neptune; Jupiter-Mars is a better money making aspect, and sometimes Pluto-Jupiter-Mars can produce spectacular growth (the 1982 market was launched by it). Slow, steady, solid growth is symbolized by Jupiter-Saturn. Saturn-Neptune is a bruising experience for hype artists and those who have been riding the wave generated by the brains and efforts of others. However, notwithstanding the damage that will have been done in 1997, the serious grief is likely to begin in January 1998, particularly the last week of the month, worsening in the summer.

To convert celestial latitude and longitude to right ascension and declination,

$$\tan \alpha = \frac{\sin \lambda \cos \varepsilon - \tan \beta \sin \varepsilon}{\cos \lambda}$$

and,

$$\sin \delta = \sin \beta \cos \varepsilon + \cos \beta \sin \varepsilon \sin \lambda$$

where α is right ascension, β is celestial latitude, δ is declination, ε is obliquity of the ecliptic and λ is celestial longitude.

Postscript: the economic problems forecast were felt most acutely in the East, where in 1997, the Korean Won lost 60% of its value in three weeks. Currency crises there and serious financial problems of a general sort in Burma (now Myanmar), Thailand, and especially Indonesia, the Philippines and Japan threatened to destabilize the entire region politically. The International Monetary Fund in fact had to rescue the Philippines and Indonesia from financial collapse. Indonesia, the fourth most populous nation on the planet, after China, India and the United States, has had to counter insurgencies within its borders and political instability which ultimately toppled the government. The Philippines is in a precarious financial state even now and is also battling insurgents within its borders.

Civil wars in Africa have killed several millions since this article was written in 1996. Ethnic cleansing in the former Yugoslavia is the closest that the violence implicit in the combinations described in this article have come in the West, at least on a large scale. The World Trade Center disaster is beyond the time limit of this article.

SOLAR SYSTEM GEOMETRY

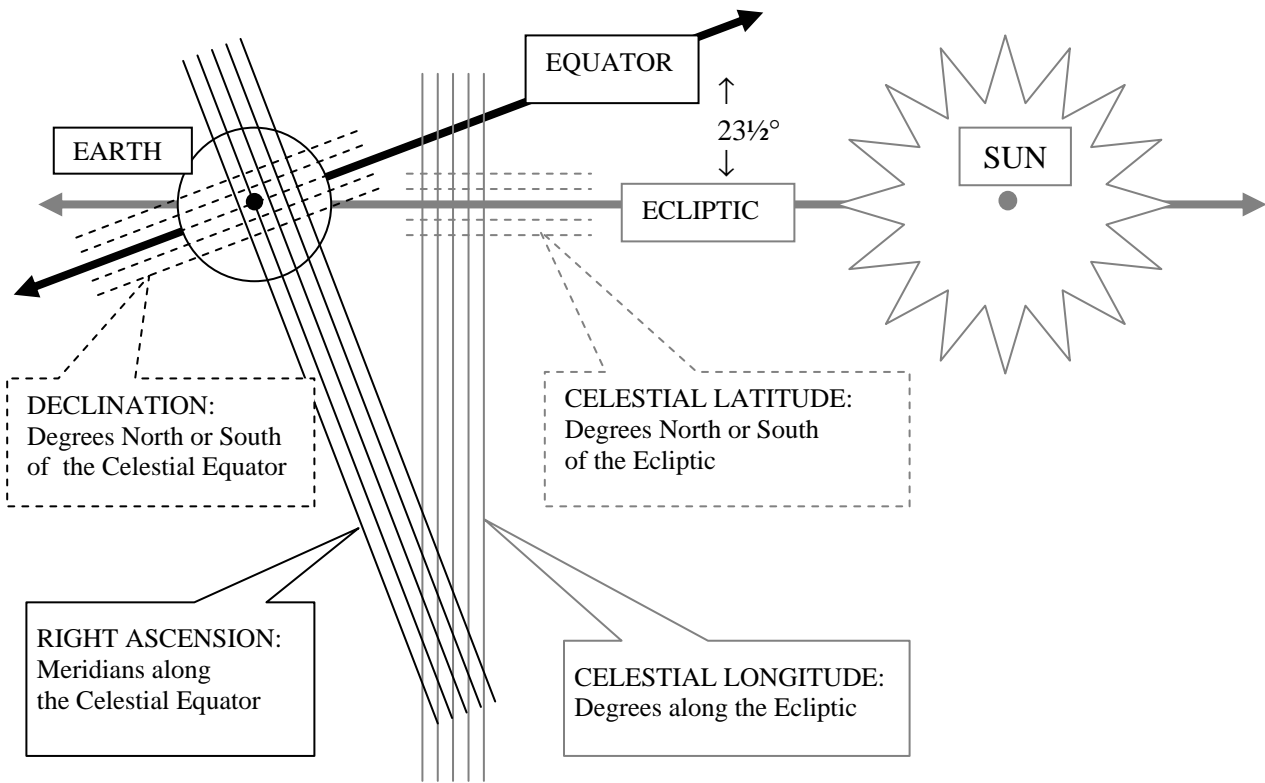
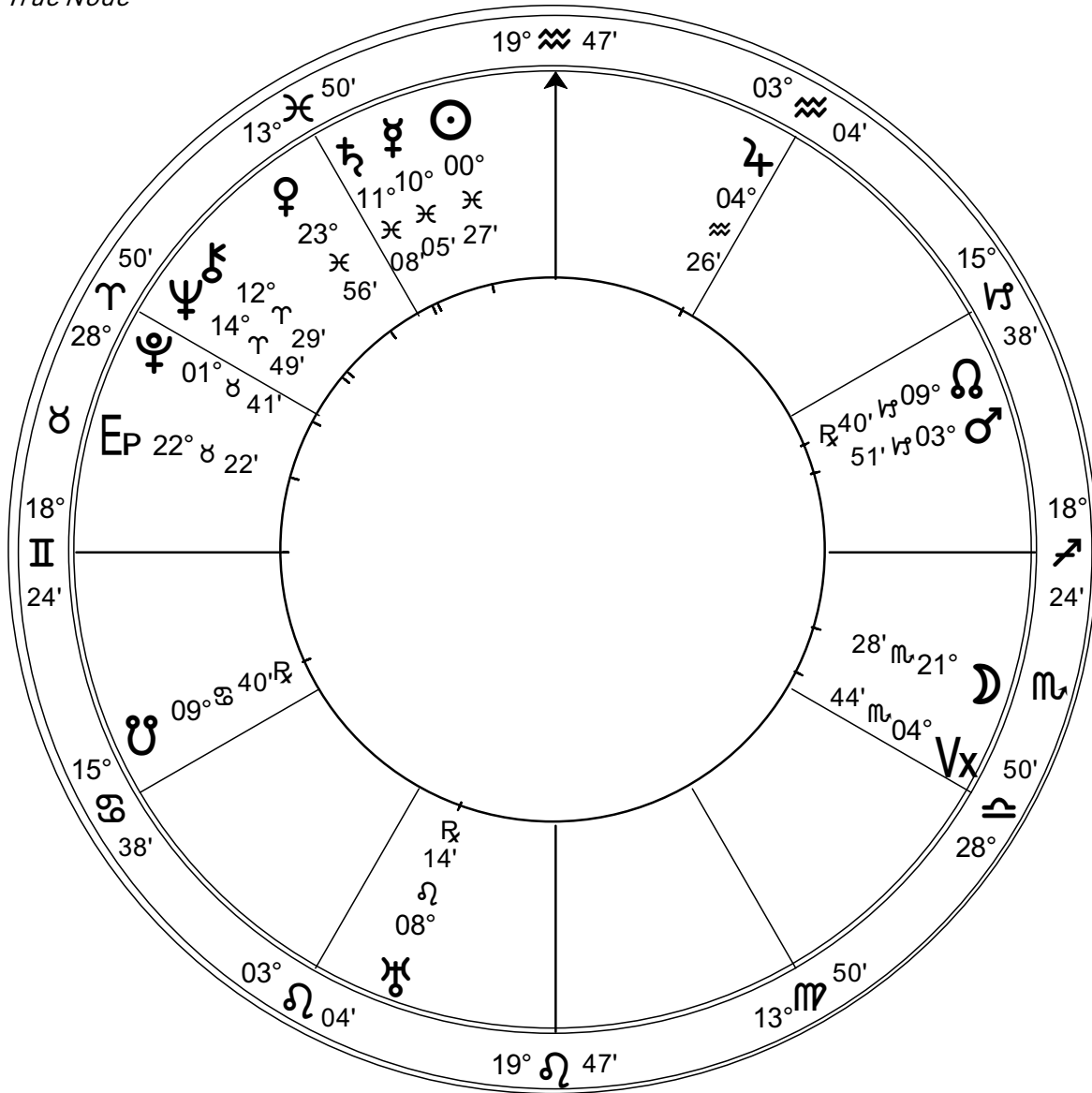


Figure 1

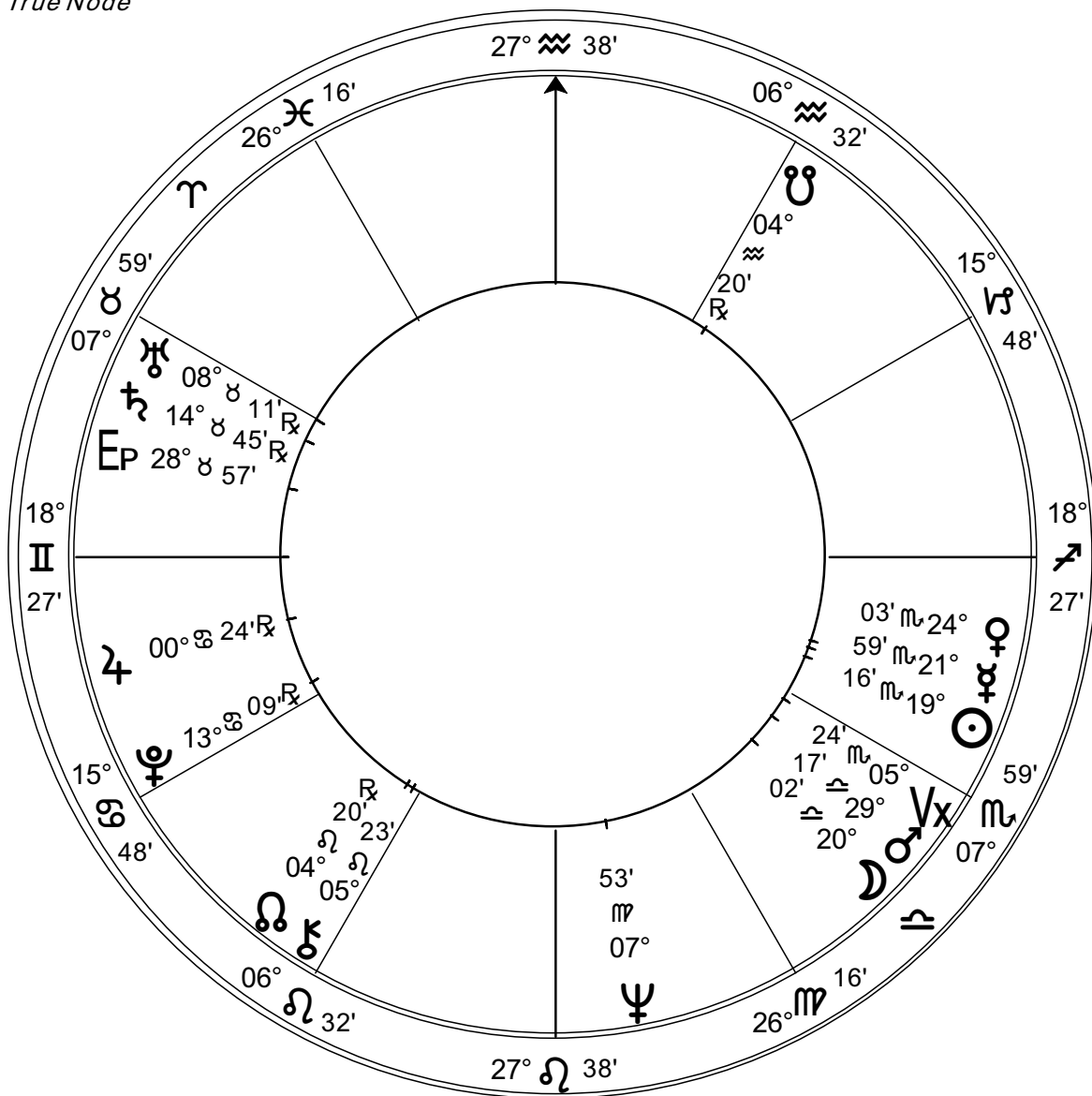
Albert Einstein
Natal Chart
 Mar 14 1879
 11:30 AM LMT -0:40
 Ulm, Germany
 48N12 010E00
Geocentric
Fagan-Allen
Campanus
True Node

Figure 2



Robert Hand
Natal Chart
 Dec 5 1942
 7:30:11 PM EWT +4:00
 Plainfield, NJ
 40N37 074W25
Geocentric
Fagan-Allen
Campanus
True Node

Figure 3



Rising & Setting Extremes
of
The Neptune-Pluto Conjunction
In Mundo 1883-1901

Year	Winter station	Summer station	Winter parallel	Summer parallel
1883	10h 42m	10h 48m	59° N setting	53° N setting
1884	10h 43m	10h 47m	56° N setting	49° N setting
1885	10h 42m	10h 47m	52° N setting	44.5° N setting
1886	10h 42m	10h 47m	48° N setting	40° N setting
1887	10h 43m	10h 46m	44° N setting	34° N setting
1888	10h 42m	10h 45m	39° N setting	28.5° N setting
1889	10h 41m	10h 44m	33° N setting	22° N setting
1890	10h 40m	10h 43m	27° N setting	15° N setting
1891	10h 39m	10h 41m	20° N setting	7° N setting
1892	10h 37m	22h 39m	12.5° N setting	1° N rising
1893	10h 35m	22h 37m	4.5° N setting	8° N rising
1894	22h 33m	22h 33m	3° N rising	16° N rising
1895	22h 30m	22h 31m	11° N rising	22.5° N rising
1896	22h 27m	22h 27m	18° N rising	29° N rising
1897	22h 24m	22h 23m	25° N rising	34.5° N rising
1898	22h 20m	22h 18m	31° N rising	40° N rising
1899	22h 15m	22h 13m	37° N rising	44.5° N rising
1900	22h 11m	22h 08m	41.5° N rising	48° N rising
1901	22h 05m	22h 02m	46° N rising	51.5° N rising