ASTRO-LOGICS

version 3.0

Koen Van de moortel, MSc.

I dedicate this to the users of my astrological software, because they forced me to think about this matter.

CONTENTS

1. INTRODUCTION

By the word "astrology", most adepts understand something like the study of relationships between astronomical configurations and phenomena occurring on earth, but only those that are not explained by our current orthodox science. "The Sun rises, so we wake up," is not reckoned to be an astrological sentence, "He is born at sunrise, and thus he will have a sunny character." is. Some activities of astrologers, like trying to predict the weather or earthquakes according to the positions of the Sun, the Moon and the planets, are somewhere near the activities of regular geo- and astrophysicists, albeit that their approach is different. What the modal astrologer does, namely trying to predict someone's character or life events from the positions of the celestial bodies, or even the stock market or the answering of a random question, those are more greatly mistaken in the eyes of contemporary scientists, and if we speak about astrology here, we will mean mostly this kind of stuff.

It has been different, once upon a time, but today scientists and astrologers tend to disagree seriously. Apart from a few exceptions, there is precious little constructive contact between both communities. Hence, astrology is staying at the level of alchemy, while the latter pre-science did evolve to become a science in the mean time.
The purpose of this writing (and maybe partially, of my life) is, to try to do something about this, i.e. to get scientists a bit more open, and to develop a more scientific attitude among astrologers.
It is impossible to cover all aspects of astrology or doing science, but I will try to clarify some important points that I was confronted with during the years.

This is not a course of astrology. I assume that you are a little bit familiar with the terminology. If not, you'll find plenty of choice in the literature list to improve your knowledge.

2. DIFFERENT MENTALITIES

2.1. The world of astrologers

Practicing astrologers use to say: "astrology works, my clients are satisfied, so why should science interfere with our profession?".

Well, for these people, the following should provide food for thought: the french psychologist Michel Gauquelin did an experiment in 1968. He pretended to calculate the personal horoscope of 150 people. Actually, he sent the same astrological analysis to everyone, and to make it worse, it was the horoscope of a murderer. What happened? 94% of the people confirmed that they recognized themselves clearly in the given description [Gauquelin 1979, p.118; also: Nanninga 1988, p.169]! Okay, you can say: maybe people don't know themselves too well; or maybe the description was too general. The same kind of reports was (and is) used commercially though. It has to be mentioned here that similar experiments have been done with descriptions written by psychologists, and also there, the results were not at all positive, which means that also their theories need some improvement [van Rooij & de Groot 2002, p.19].

If you ask any astrologer: "What is a typical profession for a Gemini person?", you will hear almost without exception: "Writer or journalist, of course!". If you take the trouble of checking this though, as drs. Kop from the university of Amsterdam did, it appears to be different in reality: the large crowd of famous linguists and writers are to be found among Sagittarians and Capricorns. Also, Sagittarians seem to avoid painstakingly "their" profession of explorer, and it appears to be the Leos that receive credit for that[1].

Astrologers contradict among themselves in an unbelievable number of ways. For example, different zodiacs are in use, as well as dozens of house systems, progression and direction systems differing lightly and thus predicting the same things on different dates; one horary horoscope can be interpreted in so many ways that a "yes" or "no" answer has the same probability, etc. In short: there are about as many "astrologies" as astrologers.

Most of them look away from this criticism, full of self-esteem, keep saying that their system works for them, and in no way intend to take into account the findings of scientific research. And yet, in public, many of them will be proud to announce that they are practicing a knowledge with a fundament, as soon as they know about one research with a positive result, or as soon as one astrologer sets one foot within the academic walls, or worse: as soon as they realize themselves that their *calculations* are done in a precise way! Even in magazines bearing the word "research" in their name, one gets the door of censorship against his nose if one tries to publish critical comments about this, even in the 21st century.

All the same I believe that such astrologers, having enough intuition and life experience, can do good therapeutic work, but... some critical research might add much value to their activities.

Unfortunately, many astrologers have an intense fear that a scientific "demystification" will destroy the "beauty" of their sacred craft. Many times I heard fanatics yelling remarks like "isn't there anything anymore that can remain miraculous, out of reach from the claws of science?"

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[1] The counting was done in the Encyclopedia Britannica (1974).

Well, to these people I want to ask: is the sunset less beautiful to you because you know that it is the Earth turning around its axis?

In "New Age" circles (to which astrologers often seem to count themselves), it is custom to think about scientists as cool-headed robots without emotion who just want to put a label on things in mechanical way, more or less the opposite of "intuitive" persons. For example:

> "Whereas the scientific method belongs indisputably to the known prejudices of the left hemisphere of the brain, the right hemisphere has been twiddling its thumbs, waiting for the role of imagination and intuition to be recognized." [Elwell 1999, p.18]

Well, you know, one of the basic rules of thumb that I recall from my academic education, because it was repeated so often by all professors, was: "If you ever invent some theory or a proof, then check in the first place whether it is *aesthetic* enough. If it isn't "beautiful" enough, something must be wrong with it." Real scientists are people try to discover the truth about this world, without prejudice, and who search for the harmony in it. And the more that is revealed, the more we can fall into admiration just because we know how wonderful it is all "constructed"; at least, that's my opinion.

2.2.   The world of scientists

In the well-reputed Flemish newspaper *De Standaard* of October 9, 1989, one could read an article about an investigation called "Isis2" in which the performance of some medication was examined among 17000 heart patients. It was also checked if there were any differences in relation to their age, sex, blood pressure, etc., and... "just for the fun" - as it was called - also in relation to their Sun sign. What emerged: to all the Sun signs, the medication had a positive effect: the risk for a second heart attack went down by 28%, except for Geminis and Libras. They had an *increased* risk of 9%. Conclusion of the reporter: "So, this again proves that one has to be very careful in statistics, especially with small numbers, where coincidences can deceive you easily.". The unbelievable thing though, is that patients will get a prescription, based upon the very same "tricky" results!

People who call themselves scientists are sometimes not at all receptive to concepts situated out of their frame of reference. I am the last to say that a certain skepticism would be unhealthy, but if you see how in 1975, a group of 192 famous learned people, among which Noble prize winners, signed a "manifesto against astrology" [Jerome 1977, p.227], without even having read the least about it, then in my humble opinion, this is not really a sign of intelligence.

A tragic case is that of Gauquelin: after a tremendous research effort, he had years and years of fighting with the organized skeptics, who never even seemed to intend to recognize his findings. Probably this was one of the things that led him eventually to his suicide in 1991. The rumour that the wife of Paul Kurtz (president of the American skeptics) ran away with an astrologer, might explain something about his disbelief. (For a similar reason there doesn't exist a Noble prize for mathematics either.)

I still didn't kill myself, but I have to say that, apart from a few very positive exceptions, my contacts with skeptical groups were also not very constructive. One thing is sure: they are well organized and have excellent contacts with the press; if they hear about one test of astrology with negative results, the next day they have printed in all the newspapers "Astrology falsified!"; if you present them a positive result, they say "yes, interesting,..."

and that's it, no newspapers, no nothing. That is not particularly a scientific attitude, rather a phenomenon that looks like the Spanish Inquisition [see also: Letter 2002].

Many scientists who do some effort to really study astrology, still arrive with the same non-essential arguments. Well known examples: the precession of the zodiac, the fact that the Earth is not in the center of the universe, and that the stars are too far from here [Nanninga 1988, p.158]. We will come back to this later.

2.3.   Their relationship...

It makes no sense to keep on playing a "yes-no" game between astrologers and scientists, as it is going on for centuries by now.
I don't know about other countries, but for according to the law in Belgium, someone who calls himself an "astrologer" is situated in the - not so academic - category in which we also find chamber maids, hairdressers, funeral undertakers,... (ISCO code 514; until 1991 they were under tattoo creators, dog barbers, photomodels,... = NIS code 944), see www.statbel.fgov.be. If the astrologers ever want to obtain a more respectable status, they will have to *gain* respect. This is only possible if they scrub their own stable, by means of a little logic and serious research. Openness from the side of the scientists as well as from the astrologers is required to achieve something together. Doing so, some holy temples might fall apart, but... also new discoveries will be made.

3. ASTRO-LOGICS

3.1.   Requirements for an astrological theory

What is to be done? Testing all astrological claims and little theories one by one, to separate the wheat from the chaff? That seems to be an enormous task! Jumping into empirical research at random, is not the most efficient. We can save ourselves a lot of work though, by examining beforehand which claims make a good chance, using not more than a bit of logic.

It is not my objective to insert a complete course of science philosophy here, for which I'm not qualified enough, but it might be useful to elucidate here some of the basic rules of thumb, esp. those that I remember from my education in physics to be prevailing in the judgement of the scientific value of theories [see also: de Jager 1991]:

a.   Statements have to be "*falsifiable*"; i.e. there has to be a way to check if they are false (and hence also if they are true). For example: statements about past lives can difficultly be called verifiable, however true they *might be*. Ancient astrology was better in that sense than the modern one, since it did more concrete predictions. "If Saturn squares your Mars, you'll have accidents." is much easier to test than "If Saturn squares your Mars, you are very ambitious and you might come into conflict with others who don't agree with your way or practice and see you as a menace to their position or career. Thereby it might come easily to outbursts of anger..." [Gersjes 1995].
Many old astrologers were also aware that their predictions didn't always come true [Herten, 2002, p.29-44], but in their formulation it was easier to count how often they came true and how often they didn't. The current formulation of astrology is more "psychological" and thus also more vague and more difficult to verify. One possible method of collecting psychological data about a person in a more or less objective way, is to count character describing terms in his/her biography, like Michel and Françoise Gauquelin have done. Of course, this can only be done with famous persons, about whom something is written down.

b.   Statements have to be "*consistent*"; i.e. they must never mutually contradict. This seems so obvious, but strangely enough, it doesn't bother most astrologers at all that their colleague's prediction will happen a year earlier or later because he or she uses some other system. "Everybody his truth and let's please not argue" is the motto. I hope it will not surprise anyone that this is a stumbling block of first category, in the eyes of the skeptics.

c.   When searching for theories, one shall be guided by "*considerations of symmetry*", beautiful structures and genuine analogies. For example: trying to find connections between "coincidences" (like the number of planets) and "constructions" (like the number of zodiac signs) is doomed to be wrong.

A simple example of a reasoning out of "beauty considerations" is the following: One doesn't have to know a single letter of the Hebrew script, or one doesn't need to have seen a Jew person writing, and yet, if you see a text hand written in that language, one can easily conclude that they write from right to left. Why? Because all the half lines stick to the right margin, and it would be *difficult* to write from

א היא האות הראשונה
באלף-בית העברי. אחת
מאותיות אהו"י אשר
מציינות תנועה. אות זו
מצוייה כאם-קריאה
אחרי כל התנועות.

left to right and aim exactly so that the last letter comes to the right margin.

The moral of the story: the solution to a problem which is the *simplest*, is usually the most probable one. (Also known as "Occam's razor". [Russel 1981, p.427])

An example of a "false" symmetry: Harald Wiesendanger "demonstrates" in his book *Der Streit ums Horoskop* (*The Struggle for the Horoscope*) to what extent man is connected with the cosmic rhythms: for example he notices that a human breaths on average 25920 times a day, *and* that the vernal point needs 25920 years to walk around the zodiac [Wiesendanger 1990, p.37].[1]
This is as absurd as comparing the number of months in a human's life with the number of apples that typically grows on a tree, and yet apparently there are people who don't see this.

Assuming for reasons of symmetry that the age of the so called "midlife crisis" could be somehow related to the transit of Uranus opposite its position at the time of this person's birth, *is* plausible, because as a matter of fact, there is a connection with the meaning that is assigned to this planet, and we're talking here about two time-spans that are indeed in the same order of magnitude. Of course, this doesn't take away the necessity to verify this statement empirically, for example by checking whether this crisis comes earlier indeed with people whose Uranus transits comes earlier. Only if such a correlation can be detected, we can accept that we are not dealing with an ordinary coincidence.

We can find another valid and more known symmetry consideration in the statement "The sign in which Pluto resides, is less important in the interpretation of a person's horoscope, because it is the same for the entire generation.". Indeed, if everybody from a certain age group has the same property, it can hardly be a personal trait.

d. To compose a theory, one should look for patterns, regularities, symmetries, etc. To see how strong it is, one should look for all boundary cases, (apparent) exceptions, etc. A chain is as weak as its weakest link.

We will now examine a number of astrological problems and techniques that are in use, having these clues (falsifiability, consistency, symmetry, boundary cases) in mind.

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[1] By the way, it is ca. 25791 years.

3.2. Reflections independent of specific techniques

3.2.1 Horoscopes of who and what?

Astrologers do not only cast horoscopes for persons, but also for companies, countries, cities, animals, contracts, questions, stock market shares, you name it! Indeed, as soon as one has a time and a place of something at one's disposal, one can how the planetary situation was then and there, and draw a nice wheel of it, a kind of stylized cross section of the sky.

The big question that we have to pose here first of all, is: are all these horoscopes equally probable? Or in other words: if one finds a proof for the validity of personal horoscopes, would this automatically mean that horoscopes of countries etc. are also proven? Most astrologers take this for granted. In my opinion, the answer is *not* evidently yes!

If one assumes that a horoscope is a symbolic representation of the so called "quality of
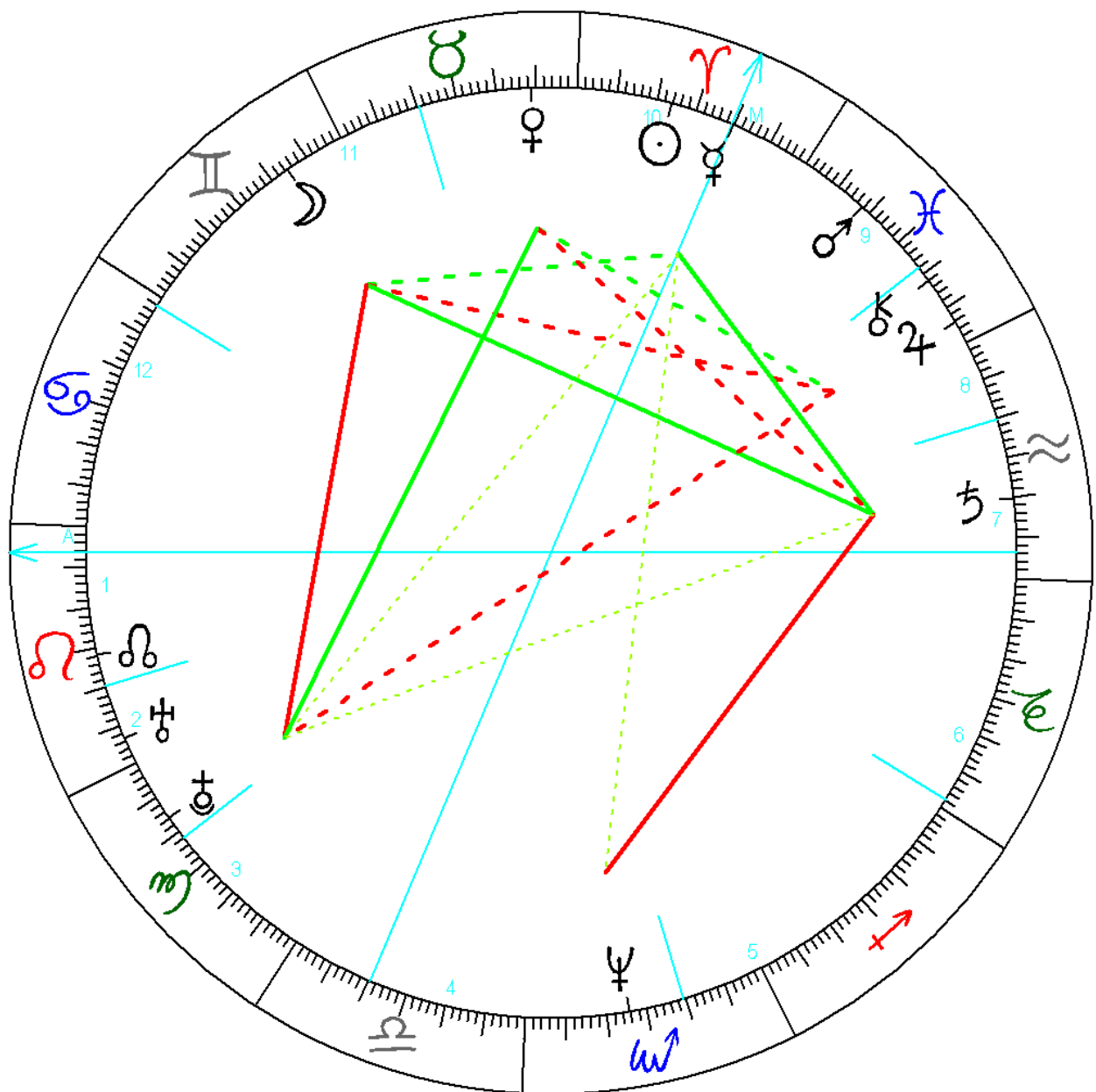
Figure 2: Stylized cross section of the sky on April 8, 1962, 12h15, as seen from Antwerpen (Belgium), also called a horoscope.

time", then indeed it doesn't matter whether it was cast for a cat or a stock market. Only,... this assumption is not just a little, but radically in contradiction with all existing fundamental theories in science (including the one about planetary movements, based upon the theory of gravity, which can only be deduced assuming that time is *homogeneous* in quality).

So we are bound to conclude that the possible working of horoscopes has to be based upon some form of communication between the heavenly bodies and that for which one casts a horoscope. The planets "transmit" something, in first instance it doesn't matter what or how, and we on earth receive something from this, which can influence us. This is thinkable, and it doesn't even have to be in conflict with orthodox scientific theories. In order to be able to receive, there has to be a *receiver*, a chemical substance, an organ, a subtle etheric organ if you want, but some kind of "antenna" has to be connected to the object under study. For material things or creatures, we can easily imagine such an antenna. It is possible in principle that a living being, at the moment it starts to function autonomously, catches something from the planets and thus influences it to evolve in a specific direction. It's also possible, if the antenna stays tuned during its life time, that a continuous steering from the planets remains active.

So, what is there to say about the horoscope of a country, for example? By this is usually meant the moment and place of its independence, or the signing of the constitution, or the coronation of the first king, or... As you see, this kind of horoscopes is not without ambiguities. And who or what is the receiver here? Is it the group of people who made the independence possible? Is it the signer of the constitution? Is it the first king? When these people die, will the horoscope still work? In the same way we can reason for a company or a society. What if a country annexes a small part of another country, or looses a province? Should one make a completely new horoscope in such case, or not? By asking this kind of tricky questions, it's easy to see - I hope - that something must be wrong about horoscopes of countries.

However, it is conceivable that the individuals of a certain people, an ethnic group, etc. have something in common, genetically or culturally, that makes them more sensitive to certain specific planetary rhythms. In one group of people, the antennas might be more tuned to Saturn, in another one to Jupiter, or aspects between these planets (i.e. their sociological or economical parameters might be correlated to the respective cycles). As such, one might attempt to make different predictions for different groups, as is done for example, by the German historian Gerard Lukert, with amazing success. Something like a "natal horoscope" for a people is, of course, difficult to imagine.

Likewise, one can never make the horoscope of *gold* or *silver*, but it is conceivable that certain emotions, that stimulate people to buy or sell gold, are influenced by certain planets. By carefully examining all the cycles of planets and their combinations, and comparing them with the price of gold, one might possibly detect these influences [see for example: Merriman 1994].

Further, it also seems acceptable that the planetary cycles have an influence that has something in common for the entire human species, some wave that we all pick up. The study of these influences is called "mundane" astrology (from the Latin "mundus" = "world").

If one wants to understand the fundamentals of planetary influences, the most obvious phenomenon to study, is the correlation of chemical reactions with planetary cycles. It is

in fact amazing how little attention has been given to this, especially since remarkable phenomena have already been observed. An example is the progress of reactions with silver and lead salts versus the conjunction of Mars and Saturn [Kollerstrom 1984]. Besides, this might have its importance for certain industries!

About horoscopes of questions ("horary astrology") we will come back later.

3.2.2 The birth

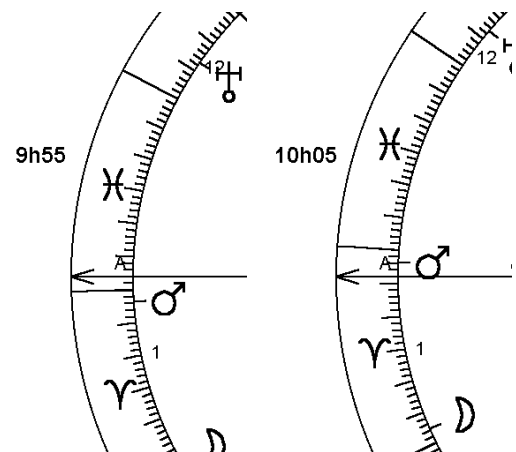To calculate a horoscope, one needs a place and a time.
That place is usually known sufficiently accurate. If we make a small calculation, we see that we can calculate the ascendant (the point of the zodiac that is rising at the horizon) up to a minute of arc precise if we know the place with a precision of at least 1.85km (at the equator; at a latitude of 50° this becomes 1.2km). So, take into account an uncertainty about the ascendant position of about 10' if the place is a city like Paris or London!

he moment of time usually causes more trouble. First of all, most people know their time of birth accurately to within an hour or half an hour. Secondly, even if we sit with a chronometer watching the birth, it is not completely clear which moment is to be called "the" moment of birth. Is it the first breath that counts? Is it the moment we see the head? Or the moment the navel string is cut? Between these moments, at least several minutes have passed, and in average, the ascendant moves one degree in 4 minutes of time.

This means that we have to reckon that the ascendant and the other house cusps are never known to within a minute of arc; that would require a birth time precision of 4 seconds!

Figure 3: Possible ascendant positions of someone born "around" 10h00. Notice that not only the ascendant sign changes, but also the house position of Mars and the rulers.

Usually they are calculated with this precision, but we have to realize ourselves that the last digits have no value whatsoever! All astrological systems that require such a precision (and otherwise produce wrong results), have to be regarded with a certain suspicion, because practically, they are not falsifiable. After all, using such systems one can always blame the inaccuracy of the birth time for failed predictions, and as long we don't have a long list of data at our disposal with the 3 different moments recorded precisely, nobody can judge which one should be preferred.

Also, there is not much reason to assume that it would be important to know someone's birth time within a second. After all, even in a minute, not much changes in the sky, except when a body is rising or setting. For people who would want to experiment with this, we have to remark here that such moments usually don't coincide exactly with the times of the conjunction (among astrologers usually the conjunction of the orthogonal projection on the ecliptic) with the ascendant or descendant, since usually planets are slightly above or below the zodiac.

Then of course, there is the big question whether it matters if the birth is natural or not. There are two possible hypotheses:

(1) A baby can "feel" when the cosmic rhythms, vibrations or whatever, are in harmony with his temperament (genetical predisposition + ...?), and becomes aware of the right time to be born. This is called the "*planetary midwife*" theory [Gauquelin 1991, p.169]. If this is true, the horoscopes of unnatural births (Caesarian sections, induced ones etc.) might not be correct. Michel Gauquelin suspected this theory to be true because his effect of "planetary heredity" seemed to disappear with such births.

(2) If, on the contrary, like astrophysicist Theodor Landscheidt thinks, the baby starts to "synchronize" with the cosmic rhythms (the so-called "planetary blueprint" theory), it doesn't really matter how the birth passed.

Medical science, e.g. Peter Nathanielsz of Cornell university (NY, USA) [Nathanielsz 1994] starts to suppose that a foetus "decides" when the moment is good to come out, because he starts to secrete the necessary hormones. That observation pleads for the first theory. If it is correct, we may also suspect that all birth times are only *approximately* "correct", because it would be highly improbable that a foetus has complete control about the very second of his appearance on stage. This is an additional objection against the use of techniques that require a very precise birth time.

Suitbert Ertel (university of Göttingen, Germany) supposes, after studying the Gauquelin data, that there is no difference between natural and induced births, but it is too soon to come to a final conclusion [Ertel, personal communication 9 nov.1997].

In case you would wonder... In neither of the hypotheses we can find a conflict with the theory of genetical heredity; in the blueprint theory, it gives additional information, and in the midwife theory it is even crucial, as Peter Niehenke (DAV-Forschungszentrum, Freiburg, Germany) states it:

> Ich möchte an dieser Stelle besonders hervorheben, dass durch die Stellung der Gestirne nicht etwa die Eigenheiten eines Menschen bestimmt (verursacht, geprägt) werden. Die Eigenschaften eines Menschen werden durch die Vererbung und biologische Einflüsse während der Schwangerschaft festgelegt. Aufgrund dieser (durch die Vererbung und sonstige Einflüsse festgelegten) Veranlagung reagiert er auf kosmische Reize individuell, seiner Art gemass. An dieser Reaktion kann man *ablesen*, wer er ist. [Niehenke, 1994, p.28]

Translated in short: a person's uniqueness is not *caused* by the stars, but rather by his genes and biological influences during the pregnancy, and because of these, he will react to certain specific configurations according to his nature. From this reaction, one can *read off* who he is.

3.2.3 Twins and accidents

An often heard remark from skeptics is, that people born at the same time and place should logically have the same character and live the same kind of life. The bare fact that this is not true, shows that we can reject in advance any form of fatalistic astrology. Conclusion: *If astrology works, it cannot represent more than a weak influence which, together with the genes, the parental and social environment etc., makes somebody to what he/she is.* Just like someone born with red hair might have more chance to be teased in school, someone with a certain planetary configuration (and corresponding character trait) might have more chance to provoke certain situations. Because of this

kind of astrological influence, as much or as little conflicts with the idea of free will can arise, as because of our genetic predisposition.

At first sight, it looks interesting to investigate the resemblances in the characters and lives of biological twins, and to compare them with their horoscopes. At second sight, it isn't, because anyway they have a lot in common from their genetics and education, and on the other hand they also have abnormal differences, in spite of their almost identical horoscopes. According to dr. Suzel Fuzeau-Braesch (member of the French Academy) minor character differences are easily "blown up" by each of the twins, because they want to build up their own recognizable identity. Starting from the small differences between the horoscopes of 251 twin pairs, Suzel tried to deduct the main differences in character. Their parents were asked if they agreed with her judgment. This appeared to be so in a significant number of cases [Fuzeau-Braesch 1992]. Meanwhile, the British researcher Mike O'Neill conducted a replication of this test, but unfortunately without a positive result.

So, maybe it's more useful to compare non-related people who are born at the same moment. Astrologers tend to call such couples "cosmic twins". Once I looked up someone born on the same day as me, only one hour later, and I have to say I was quite surprised about his similarities in behavior and thinking. But, of course, this is not more than a subjective experience and no scientific proof.

More systematic research on this subject has been done, with positive results, by prof. Peter Roberts in England. He found a number of people born on the same day as six celebrities, and made them fill out a personality test (Hans Eysenck's). The nearer they were born to the birth time of the celebrity, the more similarities could be found, especially in the sphere of hobbies, profession and taste [Robert 1994].

Strangely enough this result was absolutely not confirmed by the Australian researcher Geoffrey Dean. He made use of data that were collected for a large scale sociological research conducted in England. From 17000 people, all born in one and the same week of 1958, all kinds of information was collected: their medical, mental, material and other facts, including their times of birth! If there is an objective truth about astrology, so Dean said, temporal fluctuations in the course of the measured properties should be visible. For example, on some days and hours, corresponding to certain planetary configurations, one should see more or less extrovert people. Unfortunately, nothing like that was found. Let us, in an ultimate attempt, accept the minimal assumption of C.G. Jung, that each moment in time has its "quality", said Dean. If that is true, people with specific similarities should be inclined to be born around the same time, in clusters. If we count the number of resemblances of each person with all of the others, we should systematically find more of them, the closer in time the persons were born. At least, we would expect to find *some* characteristic showing this pattern, whether it be the body size, the IQ, the number of children, the studies or profession, or whatever. Many of these things are "obtained from the horoscope" by astrologers, aren't they? Again unfortunately, no indication at all for this was found by Dean [Dean 2001].
This again demonstrates that we must not overestimate the possible expressiveness of a horoscope. If it says something at all about a person, it has to be *something subtle, almost unmeasurable.*

Another problem that skeptics like to quote, is the *group disaster* problem. People that die at the same time in a plane crash etc., cannot all have the same astrological factors in their horoscopes, indicating the event. Again an observation that leads us unavoidably to the conclusion that the horoscope cannot determinate our life completely.

The phrase by Thomas Aquinas (and other older authors) on this subject is well known: "The stars incline, but don't compel."! [Herten 2002, p.99] Freely translated in modern terminology: "Astrological claims can only have a statistical validity.".
By the way: it would be an interesting test to compare the horoscopes of survivors with those of the victims.

A related problem: parents die, while the children have a very different horoscope. This pleads for the proposition that the things seen in a horoscope indicate the kind of *subjective experience* rather than the kind of *objective fact*. After all, each of the children can feel and cope with the event in a very different way. So, I can agree with Stephen Arroyo:

> "... This is the reason why so many astrological predictions fail to come true, since they are based on the assumption that the horoscope shows what will *happen*. The truth is though, that a horoscope shows what someone will *experience and how he will go trough* it." [Arroyo 1980, p.102]

It is important to see here that the conclusions above can be reached a priori, without ever having casted a single horoscope!

3.2.4   Living according to the horoscope?

A question often heard is: "Doesn't this horoscope start fitting eventually, because you adapt your life, your behavior accordingly?".
Indeed, when Hans Eysenck tested people for their introversion or extroversion, it appeared that those who had some knowledge about their sun-sign scored more "correctly" in the astrological sense, i.e. positive signs (Aries, Gemini, Leo, etc.) are more extrovert. This suggests that people are indeed influenced and adapt their behaviour to what they expect from their sun-sign. This is called a "self-attribution effect" [Martens & Trachet, 1995, p.79; Eysenck 1981; van Rooij 1991b].

I play the devil's advocate here (in the eyes of the skeptics) by suggesting another explanation: maybe those people that recognize something from their sun-sign descriptions will want to read more about it; the others think it is nonsense and thus don't want to know a lot about it. I admit it's a speculative thought, but maybe worth considering.

Maybe it is the "purpose" of a horoscope, I mean: maybe it makes someone's life easier if he/she lives according to his/her horoscope, because eventually it is his most natural way of behaving? To "live" one's own horoscope, or "integrate" it, might be something like becoming more yourself? Personally I think that you always have to keep in mind that a horoscope is just a model, and thus it can only give you a limited perspective, but anyway even this perspective might be broader than the one you would have without horoscope. If an astrological study stimulates someone to ask himself intensely "How is it in fact, am I really how the stars say I am?", then this can only be positive, I think. Then of course, there are also those "esoteric" astrologer who say that actually you should "grow out" of your horoscope...

Enough moralizing, however it be, research about the influences of sun-signs using this kind of tests are made quite impossible because of self-attribution affects. All we have left to experiment with, are young, "unspoiled" children!

3.3. Discussion of various techniques

3.3.1 The reference system

3.3.1.1. Co-ordinates

All planets are orbiting more or less in the same plane around the Sun: the *ecliptic*. So, we see all the planets moving on one big circular band, called the *zodiac*. That's why it is common to describe planetary positions using ecliptical longitudes and latitudes. The *longitude* is the horizontal position relative to a certain reference point. Astronomers and western astrologers use the vernal point as starting point; this is the place where the sun stands when the northern spring begins (day and night of equal length). Astronomers just express the longitude in 0 to 360 degrees; astrologers divide the zodiac in 12 equal parts, called "signs", and express co-ordinates relative to the beginning of each sign, e.g. 40° becomes "10° Taurus". The *latitude* can be anything between -90 and 90°, but for planets it is always in the order of a few degrees (only Pluto can go up to 17°), which explains why astrologers usually disregard the latitude and draw the planets in a flat wheel.

We can also express positions in *declination* and *right ascension*. Those are the horizontal and vertical angular distances relative to the projection of the equator in the sky, also starting from the vernal point.

Strangely, these two systems are often mixed by astrologers, and they speak about declinations instead of latitudes.

3.3.1.2. The sidereal versus the tropical zodiac

The earth is a top, and as such it makes three movements: (1) a spin movement around its own axis (which causes day and night); (2) a nutation, i.e. the axis goes a bit up and down (we don't see a lot from that, besides some slow climate changes) and (3) a precession. The latter signifies that the direction of the earth axis describes a circle in about 25791 years; the star which is now above your head when you stand on the north pole, is now the polar star, but that changes in the course of the centuries. A spicy consequence of this is that the series of zodiac constellations, baptized by our ancestors with so much fantasy (the sidereal zodiac, i.e. zodiac of the stars), meanwhile have shifted almost a full sign relative to the series of signs with the vernal point as reference (the so-called tropical zodiac). That vernal point was situated in the constellation of Pisces in those days, and now almost in Aquarius. That's why astrologers speak about the approaching "Age of Aquarius". Nota bene: however much as they would like to see it arriving, we will still have to wait at least 3 centuries before we've reached that point astronomically, since the vernal point still has about 5° to go! The exact distance/date depends on the boundaries one draws between the constellations [see for example: Elst 1987].

The precession should not cause any trouble, if it weren't that a lot of astrologers, especially those from India, keep referring their planet positions to the *constellations, and* give the same meanings to the constellations as western astrologers give to the *signs*. In their eyes I would be a Piscean with Cancer ascendant; I can't bear to think about that![1] (only kidding)

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[1] Some astrologers, e.g. Nick Kollerstrom, say that "Sidereal could be valid for some deeper, mythic level of meaning and Tropical for everyday self-image", but as far as I know, astrologers in India are much more down to earth (mainly concerned about the practical exactness of their predictions) than those in the West.

To someone with a little horse sense it is clear that (at least) one of them has to be wrong. There is a grave decision to be made here. Before we start experimenting, we can make some interesting considerations though.

If it were really the stars that influence us, it would be more logical to use the corresponding (sidereal) zodiac. Considering their distance, this is actually even more unlikely than a planetary influence. It is true that we receive more light from many stars than from the hindmost planets, but if the light were of any importance, the sun-sign interpretations for nightly births would logically be radically different from those for day-time births. (Not: the old astrologers did indeed make a difference between day and night births, but that is quite unrelated to this discussion [see for example: Hand 1995].) Also, there is no reason at all that we can see why the randomly spread stars that happen to be near the ecliptic would be able to give it the orderly structure that has been assigned to it.

It is also weird that the siderealists still divide their zodiac in 12 *equal* parts, while the constellations actually have unequal and difficultly definable sizes (and moreover, since 1928 astronomers have agreed to divide the ecliptic into 13 constellations). That means that in fact, the stars themselves are of no importance at all, and so they contradict themselves.

As long as the earth's axis remains inclined relative to the earth's orbital plane (hopefully for many more years), the tropical zodiac is without doubt our most natural reference system: 0° Aries is always there where the sun is when the spring begins, at 0° Cancer the summer starts, etc., while the sidereal zodiac doesn't have a natural, precise starting point.

Evidently, empirical research will have the last word to choose between the zodiacs. First of all, we'll have to find measurable properties that are related to ecliptical planet positions, which - until now - never was a very successful activity. A very interesting explorative study has been done though, by Alan Smithers in England. He looked at the sun signs of millions of people, to see which professions were more or less abundant. His results were quite significant, but the difference between the signs was nevertheless weak [Smithers 1984]. Next, we have to check whether these properties change around 24-25° of a tropical sign. And that by itself isn't even enough, since it can be a static difference. We have to check whether that border moves during the time, like the vernal point does, or not. In order to do this, we need data from a large time interval, say at least 1000 years. As additional complications, we have to mention that the siderealists don't agree among themselves about the difference in degrees between the two zodiacs (the so-called "ayanamsa"), and also that nobody knows whether the change in "sky quality" at the borders of the signs is abrupt or gradual.

A praiseworthy attempt to select between the zodiacs, was done by Maurice Nouvel [Nouvel 1991c]. For a number of famous people he calculated the so-called "dominant planet". This is the most important planet in a person's horoscope according to a list of criteria (see further). He did the same using both the sidereal and the tropical zodiac, and checked in which case the outcome fitted best with their profession. He did use doubtful concepts though, like the rulers of signs (see further), and moreover, his idea about what should be the typical planet for a given profession, seems a bit weird. So he expects this to be Uranus for astrologers (for some reason they usually see this as a compliment), Mars for boxers (plausible), but Saturn for politicians and Pluto for scientists (question mark). Anyhow, one should not use this criterion, since one can adapt the rules to calculate this planet such that one can actually prove *anything*. The only thing that could be of any importance is the possible difference in discriminating value between the two kinds of dominant planets. By this I mean: by using the sidereal dominant planet, does

one get a stronger division between the professional groups than by using the tropical one? And that is not found in his study[1].

Sidereal or tropical...? In my opinion the arguments incline towards "tropical", but the last word hasn't been said about this subject.

3.3.1.3.   Geocentric versus heliocentric

The earth is not in the center of the solar system, even astrologers already know that. We do stand on the earth as observers though, and that justifies the use of a geocentric point of view. It is indeed not more than a point of view; an astrology with the sun in the center has as much chance to succeed as one with the earth in the center. It is true though, that certain problems are easier to study using a geocentric perspective, like the effects of the lunar phases for example (after all, seen from the sun, the earth and the moon are always conjunct), while others are easier to study from a heliocentric perspective, like the gravity center shifts caused by the heavy planets and the corresponding phenomena on earth [Landscheidt 1989]. Analogously, an astrology for Martians can be expected to be better with Mars in the center, while the position of its moons Phobos and Deimos might be more relevant over there. So, "adepts" of one system should not fight with those of the other one; they are complementary.

Something to condemn though, is that one gives different meaning a priori to a heliocentric and a geocentric horoscope, based upon nothing more than metaphorical resemblances. An example of this can be found in the mind of the English member of the clergy and astrologer Pamela Crane:
> "Everything geocentric is to some extent illusory. Heliocentric ain't! Heliocentric is the true perspective from your God-self, from your spiritual centre." [Phillipson 2000, p.74]

So, *because* the sun is in the center, the horoscope should automatically be more "real" and "spiritual"... Yes, in the Dark Ages the alchemists didn't know better than to think in this way.

Always remember: it is not so that someone has a geocentric and a heliocentric horoscope, like two independent and unrelated things. They are just two ways of representing the same planetary configurations!

By the way, there is also a variation on the geocentric, namely the "topocentric" chart, i.e. centered on where the baby is born, on a place – not the center of the Earth (geocentric). According to Nick Kollerstrom, "the conclusive proof that astrologers are not interested in rational logic is the way they continue to use geocentric rather than topocentric co-ordinates!".

3.3.2   Why twelve?

3.3.2.1.   The world in compartments

As human beings, we are inclined to name and to classify everything we observe. Some objects we label as a chair, others as a table, and so on. In the course of time, "all-

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[1] As a matter of fact, he did try something in that sense, but with the wrong significance calculations (no control group etc.).

embracing" systems have been invented to allow us to give some kind of structure to the universe. The Chinese have their division in the two categories of "yin" and "yang", the Indians have their three gunas ("tamas, rajas, sattwa"). There are systems with four or five "elements"; according to the tarot all events can be classified in 22 different categories, etc.

There is no reason a priori to give preference to a specific one of these systems. According to the system you want to use, you wear another pair of glasses to look at the world. A comparison: for a moment, limit your world to a table with some fruits. If you are only allowed to use two categories, you might want to classify them in "elongated" and "more or less round"; if you can have three, then the categories "reddish/greenish/yellowish" might do it. Notice that *both divisions are okay and are not related whatsoever*. Usually, we divide our "taste universe" in four compartments: "salt, sour, sweet, bitter". Actually most kinds of food have a mix of these tastes, but *if we have to make a division in four*, these four seem to be the best according to our feeling.

Astrologers have chosen to divide the zodiac in 12 signs and the sky in 12 houses[1]. It could have been done differently, in 17, or 31, or whatever. Only... in that case the categories could have been of a very different nature.

Johannes Kepler clearly had problems with this[2]:
> "Astrologers have adopted the division into twelve houses to be able to supply clear answers to everything man wants to know. But I believe this procedure to be impossible, superstitious, suitable for fortune-tellers." [Gauquelin 1991, p.92]

If you remember your school time, more specifically the days that you first handled a pair of compasses, you will understand that the number 12 is absolutely natural if you want to divide a circle. Just try to divide it in seven or thirteen equal parts and you will see what I mean! So, as far as I can imagine, there is nothing more to search behind the use of "12", besides this geometric peculiarity. The number 12 also has the cute properties that you can divide it nicely by 2 (the "positive" and "negative" signs), by 3 (the "cardinal", "fixed", and "mutable" signs) and by 4 (the elements "fire", "earth", "air" and "water").

3.3.2.2. Giving a meaning

So, after all, the question "Why twelve?" is not that important; we could have invented something with other numbers too. The important question is: Using the division in twelve, why is the given meaning "naturally" as it is?

If we sift through the textbooks, we find beautiful examples of so-called "magical" reasoning, in which all resemblances can be magnified freely. For example, some make the connection to what happens in nature during the twelve parts of the year, when the sun moves through these parts of the zodiac. You know, Aries is like the freshness of the spring, Capricorn is like the chilly winter, etc. Maybe this is how it was historically, but *is* it therefore so? If the meaning of the sun in a sign really is "caused" by this connection, well... then we'll have to invent a complete new series of "Who am I?" books for Africans or Australians! Isn't it amazing that no one ever thought of this - commercially interesting - idea? This reasoning can only be used to explain the sun-signs though, for the other celestial bodies do not follow this yearly cycle.

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[1] Historically, most probably because the ancient Babylonians noticed that there are approximately 12 Moon months in a year.

[2] ...although he did use the 12-fold zodiac in his *De Stella Nova*.

Mixed with this seasonal explanation, the zodiac *constellations* (in the mean time different from the zodiac *signs*, see before) also got an interpretation based upon their very *name*. Because the old Greeks, or Mesopotamians, or whoever, recognized a scorpion in a certain bunch of stars, the Scorpio *is* a venomous person, and that's the way it is! What if I would recognize a sweet little rabbit in this constellation?

The stiffest explanation I know, can be found with Dennis Elwell who talks about
> "... the tendency for the planetary positions at key moments in history to leave their impression in the zodiac, thus giving a certain lasting colouring to specific degrees." [Elwell 1999, p.20]

Yes, it is not the sky that influences us, but it is us, little worms, who have the tremendous power to corrode the very structure of the zodiac!

The Belgian orientalist Koenraad Elst asked himself if it would be possible to find the meaning of the signs intrinsically in the geometrical construction of the division in twelve, using metaphors of course. He describes a very interesting attempt to do so: he starts with marking some random point p_1 on the circle, the opposite point p_2 and the two in between:
> "p_1 is free to be at any position; but all other points refer to this first one. The whole twelve-angle turns with the positioning of this point. It is the pioneer, the free one, the leader. The [opposite] point p_2 is the first constructed one, pre-eminently derived from another one. Out of the seven steps, three of them are necessary to construct this one point, like a pole that has to be pulled with a co-ordinated tug-of-war and then kept in balance. This point is the leader of the followers, showing the others how to follow. It divides the circumference in two equal parts: symbol of equality, the fitting together, the forming of pairs, the dividing justice, the equanimity." [Elst 1987, part 2, p.78-90]

With a little imagination, you will recognize Aries and Libra, of course. In the same way he continues until the entire zodiac shows up. Some of the steps may be a bit far-fetched, but I never saw a better story. We have to remark immediately that however beautiful such an explanation might be, it evidently absolutely doesn't possess any evidential value for the "truth" of it.

Next, he shows which structures can be found in the zodiac: pairs of opposite signs, of succeeding (positive and negative) signs, and the meanings of the signs derived from the combination of elements and crosses[1]. Unfortunately, psychologist Jan van Rooij apparently didn't read Koenraad Elst's work before he wrote his book in which he judges astrology as a personality theory. He read less enlightened authors who led him to the conclusion that astrology is very inconsistent. This is understandable if you know that he found in W. Reinicke's books almost the same description for Aries as for Scorpio, and also Aries and Aquarius seem to overlap considerably [Van Rooij, 1991a, p.50]. Reinicke's "Handbook for the beginning astrologer" was indeed one of my first books and the only one that I carried to the local second hand shop because I found it so bad.

We still don't have an answer to the question about the how and why of the sign interpretations. Some authors do provide a clear and to-the-point formulation for the meanings of the signs though, one that is suitable for concrete testing. Examples that I can recommend are people like Stephen Arroyo [Arroyo, 1980] and Hajo Banzhaf [Banzhaf 1994].

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[1] Aries=cardinal-fire, Taurus=fixed-earth, Gemini=mutable-air, etc. The elements correspond here to the temperaments of Galenus: fire=choleric, earth=melancholic, air=sanguinic, water=phlegmatic.

3.3.2.3. Other divisions of the zodiac and the sky

Out of the East, further divisions of the zodiac signs popped in. We now know of concepts like "decanates" and "dwads", and of course one has the right to experiment with them, but to me they look suspiciously like some kind of fractal structure (the same division of a division and so on), and it is totally unclear to me why there should be another complete zodiac within each zodiac sign; there is absolutely no reason.

Also fashionable these days, are the so-called "Sabian degrees". Each degree of the zodiac gets its own meaning in this system, and weirdly enough, it even doesn't seem to play a role which planet is placed on a given degree.

A certain Azgarde divides the zodiac in 48 parts, and then applies this only for the position of the sun [Azgarde 1990].

Actually, it doesn't really matter in how many pieces one cuts the zodiac. Only, it becomes more difficult with many pieces, to give a distinctive meaning that makes sense, to each one of them.

Gauquelin divided the sky in 18 and 36 zones ("sectors"). However, this is a completely different kind of division. His hypothesis actually wasn't about planets getting different qualities in different sectors, but getting different "intensities", different extents of importance in someone's life. A division in 40 would have been equally possible, without having to change one bit to the system (see also further, when we deal with the houses). He just made the number of zones big enough to make a finer distinction visible, and not too big in order to keep enough individuals with planets in each zone.

3.3.2.4. The transitions

A matter in which we also have no clarity at all, is whether the transition from one sign to the next happens in a sudden, discrete manner, or rather in a continuous, smooth manner. Is an Aries born on April 19 still a full-blooded Aries, or is he already "a little bit Taurus"? A comparison with other systems (4 tastes, yin-yang, etc.) might suggest that the second possibility is more probable, but we can't make a decisive a priori conclusion here.
Using empirical tests, we'll have to search for character traits or other phenomena related to signs, and study whether they change gradually or not. Maybe it's easier to find correlations with aspects, and to verify whether their strength depends on the planets being in the correct signs or not (see further). Anyhow these matters are connected: if it turns out that a trine between the end of Aries and the beginning of Virgo doesn't count, it would plead for a strong border of the signs. Notice that the opposite doesn't need to be true, since it might still be that the working of the aspects is completely independent of the signs.

3.3.3 The pawns on the board

3.3.3.1. Considerations beforehand

Many objects orbit the sun. A very limited number of them (the large, spherical ones) have been *selected* by astrologers to give them a place in a horoscope: the sun, the

moon, the planets, and sometimes a few planetoids[1]. (All these celestial bodies are usually referred to shortly as "planets" in astrology).

From this we can immediately conclude that, *if* each planet stands for a certain facet of our human being, *the horoscope cannot possibly give a complete image* of a person; at least al the information is missing of many planetoids, moons (for example, Jupiter has one bigger than Pluto), comets, and other objects we *don't* use. It is also not to be expected that we would get a complete picture if we used them, since there is no indication for that, and there's always the possibility that some pieces fly away or vaporize or get freshly caught in the solar system.

It's true that the series of distances from the planets to the sun shows, in rough approximation, a certain structure (the so-called rule of thumb (*not* "law") of Titius and Bode), but Neptune, Pluto and Chiron already don't fit in that anymore. Some planetoids even have an orbit so eccentric that it cuts the earth's. Moreover, the planetary orbits are not at all invariable. For example, our moon was probably only half as far from us 400 million years ago [Judson 1982, p.103]. If we wait another few billions of years, they might stagger in a more tight structure, because of mutual friction forces, but it is possible as well that gets derailed within a short time (a few thousand years). That is impossible to predict.

Concerning size, composition, and other properties, there is a lot of variation among the planets. The smaller planets are usually composed of heavier materials, but for the rest, there isn't really any structure [Herrmann 1975, p.55].

What can we deduce from the above? Making a comparison with an analogous system can often bring more clarity. Since each on of the planets is supposed to "touch" another facet of us, we might compare them with a series of *strings* differing in size, thickness and material, and thus vibrating with different frequencies and intensities. We feel their sounds all over our body, but the low tones of the thick strings will resonate more in our belly, while the sharp tones of the thin ones go directly to the bone. Some strings we might feel on almost the same places because they vibrate on almost the same frequency. The placement of the planets in the *signs* might be represented by the sound colors: in one sign the string is stroked, in the other one it's strummed, etc.

If we carry the comparison further, we know that some strings might play approximately in a relative harmony, but it's more probable that most of them will play "out of tune" if there is no "conductor". So, without a good reason, our planets cannot be expected to behave like a symphony orchestra, as some people like Michael Helius or the Belgian engineer Kris Thijs claim [Thijs 1989].

We can conclude from this that the *meanings of the planets* (the facets with which they correspond) *can overlap* a priori.

Of course, no comparison is perfect, but however you look at it, there is no reason whatsoever why the meanings of planets could not overlap.

3.3.3.2.   How can we come to a meaning for the planets?

For the ancients it was all quite simple: "So above, so below" is the famous magic spell to explain it[2]. The name of the inventor, Hermes Trismegistos, sounds as sonorous as authoritative. Mars looks red like blood, so Mars must be related with war. The planet

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[1] In English they are often wrongly called "asteroids".

[2] Actually, this is a modern fashionable paraphrase from the "Emerald Tablet" found in Syria 4th century AD.

moving swiftly back and forth, has to be the messenger Mercury. The sun gives light, the moon receives it; so, the sun is "active, male, conscious", the moon "passive, female, unconscious". Venus describes a beautiful flower-shaped apparent orbit, thus it has to be a lovely planet[1], etc.

Two millennia later not much has changed. With the recently discovered objects (Uranus, Neptune, Pluto, Chiron,...) the astrologers even add a little extra to this "logic": one gives an interpretation to the planet according (1) to the mythology of the name that the discoverer happened to give it, (2) the circumstances in the world in the time around the discovery (e.g. Uranus was discovered in the time that scientists were lustily experimenting with electricity, so...), (3) analogies with astronomical circumstances (e.g. Chiron forms a kind of link between Saturn and Uranus because its orbit runs between these two; in the so-called "School for Evolutive Astrology", Pluto stands for "psychological mistakes" because it crosses the orbit of Neptune, and so on), and (4) in the last resort, maybe some empiric results might add a little something to the picture, but really not more than a few minor corrections. These days astrologers dare to go even further by promptly giving a newly discovered mini planet the name of "Nessus", only because, seeing that it flies between Saturn and Pluto, they *expect* it to have the same meaning as the mythological figure of Nessos! So, now they don't even allow the "Divine Coincidence" to do its job anymore [von Heeren 1997].

Let it be clear that such reasoning absolutely don't give a serious foundation to assign a meaning to a planet. If one takes "So above, so below" seriously, the one should, for example, adapt the meaning of Venus to more recent insights; after all: the atmosphere and the temperature on this planet rather remind us of hell than of the seventh heaven!

Likewise, one can make sobering up remarks to the mythological giving of meaning. The adepts claim that this explanation "works" because it is so that the mythological stories of the ancient Greeks are deeply anchored in the collective unconscious of humanity. Well, this seems like a serious sample of navel-gazing to me; to believe that the stories of one country, maybe vaguely known to 1% of world's population, could dominate the collective unconscious (if such a thing even exists) of the entire planet! Either you accept that western astrology doesn't work for Indians, Papuans and Chinese, or you have to accept that their mythological planet meanings also apply to us Westerners, which of course, will pleasure us with many more contradictions.

So, I expect that experiments might provide us with very unexpected, un-mythological properties of planets. And already, some of them have been found, as the research of Sara Klein witnesses: she found that very significantly often accidents with inability to work happened around the time of transits of the sun conjunct, square or opposite to the natal sun (i.e. around the birthday, or 3 or 6 months away from it) [Klein, 1992]. This is something which would never be predicted by classical astrology at all!

The "nucleus" of a planet's meaning can only be derived *indirectly*. One can never say something like "Mars corresponds to aggression"; that doesn't say anything, for the simple reason that everybody has Mars somewhere in his horoscope. It only makes sense to say something like "Mars in this or that specific position (house/sign/aspect,...) gives an increased/reduced aggression compared to the average", or "...gives a different way to express aggression". To say that a planet modulates certain human properties, makes logical sense only if one says in which circumstances. So we have to observe the

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[1] Actually, this idea is quite recent, but the reasoning is in the same old style. Of course, Venus was also the goddess of love, but what was first, the invention of the goddess, or the naming of the planet... that is of course difficult to say.

positions of a planet in the different signs and houses and find out which properties change accordingly.

The pre-eminent example of such a study is the character-trait analysis done by Michel and Françoise Gauquelin. By systematically sifting through biographies and articles about famous people, they found a number of character-traits that occurred less or more frequently when certain planets where in the zones they had found to be important: the so-called "G+" sectors, or approximately the 12th and the 9th Placidus house, and the neighborhood of the ascendant and the MC. For example: traits like "poetic" and "dreamy" were relatively abundant among people who had the moon there. So, with each planet we can associate a cloud of characteristic words, an area in the space of meanings (or using a more expensive word: the "semantic space").

An interesting found here was that, like we could expect from the symmetry reasoning above, planet meanings do indeed overlap. For example: descriptions of persons like "brave", "leader", "enthusiastic" appeared to be connected with Mars as well as Jupiter
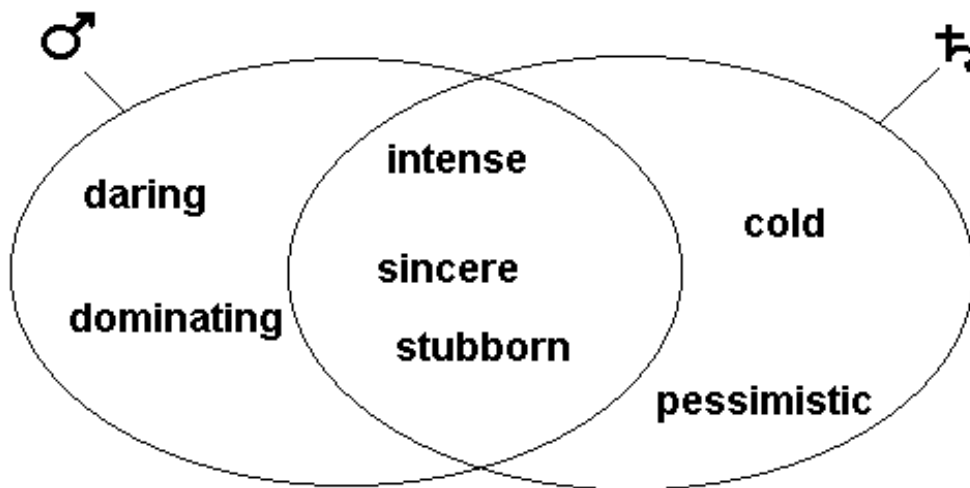
Figure 4: Some character traits in the semantic areas of Mars, Saturn, and their intersection, according to the Gauquelin research.

(i.e. more abundant among people having these planets in G+). Or, stated differently: the intersection of the areas of Mars and Jupiter in semantic space contains these words. That of Mars and Saturn contains traits like "intense", "upright", "stubborn". So there is a range of "human language" words which, if you translate it into "astrology language" moves gradually from "Jupiter" over "Mars" to "Saturn"[1]. The same can be found for other sets of planets, but some planets are "closer" to each other than others in semantic space: e.g. Venus and Saturn are further apart than Venus and the moon [Douglas, 1995].

3.3.3.3.   Kings of signs

We find ourselves on a delicate point now: that of the so-called *rulerships*.

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[1] To compare: in linguistics one can say that the semantic area of the French verb "pouvoir" overlaps more or less with the area taken by the English "may" and "can".

Out of mysterious grounds, astrologers came to the idea that planets "fit better" with certain sign than with others. Thus we al know of the nice little scheme that shows the best place for each planet (or: the planet that "rules" each sign), the scheme described as having "Divine or cosmic grace and beauty":

Cancer	**moon - sun**	Leo
Gemini	**Mercury**	Virgo
Taurus	**Venus**	Libra
Aries	**Mars**	Scorpio
Pisces	**Jupiter**	Sagittarius
Aquarius	**Saturn**	Capricorn

More elaborate tables exist, showing how "well" each planet fits in each sign (the so-called "dignities"); the "ruler" of a sign is the one that gets the most points, while a planet is said to be in "detriment" or having the most "debility" in the opposite sign. I have to admit that the charming language of this system can be attractive: if you can say to a lady that her Venus is "in exaltation" or "Nightly Lord of Triplicity", you will surely have her attention!
"Modern" astrologers even go as far as to insinuate that Aries (the first sign), the first house and Mars symbolize in fact more or less the same concept, just like Taurus, the second house and Venus, and so on. Even "Mars on the ascendant" or "Sun conjunct Mars" are thrown into the same pot (Jane Lee Lehman calls this "type 2 rulership").

A serious problem with the rulerships came across though, when Uranus was discovered. After all, no parking space was foreseen for a new planet. The Divine card house inevitably collapsed. What can we conclude from this? In my opinion, nothing else than that the scheme was a false symmetry, something like an optical illusion, a fata morgana. Then one started muddling and knocked Saturn from his throne in favor of Uranus. How weird: suddenly it wasn't the serious and calm Saturn who was feeling at home in that sign, but the wild, revolutionary Uranus! Later, Neptune replaced Jupiter in Pisces and Mars was exchanged by Pluto in Scorpio, although... of course, astrologers don't agree unanimously. These days they are wondering what to do with Chiron, and the planetoids. J. Lehman, who wrote a few books about this subject and the association of many things with certain planets, admits that there are indeed some problems and that the whole concept of rulers might become worthless if we take things like planetoids into account. But, she says, this shouldn't cause any trouble; we don't have to change our scheme, since the new planets are "fundamentally" different from the Ptolemean ones, *because nobody lives long enough to experience a complete cycle of them*. For the planetoids, the reason for not accepting them as rulers, is the fact that *there are too many of them* [Lehman 1989, p.100]. This is an extremely cheap explanation, especially for someone with a title of "doctor". As we already showed with the string comparison: the number of signs is compulsory 12, the number of planets is accidental, it is not a "complete" set, there simply can never possibly be a one-to-one correspondence.

If it is so that the sign placement of a planet indicates the way in which the planet "expresses" itself, or is "colored" (which is approximately the opinion of most astrologers I think), the next analogy might shed some light on this matter: look at the planets as *forms* and the signs as *colors*. It might be that you feel inclined to put the "circle planet"

in the "orange sign" because this combination reminds you of oranges, but I hope you see that, intrinsically, there is absolutely no connection between the color "orange" and "round". And yet, astrologers seek such connections between planets and signs!

If it's still not clear, maybe try this one: suppose that Jupiter stands for a person's religion (simplified, I know), and the sign in which Jupiter is placed, for the kind of religion that one is inclined to adhere to. For example (I know it's caricatural, but the point is to see the idea), Aries/Hinduism, Taurus/atheism,... Sagittarius/Islam, Pisces/Catholicism, etc. then it might be that people with Jupiter in Sagittarius are the most fanatic ones, but the concept of "religion" itself is not more connected to "Islam" that to "Hinduism" or whatever. Thus the principle of "Jupiter" cannot be connected especially to "Sagittarius".

So, based on logical grounds, this type 2 rulership can be completely rejected. Against type 1, i.e. the idea that a planet can express itself *better* or *worse* (after all, that's what it's all about: the rulerships are a value judgment), we cannot say no a priori, albeit that we have to abandon this "immobile", neatly demarcated, fixed antique scheme. Experimental results do contradict it anyway. For example: Gauquelin did not find more sport champions with Mars in Aries, against the expectations. Considering the meanings given to the signs, it would anyhow be more logical to expect good sprinters with Mars in Aries, and tough mountain climbers with Mars in Capricorn, etc. Herbert Freiherr von Klöckler, the (in Germany) rightly well-respected astrologer who kept statistics of planet positions in the signs, for different professional groups, found relatively often painters with Venus in Taurus, but also in Gemini, and Venus in Pisces is clearly the winner. Among sculptors, he found almost twice as often Venus in Cancer than in Taurus or Libra [von Klöckler, 1926, p.295]. If there are still people around who claim that the "artist planet" belongs to Taurus or Libra, I warmly invite them to explain me why! A more modern alternative for the old system of dignities is conceivable, and we'll discuss it in the chapter about "systems of synthesis".

The simplistic way of thinking in astrology where virtually everything is vaguely associated with a certain planet, like "commerce=Mercury", "prison=Saturn", "priest=Jupiter", etc. [Lehman 1992] (especially important in horary astrology) is consequently very questionable. In books that present lists of such correspondences, it strikes that some things are associated with planets, others with signs or houses or other astrological concepts, although those are all different categories. It cannot possibly be that "ribs" are corresponding as well with Jupiter as Leo, and the fourth house [Lehman 1992, p. 184]; what for God's sake should one understand by that? It's no wonder that all authors differ so much in their opinions. If one wants to come to falsifiable statements, one has to express himself more concretely, like: "Jupiter in Leo gives a larger rib cage" or something similar.

Notice that of course all concepts based on that of "rulerships", like for example "dispositors", vanish into thin air.

3.3.3.4. Other pawns

Planetoids
Between the orbits of Mars and Jupiter there is a large string of debris in which the largest chunks have a size of a few hundreds of kilometers. They are also called asteroids, but they are rather planet-like objects than star-like, so "planetoid" is the most correct name. A priori they have as much right for some attention than the planets have. Because of

physical reasons (their size) we might expect that their influence is less important, but until now astrologers didn't postulate any relationship between the size of a planet and its strength. After all, Pluto isn't much more than a little nothing compared to Jupiter, and according to recent discoveries also nothing but a member of something like the planetoid belt, and yet it has the same importance to astrologers, so if we use the same logic, the planetoids should all count. And yet, usually not more than Ceres, Pallas, Juno and Vesta are used. Robert Hand tries to explain this because they were the first to be discovered:

> "One way of defending the use of the first four to be discovered (rather than the four largest) is to say that the effect of celestial bodies is in some way related to human consciousness of them rather than to their physical properties. As the first to be discovered they no doubt made a greater impact than the thousands later to be observed." [Hand, 1981, p.93]

This is again an example of magical thinking, and it doesn't really sound as if he's convinced himself. Eventually, empirical research will have to decide here. It would be interesting to recycle the Gauquelin data for this purpose.

Remark: the mini planet Chiron, discovered in 1977, doesn't belong to what we usually consider to be the planetoids, because its orbit is between Saturn and Uranus, but otherwise the same reasoning applies for Chiron of course.

Astrologers also use a bunch of points who don't refer to physical bodies. Most of them are in some way derived from them.

Nodes
The crossing points of a planetary orbit and the plane of the ecliptic, are called "nodes". Only those of the moon are often used. From a geocentric point of view, they are always opposite each other; those of the planets are opposite in a heliocentric perspective.
Nodes are used as if they would be "independent" points, but in fact, they reflect the *ecliptical latitude* of the planet. After all, when a planet is exactly in the ecliptical plane, it is conjunct with one of its nodes.
If the full moon falls conjunct with one of its nodes, we have a lunar eclipse. When the moon is square to the nodes, it is at its highest or lowest latitude.
Interpretations given to the lunar nodes tend to be colored by a lot of "karma" issues, and some - well selling - authors even lay connections to past lives. Unfortunately, such claims are practically difficult to falsify, so they're not much worth from a scientific point of view. Because of the connection to the ecliptical latitude, it is of course not unreasonable to expect them to have some meaning.

Hypothetical planets
Some folks really are prepared to go to any length to gain attention, and therefore invent additional planets. By now there must be at least 35, all bearing the most beautiful names like Cupido, Vulcanus, Poseidon, etc. [Gettings 1985, p.248]. Well, I can be very brief about this subject: these "objects" simply fall outside of the realm of astrology, since astrology is about the relationship between the cosmos and the earth, and the hypothetical planets are not part of that cosmos.
Remark: we should not confuse the "invented" planets with possible undiscovered planets whose existence is suspected from astronomical grounds. Theodor Landscheidt's "Trans-pluto" is such an example. Nevertheless it remains speculative to invent interpretation theories for such objects.

Focal points

Celestial bodies move in ellipses around their common gravity point, which is in one of the focal points. From the heaviest body one can "see" the other focal point in the direction of the orbit's aphelion.

For the earth-moon system, this second focal point is called "the black moon" or Lilith (not to be confused with the planetoid with the same name). So, if the moon is opposite to the black moon, it means that the moon is as close as possible to the earth, so for that reason, it might logically possible that this has some influence. To treat the black moon as if there really is some other object, and thus to consider things like aspects with other planets, does not seem logical to me.

Fixed stars

The so-called "fixed stars", actually the only "real" stars, excluding our sun, need about 2000 years to pass through a zodiac sign, meaning that we can hardly give any meaning to the sign placement of a star in a natal horoscope. There are astrologers who try to interpret the conjunction of some stars with planets though.

From the observation that many people seemed to be more sensitive for telepathy when the local sidereal time is approximately 13h30, one might suspect the influence of a certain star or a galaxy in that direction [Spottiswoode 1997, p.121].

We do indeed receive light waves from these faraway objects, so in principle we can not exclude that they exercise an influence on us, but if it's not light, but gravity and magnetism that play a role in the astrological mechanism, as research suggests (see further), it is excluded that we sense something from them.

One might think: aha, this is a good means to find out whether it is light or something else that is responsible for astrological influences. But the problem is: even if we find a result, we can not possibly distinguish whether it's really the star doing something, or whether there is something peculiar about that part of the zodiac (unless we can collect data over hundreds of years).

Arabic points

Already the ancient Greeks were very imaginative in making addition and substraction games with planetary positions, and the results were given colorful names like "part of fortune", "part of spirit", "part of horsemanship", "part of noble births", etc., something for everybody! There is, however, not a single basis nor empirical support for these points, and even Robert Hand is skeptic:

> "Even if one only uses the Part of Fortune, I am doubtful of its meaning, ... It is said to bestow grace, luck or favor upon the individual. Being quite lucky, and having my Part of Fortune conjunct Saturn in the twelfth house (a combination that would not normally be considered fortunate), I am understandably skeptical."
> [Hand, 1981, p.97]

That he gives so much attention to this subject in *Project Hindsight*, is most probably due to his interest in the history of astrology.

3.3.3.5.　　　Movement

Planets don't only have a position, but also a speed. Usually not much attention is payed to this, except to the direction of the movement: direct or retrograde (backwards).

It looks reasonable to consider it, especially when studying transits (see further): after all, if a planet moves retrograde, one receives a stimulus that one already received a short time before, so it might cause a deepening of the related theme, or on the contrary rather a weaker reaction because of a habituation effect.

To be able to interpret retrogradation in a natal horoscope, we have to notice that the phenomenon has to do with the distance to the earth: planets are retrograde when they are nearest to the earth. If the distance between earth and a planet plays a role, we can expect the influence of retrograde planets to be *stronger*, since it is hard to imagine that the influence of planets would *increase* with the distance.

3.3.4   The heavenly pie

3.3.4.1.   Twelve pieces, how?

Astrologers also divide the sky in 12 sectors connected to the place of the observer (the one who is born), the so-called *house division*. The crossings of these pieces of heaven with the zodiac are called "house cusps". One gives an interpretation to the placement of the planets in the houses, and also to the sign in which each cusp is placed. For example, a planet in the tenth house will traditionally tell that the corresponding psychological function will be invested mainly in the realm of profession and position in society; a seventh house cusp in Aquarius means that one seeks a partner with Aquarian qualifications.

Now, there are many ways in which this division *can* be done, and thus also *is* done [de Wit 1987, p.67; Spat 1994]. Most systems start by dividing the heaven in two parts according to the horizon, which is obvious. The eastern most cusp thus created, is called the "ascendant" (from the Latin ascendere) because the planets rise there[1]; the western most cusp is called the "descendant" (<descendere) because they go down there. They become cusps number 1 and 7.
Next, most systems divide the sky in an eastern and a western part, so this division is marked by the geographic meridian. The highest (i.e. the southern if one stands north of the tropics) of the cusps created like this, is called the "midheaven" (Latin: medium coeli, MC) (= cusp 10), the lowest "immun coeli" (IC, cusp 4). Planets culminate (come to their highest daily position) on the MC and reach their lowest position on the IC.

The system which continues this division in the most natural way, is the one from *Placidus*: after all, when a planet reaches Placidus-cusp 12, it has moved one sixth of its daily arc, when it reaches cusp 11, two sixths; the MC is halfway its arc, etc. That's why the Gauquelins used approximately this system for their research. Only they numbered the pieces more logically and they used more of them (18 and 36) (and the also took the ecliptical latitudes of the planets into account).

The so-called "equal house" system also starts from the horizon, but then it cuts the two halves in six equal parts of 30° each. So, cusp 10 is always square (90°) to the ascendant and the descendant, and consequently the midheaven doesn't coincide with it, except in singular cases. Actually, it can even fall in any house. The mathematician and anthroposophically biased astrologer Maurice Nouvel defends this system tooth and nail because cusp 10 is in this system the zodiac point which is the highest in the sky, the

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[1] (...if their ecliptical latitude is zero, which is approximately true.)

closest to the zenith, and thus "obviously deserves the preference of astrologers"[1] [Nouvel 1991a].

Now, it is indeed true that the zodiac is a big circle through ascendant and descendant, and thus having the highest point exactly in between those two (one look at Nouvel's drawings and everything will become clear, or maybe not). If there is a planet there, it is indeed higher than all other planets. But... that planet might not yet, or not anymore, be on the highest position that it reaches that day. An example: the day that I write this, Nov. 9, 1997, on 50°N, 0°E, the sun culminates (is in the south, or in other words: it's astronomically noon) on 11h43m51s GMT. The angle between ascendant and MC is at that moment smaller than 90°, which means that a possible planet a little bit right of the sun would indeed be higher than the sun. The sun doesn't come on the equal house cusp 10 until 13h21m42s, and thus, at that moment no planet can be higher, but the sun isn't anymore at *its* highest point. It would be a good question to find out which 10th house cusp is astrologically more relevant.

A disadvantage of many house systems is that they get in trouble in polar regions. In the winter the sun doesn't rise during days or months, and in the summer it doesn't set. Systems based on the daily cycle of the zodiac like Placidus and Koch, can therefore not be calculated anymore. The equal house system doesn't have this, but it *doesn't* show the discontinuity that occurs "in reality" on the latitude and the time when the ascendant coincides with the MC; when the horizon is parallel to the ecliptic, during an infinitesimal moment all signs of the zodiac are visible.

If we want a system with ascendant = cusp 1 and MC = cusp 10, which also works in polar regions (after all, there *are* people living there...), we can only use *Porphyrius*, *Regiomontanus* and *Alcabitus*.

The first one is actually not more than a bastardization of the equal house system (division of the arc ascendant-MC in three equal parts on the ecliptic), with no natural basis.

In the second one, first the heavenly equator is divided in equal parts starting from the meridian. Next, one draws big circles through these points and the north and south points (thus also the meridian and the horizon). The crossing points of these points and the ecliptic are then called the house cusps. The disadvantage here is that at high geographical latitudes all cusps are very close to the ascendant, which doesn't look like a nice partition of the sky.

The system of Alcabitus might be the most elegant: one takes the sidereal time needed by the ascendant to reach the MC, divides this in three, and using these sidereal times one calculates like new ascendants, who are then called cusp 12 and 11. A similar calculation is done for cusp 2 and 3. With this system we get, up to high latitudes, a nicely divided pie, with on the actual pole itself, equal pieces of 30°, reflecting the equivalence of all directions! Strangely, I don't know anyone who uses this system. A long time ago, one could blame this to non-availability of tables, but in this computer age, this objection is no longer valid.

Eventually, empirical results will have to decide about the choice of a house system, but logically seen, the Alcabitus system should be a good candidate. In practical reality this research will not be easy: in temperate latitudes the different systems show only minor differences, which means that very precise birth times are required.

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[1] He supports his claims with statistics, but since the tone of his whole plea in general seems very dogmatic, and since it contains reasoning errors, I'm quite skeptic about them. So he says, for example, that the meaning of Venus and Mercury has been interchanged historically, because in images showing the "planetary spheres" Venus is placed closer to the sun. But... of course, if one knows that the speed of the celestial bodies was the only criterion to sort them, Venus had to be drawn o that position indeed!

Should we pay any attention at all to a planet's placement relative to the horizon? That question seems to be answered affirmatively by the Gauquelin results, in the sense that some planet principles seem to express themselves *better* in certain houses. It might be that they also express themselves *differently* according to the house placements, as astrologers claim, but that was not measured by him. And even with his data it is very difficult to select among the house systems: using equal houses he obtained results that were almost as good as with Placidus houses.

Of course, surprises are still possible.
Maybe we'll find out that there is no such thing as abrupt house borders, and that the "force" of a planet changes in a gradual way. Someone who thought in that direction, was John Addey [Addey 1996]. He and Peter Roberts found, using Fourier analysis of the Gauquelin data, intriguing wave patterns who correspond to divisions of the sky in 3, 4, 5 or 7 "positive" and "negative" zones. People with planets in the positive zones (or the summits of the waves if you will) show properties characteristic for the chosen frequency [Roberts 1991, p.81]. In other words, a division of the sky in 6, 8, 10 or 14 houses (+ and - zones of each wave frequency) gives different information in each case, and there is only a distinction between even and odd houses!

Maybe we'll discover that it is the real altitude relative to the horizon that counts, instead of its projection on the ecliptic. Pluto would be the most suitable guinea pig, since this planet can be quite far above or below the ecliptic. That means it's possible that you might see Pluto on the right side of the ascendant in the chart, even while it's still below the horizon.
It's quite probable that we might have to review the meaning given to each house. After all, those where given more or less in analogy with the meanings of the signs: house 1 was associated with Aries, house 2 with Taurus, etc. for which there is absolutely no reason a priori. Research indeed does suggests other house delineations: for example, while the tenth house is traditionally supposed to tell something about someone's profession, the Gauquelins found that a planet's typical function is highlighted especially in the 9th and the 12th house. So, a typical textbook says about "Saturn in 10": "Ambitious, achieves a lot, very serious in planning his career, strong discipline,..." [Boot 1981, p.180] Well, these are exactly the characteristics the empirical research attributed to house 9 and 12, and the neighborhood of the descendant and the IC. [Gauquelin 1985, p.121]. Moreover, this was already proclaimed 2000 years ago:

> "The star's power must be determined from their position relative to the horizon: for they are most powerful when they are in Midheaven or approaching it, and second when they are exactly on the horizon or in the succedent place..." [Claudius Ptolemeus, cited in: Gauquelin, 1991, p.73].

3.3.4.2.   Cusps in signs

So far the different house systems.
A bigger problem related to houses is the assignment of meanings to the signs in which cusps happen to be situated. Indeed: in the northern hemisphere there are much more people having Virgo ascendant than Pisces because Virgo rises much slower there. Logically thinking through on this, it would mean that the entire northern population were significantly more "critical, sober-minded,..." than the southern one! Is that so? Is there a common characteristic among Canadians, Swedes, Siberians, etc. which is exactly opposite among Argentines and New-Zealanders? The difference should really be obvious, because at 50° latitude the ratio Virgo/Pisces is about 4/1. Approximately half

of the people there has ascendant Leo, Virgo, Libra or Scorpio. At 65° north there are already 30 times more Virgo than Pisces ascendants! Considering that - at least to my knowledge - no remarkable sociological effects of this phenomenon are visible, I think we can conclude here that *we have always overestimated the importance of someone's ascendant sign*. I'm waiting eagerly until someone can prove me the contrary.

Remark: we don't have this problem with the midheaven, because that is independent from the geographical latitude.

So, against the use of the so-called "house lords" (ruler of the sign in which the house cusp falls), we can raise not only the objections mentioned earlier about sign rulers, but now also these. Just *to be able to start* to search empirically for the meaning of something like "lord 2 squares lord 9", one has to (1) have a precise birth time (okay, that's possible), (2) agree about the house system to use, (3) be able to make an unambiguous association between sign and planet (impossible since planet meanings overlap), and (4) agree about an orb (maximal allowed deviation, see further) for the square aspect.

Consider a random horoscope of, say, November 20, 1997, 13h45m MET in Gent (Belgium), with Regiomontanus houses. Lord 9 is trine (120° from) lord 6 in this chart. Two minutes later, lord 9 is opposite (180° from) lord 6, even though almost nothing changed in the sky. Lord 5 is sextile (60° from) with lord 1, while these two would be opposite if you use Placidus houses. This way you can find lots of ambiguities in every horoscope, who would lead you to totally different interpretations. The only way to get out of this mess is to purify and cleanse all fundamental astrological concepts first.

3.3.5   Aspects

If the angular distance between two planets is near one of a series of specific angles, it is said that they are "making an aspect". An angle of 90° is called a "square aspect", 120° is called a "trine", etc. The maximal deviation from this angle that is allowed, is called the "orb". For example, if we take an orb of 6° for trines, we say that two planets are trine if their mutual distance is between 114 and 126°. The meaning of an aspect is derived from the combination of the two planet meanings: if Mercury is related to one's mental capacities, and Uranus to originality, a Mercury-Uranus aspect will have something to do with mental originality, i.e. depending on the type of aspect, something in range from "genius" to "neurotic freak".

Empirical evidence for aspects seems to exist; my own research suggests this (see appendix), and several authors, e.g. H. von Klöckler and J. Dieschbourg come with promising results [Dean 1976].

Of course, some subjects for debate remain.

3.3.5.1.   Which angles?

A set of five aspects (the so-called "major" aspects) are used by virtually all astrologers: the conjunction, sextile, square, trine and opposition (0, 60, 90, 120 and 180°). All others are called "minor".

Aspect angles and their meanings are usually derived from two fashionable basic ideas: (1) the distance in terms of signs, and (2) the numerological meaning given to the circle division.

Idea 1 says that you have to think in analogy with the differences among the signs between which aspects normally connect planets. To understand the trine aspect, you have to examine the character of the relationship between Aries and Leo, Taurus and Virgo, etc. Planets in trine are in the same element and thus in harmony with each other. The relation Cancer-Libra, Leo-Scorpio, etc. explains the square, etc.

This way one can give a meaning to all aspects that are a multiple of 30° (conjunction, semisextile, sextile, square, trine, inconjunct (quincunx) and opposition), nothing more and nothing less. A 45° aspect doesn't fit in this series, since this can fall between planets in adjacent signs, or between signs that have another sign in between. If you accept that aspect meanings come into being according to this principle, it is not logical to consider also other types of aspects. If one "accepts" transits or progressions (see further), one cannot leave out the inconjunct or the usually neglected semisquare. After all, if planet A and B are inconjunct and A gets a square transit, B automatically gets a trine or sextile transit, which means that A and B are somehow "coupled" anyway.
For horary charts (see further) this reasoning can be discarded, at least if one doesn't consider an evolution in time.

Starting from the second idea several series of aspects can be generated: one starts by dividing 360° by 1: 360° or 0°, the conjunction, representing "unity". The division by 2 produces the opposition, the aspect of dualism. The astrologer Rick Levine, who wants to keep up with time, also tries to integrate scientific findings into the astrological symbolism, and he says for example about the division in 3: "According to Buckminster Fuller, the triangle is the most stable form in the universe, and so the trine naturally represents equilibrium" [Levine, 1995, p.32]. This way one can go on naturally until infinity, and since it has become much easier using computers, modern astrologers jolly experiment with "septiles", "noniles", etc. Moreover, also multiples of all divisions are used, so the "septiles", "bi-septiles", "tri-septiles", etc. form the members of the so-called "7th harmonic", a term borrowed from music theory (=overtone). Recommended literature about this subject is certainly the interesting explorative study done by Nick Kollerstrom and Mike O'Neill about the timing of scientific discoveries [Kollerstrom & O'Neill, 1996].

One can also draw "harmonics" of a horoscope: thereby all positions are multiplied with one and the same number (or the number of degrees in the wheel is divided by this number, which produces the same chart). For example, the school of Ebertin often draws a chart in a 90° wheel (the 4th harmonic) [Ebertin 1983, p.235]. All "hard" aspects (multiples of 90°) here become apparent conjunctions. It has to be remarked here that such a representation cannot add anything new to a horoscope. It might only be useful to visualize certain thing better, for example: indirect midpoints, but in fact, information even gets lost in a harmonic chart.

The first aspect system has the advantage that it satisfies better to Occam's razor: it just embroiders on existing astrological rules. In the second system, a new concept has to be introduced: the symbolism of numbers. And in fact, there is no reason a priori why no other angles between planets could be important. The symbolism of numbers doesn't have to be applicable to astrology at all; it is not because a trigonal structure is more stable, that a trine aspect has to represent stability; that is magical thinking. By the way, notice that e.g. the moon, Pluto and the earth do not form do not form an equilateral

triangle at all in reality, even if we see it in a chart wheel! Also notice that the first system would loose its power if the doctrine of elements and crosses can't be proven. Thus, we have to reckon that aspects of 26° or 141.77° can as well be worth investigating.

3.3.5.2.   Deviations

One issue of disagreement is the orbs to use. In the time of the ancient Greeks one already spoke about a conjunction if two planets were in the same sign. Later, when astrologers started to see aspects really as angles, they gave an orb to each *planet* (two planets were said to be in aspect if the angle between them deviated from the exact aspect angle not more than the average of both planetary orbs); and starting from Alan Leo they started to assign orbs to *aspects* [McCann, 1997, p.33]. Some modern astrologers use a combination of both systems.

What can we figure out about the size of orbs, just using a little logic?
If an orb is assigned to a planet, we have to limit the number of aspects to (for example) the multiples of 30°, and give those all the same orb, out of symmetry considerations (from the first aspect theory we can't deduce a preference for certain specific sign distances), or we have to decrease the orb for the higher harmonic aspects if one accepts this theory; otherwise they would start to overlap and finally all planets would form some aspect to all other planets. How quickly should the orb decrease in order to prevent that there were an infinite number of aspects in every horoscope? Suppose one uses N objects (usually 10: sun, moon and planets) and an orb value of B for the conjunctions, let's say B=10°, i.e. one planet may be up to 10° before or after the other), then the average number of conjunctions with one specific planet is approximately:

$$\frac{2B(N-1)}{360} = \frac{B(N-1)}{180}$$

If we then make the orb for harmonic I aspects decrease like an arithmetic series, as "authority" John Addey proposed [Addey, 1976], we get:
    orb = B/I,
which means 10/2 = 5° for the opposition, 10/3 = 3.33° for the trine, 2.5° for the square, etc. In total, we'll come to an average total of aspects near

$$\frac{B(N-1)}{180} \cdot 2\left(\sum_{I=primenumbers} \frac{1}{I} - 1\right)$$

or... infinity! [Wells 1986, p.41] And we didn't even count the harmonic multiples (bi-septiles etc.).
This means that the orb should decrease much stronger, and if the multiples count, the orb of harmonic number I should even be smaller than B/I^2; i.e.: opposition $10/2^2 = 2.5°$, trine $10/3^2 = 1.1°$,... septile $10/7^2 = 0.2°$ etc., which seems quite meager compared to the fashionable values. The other solution is to break up the row of harmonics somewhere abruptly, but at which harmonic and why?

The orbs for major aspects are usually bigger, there seems to be some consensus about that, but otherwise there is not much of a system in the orbs used in the daily practice of astrologers, and it is all a matter of *opinions*. This means that astrologers don't even stick to their own logic (i.e. the idea behind the aspects).

So, we can safely accept that it is actually not known if there is any system in aspects, and it is up to empirical research to discover which angles have any effect as an aspect. This already produced surprising findings. For example, Theodor Landscheidt made some fascinating hypotheses about aspects who divide the circle in the so-called "Golden Section" (137.5°, 68.8°, 47.5° and others) [Landscheidt, 1995].

Concerning orbs, to me it looks very improbable that aspects would suddenly stop working from one second of arc to the next. My own research did indeed suggest that the "strength" of a aspect decreases gradually, meaning that we should rather define the concept of "orb" by the deviation within which an aspect has at least a certain percentage of its maximal force. "Force" or "strength" should be related here to effect size (see appendix). The concept of "orb" like it is in use these days, is probably an oversimplification of reality. There are even indications that orbs should be asymmetrical. For example, in Nick Kollerstrom's investigation with chemical reactions, the effect of certain conjunctions was visible from the moment when the studied planets were still 1° apart until they were 5° separated [Kollerstrom 1984, p.32].

3.3.5.3. Ingoing/outgoing?

Does one have to distinguish between "ingoing" and "outgoing" aspects? In the first case the faster planet is moving towards the slower (e.g. the moon at 5° Taurus and Pluto at 5° Cancer), in other words: we are going to a conjunction. In the second case we're going away from one (e.g. moon at 5° Virgo). So, both correspond to two different phases in the cycle that can be defined by a couple of planets. Robert D. Doolaard, who studied intensively mundane cycles (e.g. those of war and peace), found in his results significant differences between the two [Doolaard, 1993]. Also John Addey discovered something about this, namely that highly gifted persons had many outgoing aspects [Toonder & West 1971, p.224]. Other investigations, like the one from Jozef Verhulst concerning the lunar phases at the births of pioneers of the anthroposophic movement, show a nice *symmetrical* curve with the full moon down in a valley [Verhulst, 1997].

Anyhow, the fact that the distinction seems to work in some cases, should alert us that research needs to be done about this.

3.3.5.4. A second dimension?

One can wonder whether it wouldn't be better to use "real" spacial aspects, i.e. where the angular distance in longitude and latitude counts, rather than just the usual latitude. After all, astrologers call 2 planets "conjunct" if they have the same ecliptical longitude, while in reality (visibly in the sky) they are only conjunct when also their ecliptical latitude is equal.
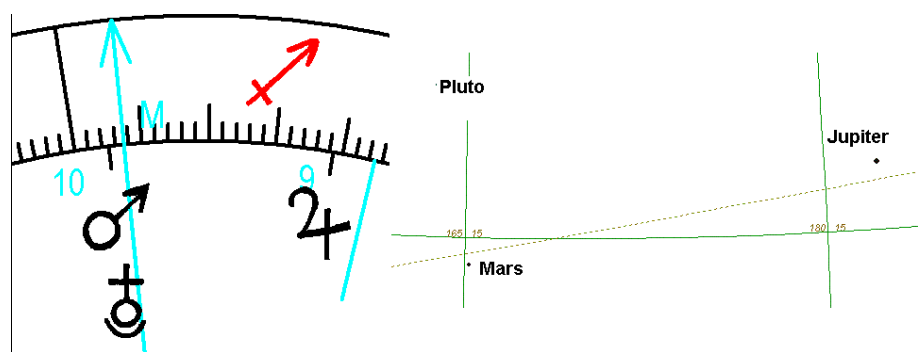
Figure 5: 13 jan. 2007: While Mars is exactly conjunct with Pluto in the usual horoscope wheel (meaning they have the same ecliptical logitude), their real distance in the sky is more than 7° !
(left drawing with "Radix 4.1", right one with "Hallo northern Sky" by Han Kleijn, www.hnsky.org)

Not much research has been done about this, and sometimes it seems that this calculation method doesn't make any difference [Kollerstrom & O'Neill, 1996, p.25], but on the other hand, from Nick Kollerstrom's investigation about the lunar phases of emergency calls, clearly a difference emerged between periods in which the moon was near its nodes (small ecliptical latitude; eclipses) and the other periods [presented on Kepler Research Conference, London, Nov. 23, 1997]. What happened? The number of calls from people in a suicidal mood or an acute depression (it concerned a few hundred thousand cases, registered during years by the Samaritans) was always a little bit higher around full moon. Now skeptics will say that this can be explained without astrology; maybe people become more emotional, just by watching the full moon in the sky, but the interesting part of this investigation was that the excess of calls was clearly higher the closer the moon came to the sun in latitude, or in other words, when the real two-dimensional angle between sun and moon approached closer to 180°, which is not visible to the naked eye, except in the rare cases of a lunar eclipse.

The importance of this finding should not be underestimated: on one hand it suggests that we should pay attention to the two dimensions of interplanetary aspect angles, and on the other hand it is an indication that we are dealing with a real "astrological" effect which cannot be explained by psychology; or... a piece of evidence in favor of astrology. That's why I also built in the possibility to study two-dimensional aspects in my software program *Radix 4.1*.

If astrologers ever go look outside the flat plane of the horoscope wheel at all, they usually study the so-called "declination aspects": planets being on the same or the opposite declination (parallel/contraparallel). Doing so, one mixes up two co-ordinate systems though; complementary to the ordinary longitude aspects one should actually look at latitude instead of declination. And except for vague assertions like "a parallel is something similar to a conjunction", not much is proclaimed about this. That's strange because actually it is a very obvious open field for research.

3.3.5.5.   Applying/separating?

Some schools only accept an aspect when it is "applying" (meaning that it still didn't become exact, e.g.: the moon at 6° Taurus and Saturn at 8° Leo form an applying square because it will be exact a few hours later). This is the same as using a one-sided orb, but in the other sense as Nick Kollerstrom's experiments showed. This is only somewhat defendable in the framework of progression theories (see further).

Certain horary astrologers (see further) also do this, but they also accept separating aspects if there is a third planet making a bridge (e.g. "translation") between the two, and they disqualify an applying aspect if there is some third planet putting a spoke in the wheel [McCann, 1997c]. A priori there is not objection to these rules, but they do make things more complicated by adding a factor of motion in the game, which makes testing more difficult.

If astrological effects are physical in nature, it seems more probable that aspects work longer *after* they became exact, rather than before. In other words, one should take a bigger orb for separating aspects. This can be compared to so-called "hysteresis" effects that occur with electromagnetic interactions, or to a string that keeps vibrating a while after it was triggered.

3.3.5.6.   Should aspects fall within the right sign?

One can wonder, if a planet is at 29° Aries and another one at 1° Virgo, whether they form a valid trine aspect or not. After all, starting from the vision that aspect meanings come from the meanings of the signs, one can doubt about this, especially if the borders of signs are also "abrupt". Therefore, such aspects are sometimes called "hidden" or "disassociated". From the "numerological" point of view there is no reason for rejecting them. To figure out the truth, is in principle not difficult: one only needs to find one effect related to aspects, and then check if it disappears in "suspicious" cases, for example a "love-at-first-sight" test (see appendix) in which the interviewer has Venus or Mars at the end or the beginning of a sign. Remark: one should also check here if the use of the tropical or the sidereal zodiac makes a difference...

3.3.6   Midpoints

Take the shortest ecliptical arc between two planets A and B and divide it in two; you will then be at the so-called midpoint of these two planets. According to Reinhold Ebertin, author of the standard textbook on this subject, this points gets a specific meaning if a third planet C is standing on it, or is a multiple of 45° away from it, within a small "orb" (in the order of one degree); one writes: "C=A/B". The configuration gets a meaning similar to what one would get with an aspect pattern between the three. C can also be a transiting or progressive planet here. Example: Venus and Mars in combination are related to sexual passion, attraction etc. If Jupiter then comes in the middle of these two, there could be an expansion, enthusiasm etc. in this domain.

A priori, this technique has the same right to exist as aspects; in fact, it actually an expansion of the idea. What I appreciate about Ebertin is, that he registered meticulously many concrete (also medical) cases from his practise and processed them in his book. I have also experimented with it, and I have to say that sometimes amazement fell to me. For example, about Neptune=Sun/Uranus, he says:

> "A restricted dynamism, blind ambition only causes damage. - Unexpected happenings related to water, shipping or aviation. An attack of weakness. - In some cases: disintegration of a body, death." [Ebertin 1983, p.89]

Now, at the moment when Neptune did transit on my sun-Uranus midpoint, my favorite parrot died by poisoning. Especially the fact that he spoke about aviation (bird?) I found bizarre. Neptune is traditionally also associated with poison.

On the other hand, he's also often wrong. For example, he says about moon=Venus/Pluto:

> "An overstimulated emotionality, a great reproductive capacity. - Motherhood."

Now, this woman went to an astrologer just because she had *problems* with fertility! So, conceptually, he was in the right neighborhood, but practically the horoscope predicted the opposite.

Everyone has a whole shopping list of midpoints in his chart, and I have the impression that usually half of them can be recognized, and the other half doesn't make sense at all. So, there's still a lot of work to check his texts. The medical delineations do have the advantage that they are apt to verification, so this job should be easier than, for example, to choose a house system.

3.3.7 Systems of synthesis

With all these different details in horoscopes, it's possible that one doesn't see the wood for the trees anymore. That's why astrologers do attempt to synthesize the "essence" of a horoscope in a short and sweet way.

3.3.7.1.   The dominant planet

Is there one planet that can be picked out to be the "strongest" in a horoscope, meaning that the psychological function represented by that planet shows up the most visibly, like in popular speech, someone is characterized in short as being "a man/woman of feeling", "a thinker", "a man of action", "a philosopher", etc.? Many authors do indeed describe their little system to find this planet. Usually, some kind of addition of different factors is made [examples: van den Dungen 1994, p.39; Nouvel 1991b, p.216]. Each planet gets points according to the sign in which it resides (own sign, in detriment, in exaltation, etc.), according to the aspects it receives, according to its house placement, etc. The planet that gets the most points, wins, and is called "dominant".

A factor that is employed often, but wrongly, is the ruler of the ascendant sign (e.g. the ascendant is Taurus, so Venus gets many points). As we saw above, the idea that a planet corresponds to a sign, lacks every logic. Moreover, if we would label this planet as "typical", it implies that in the North exist many more "Pluto" people than "Mars" people, since Scorpio ascendants are more common there than Aries ascendants, or in other words: "Pluto people" are more "normal" (in accordance with the norm), aren't they?

For an assignment of dominant planets to be credible, the astronomical chance distribution should correspond more or less to the sociological situation, at least, that seems logical to me. If half of the population at a certain latitude are astrologically Pluto people, it should be visible and tangible in the atmosphere over there. I never saw any study confirming, or even suggesting this.

Useful factors that make more sense, are for example planets in Gauquelin ("G+") zones, something which has been proven to be empirically relevant. In case there are more of them, one might take the one that is closest to the ascendant or the midheaven. Logically seen, the planet having the biggest "aspect strength" (many and narrow aspects) seems to be important. After all, it is the most "involved" in the whole horoscope. In principle, every kind of quotation related to planets placements relative to the zodiac or the horizon could be used.

To check empirically how the different factors should be valued, we do have to define precisely what we mean by a "sun type", a "moon type", etc. One might, for example, check if in the Gauquelin groups the same planets appear if one calculates their dominant planet. There is no astronomical correlation between having a planet in a G+ zone and having many aspects on it. So, it might be that sportsmen who don't have Mars in G+, do have strong Mars aspects. The weights of the different factors in use might thus be adjusted until one gets the strongest possible effect.

Remark: strictly speaking it is not "necessary" that a horoscope synthesis be verifiable empirically: after all, one can just *pose* that someone with Jupiter so or so is a "Jupiter type" person, but then we have the problem that depending on the author you can be a

different planet type. So why prefer the Gauquelin planet character traits? Because at least we know they are correlated with the position of planets. We know that a definition of planet dominance makes some sense if we get for each planet a correlated cluster of character traits.

3.3.7.2. The dominant element

A horoscope synthesis model that is quite "recognizable" according to my subjective experience, is the one that uses the typology of the four elements. It's important to distinguish this clearly from the planetary classification: it's not because someone is a "fire" type person that he is also a "Mars" type. Mars has nothing to do with fire, remember? A person with a strong Mars (in the above sense) might very well be an airy "thinking" type.
To obtain a "score" for each element, one can count the number of planets in it. Usually each planet receives a distinct number of "warrants"; most often the sun and the moon count for the most and the slow planets the least [e.g. Lozie 1997, p.2].
I don't see any logical objections in this way of working; it is some kind of transformation of purely astrological descriptions into a more simple typology that resembles more to the one of the typologies known in psychology. After all, astrologists like to identify the four elements with the psychological functions used by Jung or Eysenck (fire=intuition, earth=sense, air=thinking, water=feeling; someone having many planets in fire is supposed to be of the "intuitive" type etc.). The most important problem that poses itself here, is the empirical calibration. After all, one has to wonder how much weight should be given to each planet in order to optimize the correlation between the elements and the psychological types, if any exists at all. An empirical way of doing this, is by using questionnaires that give a score for the four elements [e.g. Thienpont 1995]. Research done by Jan van Rooij suggests that this correlation is nonexistent though. It has to be said that he only considered the sun signs [van Rooij 1993].

Very similar is the characterization own a horoscope owner as being introvert or extrovert. Usually the same scores are added up, taking for the score of extraversion: fire+air, and for introversion: earth+water. Gerard Lozie though, uses the planets in spring and summer signs (and even distinguishes planets above or below the horizon) to obtain the extroversion score [Lozie 1997, p.65]. This actually fits better to my subjective experience too.

In the same way, on can calculate scores for dominances of signs, crosses, dwads, decanates, and so on of course.

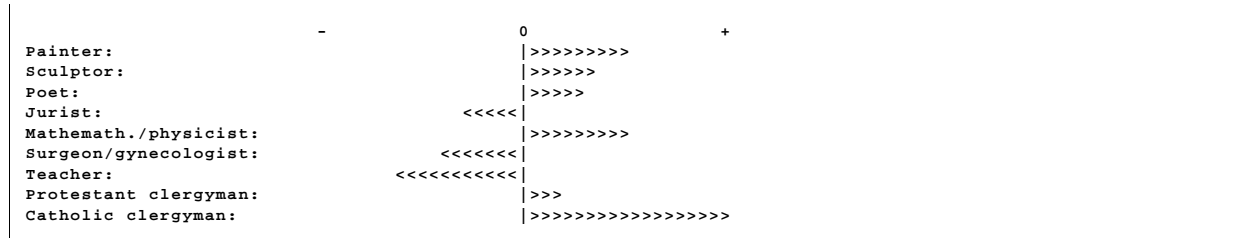### 3.3.7.3. From horoscope to human language

As already suggested above, it is to be expected that we might get better results in translating horoscopes into human language by combining factors and forget about ideas like "it is Mercury in Virgo that gives him such talent for mathematics". After all, it might be that Mercury is better off in Capricorn for that purpose, and that his moon in Gemini contributes as well[1]. Some kind of weighted addition of all factors might probably lead us to much more precise predictions of a person's character or properties.

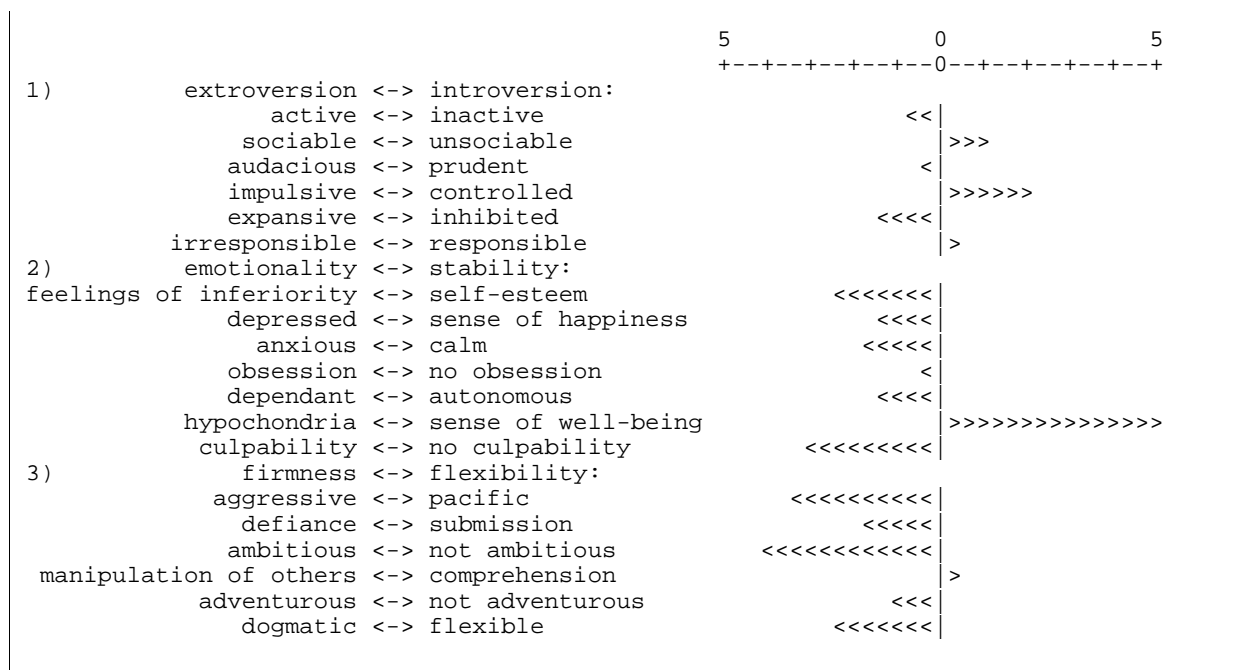[1] N.B.: both are true, according to von Klöckler's research.

An attempt to do so I implemented in my software program *Radix*, starting from the interesting data collected by von Klöckler. If one converts the found percentages of sign occupations into a point system (e.g. moon in Pisces is more abundant among poets than

```
                              -              0              +
Painter:                                     |>>>>>>>>>
Sculptor:                                     |>>>>>>
Poet:                                         |>>>>>
Jurist:                              <<<<<|
Mathemath./physicist:                         |>>>>>>>>>
Surgeon/gynecologist:              <<<<<<<|
Teacher:                         <<<<<<<<<<<|
Protestant clergyman:                         |>>>
Catholic clergyman:                           |>>>>>>>>>>>>>>>>>>
```

Figure 6: Synthesis of correspondences based on statistics of H. von Klöckler, for the horoscope of Salvador Dalì. Notice the big peak for "catholic clergyman". Dalì's work does indeed contain a lot of religious symbolism.

expected by coincidence, so this position gives positive points for the quality "poetic", while moon in Capricorn is rare, thus giving negative points. The result of such an addition is graphically represented in *Radix* as you can see here. Using mathematical language, we might say that we did a co-ordinate transformation from the space of ecliptical longitude into the semantic space.

Von Klöckler's statistics are not a hundred percent watertight (no control groups), but they should give a rather good indication. It would be interesting to calculate the "points" for a second series of the same professional groups, as a control.

```
                                             5              0              5
                                             +--+--+--+--+--0--+--+--+--+--+
1)          extroversion <-> introversion:
                  active <-> inactive                       <<|
                sociable <-> unsociable                      |>>>
                audacious <-> prudent                        <|
                impulsive <-> controlled                     |>>>>>>
                expansive <-> inhibited                   <<<<|
             irresponsible <-> responsible                   |>
2)          emotionality <-> stability:
feelings of inferiority <-> self-esteem                 <<<<<<<|
               depressed <-> sense of happiness           <<<<|
                 anxious <-> calm                        <<<<<|
               obsession <-> no obsession                    <|
               dependant <-> autonomous                   <<<<|
            hypochondria <-> sense of well-being             |>>>>>>>>>>>>>>
             culpability <-> no culpability             <<<<<<<<|
3)              firmness <-> flexibility:
              aggressive <-> pacific                   <<<<<<<<<<|
                 defiance <-> submission                  <<<<<|
               ambitious <-> not ambitious            <<<<<<<<<<<<|
   manipulation of others <-> comprehension                 |>
             adventurous <-> not adventurous              <<<|
                dogmatic <-> flexible                   <<<<<<<|
```

Figure 7: Example of a translation of a combination of planet positions to a psychological profile (again for Salvador Dali's horoscope), based on the empirical results of Suzel Fuzeau-Braesch and Hervé Delboy.

Another attempt to convert astrological factors to a psychological language, using an empirical synthesis system, is based upon an interesting investigation done by dr. Suzel Fuzeau-Braesch and dr. Hervé Delboy. They held an Eysenck-Wilson personality test among 524 students and then compared the obtained character traits with the sign placements of the sun, the moon, Mars and the ascendant [Fuzeau-Braesch & Delvoy 1999]. Starting from these results one can go the opposite way and try to predict what the

test score would be for a random horoscope. This calculation was implemented in *Radix 4.0* (see figure).

For both of the shown systems we have to remark that we have to be a little bit suspicious of the produced graphs. They are based on a limited number of observations, and further studies will have to confirm or disconfirm their value.

I also want to warn here that one cannot expect such a synthesis system to be found for each and every human property; that would be extremely surprising. Like we can deduce from the current statistical results, I think we can be very happy if some planetary correlations will withstand the test of criticism.

3.3.8   Prediction techniques

That it is impossible to predict someone's life exactly using astrology, will be clear to you by now. All the same, we can still try to get a certain "subtitling" of life by watching the course of the planets. There are - what else did you think - enough and to spare techniques for that purpose.
How skeptic again we should be, was shown neatly by Geoffrey Dean at one of his lectures in Utrecht (NL). He showed articles published by "serious" (at least: famous) astrologers at the time of the marriage of prince Charles and Diana, and around the time of their divorce. In the first period they sing the praises of all the harmony and romance visible in their horoscope combination, and in the second period they described how obvious it was that this marriage was doomed to turn into a catastrophe! [Dean 2001]

3.3.8.1.   Transits

I will come straight to the point: transits are the only prediction technique where some logics can be found. One look simply to the planets now and compare them with the natal positions (aspects, house positions). There is nothing artificial about it. We have a certain natal planetary pattern, and the planets at a later point in time can be either in harmony or in disharmony with this. That doesn't excuse us from the necessity to verify empirically if, and which, transits work, but it is conceivable that they can be explained within the current scientific paradigm. Strong indications in favor of transits have been found already by several researchers [e.g. Tomassen & van Roekel 1991; Klein 1992]. The study of planets transiting their own natal positions can be useful to detect their core meanings.

3.3.8.2.   Secondary progressions

With the so-called *"secondary progressions"* the central idea is: "the horoscope of X days after one's birth says something about one's fortunes X years after birth".
Opinions differ about the origin of this system, but the fact that the earth turns around the sun in one year, and the sun apparently turns around the earth in one day, most probably has something to do with it. It is said that Placidus got his inspiration in 1657 from the Bible (Ezechiel 4,5: "And I have laid upon thee the years of their iniquity, according to the number of the days three hundred and ninety days..."), but nowadays astrologers usually give it a more psycho-analytical twist: the traumas of the first days in a person's life

(corresponding to the transits in that period) are later progressively dealt with. To give one example: 14 days after my birth my dad beats me and that's why I am at loggerheads with him at the age of 14.

The biblical explanation is quite weak, I think it's easy to agree with that. At first sight one might have a tiny bit of sympathy for the psychological one, but it's a tricky business. First of all it looks very incredible to me that an event of 10 days after birth would have to be "processed" *exactly* at the age of 10 and not at 8 or 13. Secondly, it means that traumas that occur after the third month of life don't get a chance; strange! Thirdly, logically it is *impossible to predict anything which "comes from outside"* with this technique, like the dead of a friend. All right, I can already hear the esoteric guys shouting "No you can, because eventually everything is connected with everything!", but then we are again into magical thinking which explains everything and nothing.

3.3.8.3. The logarithmic time scale

An attempt to give in to the second objection, is invented by Tad Mann and called the *logarithmic time scale*. In this system, the progressions go slower and slower each year, "because our inner clock runs slower when we get older (it seems like time itself goes faster)" [Mann, 1985]. Otherwise, it has just the same weaknesses as progressions.

3.3.8.4. Primary directions

Here, all planets and the MC are shifted in right ascension (i.e. turned around the earth's axis) as much per year of life as the sun moves in one day. Starting from the shifted MC, new houses are then calculated. One version takes the true solar arc to shift with, another one takes the average, and a third one takes exactly one degree per year, for the sake of convenience (Noel Tyl makes quite some publicity for this in his cabaret shows "because it allows you to make predictions very quickly at first sight and that impresses your clients" (sic)), and if neither of these methods work, astrologers are smart enough to come up with some more "direction rates".

Well, first of all, there is *absolutely no justification at all* for this messing about, and secondly a direction is actually *not even a "horoscope"*, it is not a planet configuration that ever existed nor will exist.

Moreover, in spite of the fact that now and then a fellow astrologer lays his finger on it [e.g. Terwiel 1990, p.48], many of them make the mistake to mix up directions and progressions. The progressive house cusps actually move about 361° per year[1], while they move about 1° with directions. Since this is "too fast" to the feeling of some, they just take the primary cusps.

Whatever the mechanism behind astrology might be (causal or something else), in whatever way you look at it, all the different kinds of progressions and progressions require that the planets keep in some obscure way some sophisticated calendar which tells them at which time in the future they should apply their influence on each individual. Or, each individual needs to possess some kind of "imprinted" ephemeris table to be able to feel when some progression wants to develop. There is no way I can ever believe such nonsense. If ever one of these systems were proven to work unambiguously, only then

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[1] Example: in the progression system, the horoscope of 10 days after birth says something about the tenth birthday. If one wants to know something about six months later, one should cast the horoscope of 10.5 days after birth. During this half day, the house cusps obviously shifted all the way to the opposite side.

we should be afraid to see the collapse of our world view. Saying, "yes, but we *see* that it works.", this is something we should be very skeptical about (see introduction).

3.3.8.5.   Returns

The *"solar return"* is the horoscope if the exact moment on which somebody goes into the next year of his/her life (i.e. when the sun returns at its natal position), casted for the place on which he/she stays at that very moment. The planet positions in this chart are therefore nothing more than the transits of that moment. The weird thing is that this chart is considered to be valid for an entire year, as if the "theme" for that year of life is to be found in here. Of course, objections to this idea are easy to find. Firstly, it is very improbable that fast passing transits as the one from the ascendant, who are otherwise never taken seriously, suddenly get a huge "responsibility" for a whole year! By the way, I have even met people who traveled far on their birthday only to avoid "nasty" house positions for the next year! Secondly, the idea just doesn't fit with simple observations: people do have "periods" in their lives, interests change, things happen, but it is *not* so that these time spans are marked off between birthdays. I still have to see the first biography of a person describing his life in such moulds.

Similarly "lunar return" charts are in use, valid for one month, etc. Strangely, astrologers also pay attention to the returns of other planets at their natal positions, but for example, they *don't* go that far to take a Saturn return as being valid for the next 29 years. So, in that case they think more logically.

Another return, made popular by the Slovak gynaecologist dr. Eugen Jonas, is the one of the *lunar phases*. It seems to have emerged from his research that women be more fertile at times when the lunar phase is the same as at their birth [Jonas 1982]. Unfortunately again for the sake of astrology, this conclusion appeared to be premature, it could not be replicated.

3.3.8.6.   Rectification

Not satisfied with your natal chart? No problem, an advanced astrologer will offer you his services to correct your time of birth (or to "rectify" it, as they use to say). One take a series of dates of important life events and look if the prognostic techniques indeed come up with something for these dates. If not, the birth time is shifted back and forth until the best fit is reached. Since progressions and directions are so sensitive to the exact natal time, they are used most often for this purpose, but, as you can suspect, I would rather recommend transits.

Now, this sport, but used on people with an exactly known birth time, is indeed an interesting test for the validity of predictive techniques. And skeptics did saddle up astrologers with it, but unfortunately, no one was able to find out the real birth time of the test persons.

A useful tool to experiment with rectification, is implemented in my software program *Radix* (see the appendix about "transit concentrations").

3.3.8.7.   Astrocartography

Astrologers want to predict, not only in time, but also in space. How would it be to move to this or that town? Would I be more happy and successful in New York or in Sidney? Such questions asks "astrocartography", so-baptized by Martin Davis, or better: such answers does it give (asking questions is for scientists). To find yourself a girl-friend, go to your Venus line[1], and so on.

The basis of this system is obviously quicksand. There is absolutely no reason to assume that you could change the least bit of your natal chart by moving to another place, or that you would get an additional "second chance" horoscope as if you were born on that place. Using the same way of thinking, you could invent that you should make a new horoscope every morning for the moment you wake up (wow, isn't that an interesting commercial idea?). A spicy consequence: the concept of astrocartography and the idea to go visit a nice spot for your *solar return*, those two together could produce some nice firework. Indeed, your promising astrocartographic sun-Venus crossing point might happen to be a dangerous sun-Saturn square between house 8 and 12 in your solar return chart!

Of course, nothing can prevent us to experiment with this technique. In principle it can be verified/falsified; but until now, all "proofs" are not more than a collection of very subjective anecdotes, carefully selected by believers.

3.3.9   Relationships

A skeptic one told me: why don't you first just do research about natal horoscopes, that's already bad enough, before you start to make hypotheses about relationships and astrology. Of course, this is as short-sighted as saying to a physicist: just first study the properties of electrons themselves, before you start with the interactions with protons. After all, without interaction, there *isn't* any "characteristic property" to talk about; it's only in relationships with others that someone's features become visible! Therefore, synastry research is probably the *best* way to find out more about the meanings of astrological factors.

By the way, the same argument could be brought forward for the study of predictive techniques. "How does someone react to a stimulus of a specific planet?" is an interesting question, since it is after getting stimulated that the differences among individuals show up. For example, someone having the sun in Capricorn might react in a different way to a sun-Saturn transit than someone having the sun in Aries.

Of course, many techniques exist in "synastry" or the astrology of relationships. We will deal with a few popular ones here.

3.3.9.1.   Mutual aspects

The most evident technique to say something about a couple is simply by comparing the two horoscopes, first of all by looking how the planets of the first person form aspects to those of the other one. That is not illogical: if someone with Venus in Taurus likes to show his affection in an earthly way, he will probably go well together with someone having Venus also in an earth sign. One can also look in which house of the other person one's planets are situated, but that's already a little far-fetched, and after all, it cannot provide more independent information than the comparison of both ascendants and mid-

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[1] Venus line = the line of points where Venus would be on your ascendant, descendant, MC or IC, if you were born there.

heavens (since the mutual house positions are practically determined once you know these two).

To support this technique, I can refer to my own research for example, of which you can find a report in the appendix.

3.3.9.2.   The composite chart

To study a relationship, sometimes a new "compiled" horoscope is constructed, also called a "composite". The point of the method lies in the definition of the midpoint of each planet pair as the new "planet position". Just like the primary direction this is also a castle in the air and strictly speaking not even a "horoscope"; there is never a moment when the planets actually have this position in the sky (Venus can even be in opposition to the sun in a composite).

If one wants to try out this technique anyway, there is still another logical problem that poses itself, namely: in a circle, there are always *two* midpoints between any two points. Example: person A has his sun at 10° of Taurus and person B has it at 20° Capricorn; the composite sun can thus be taken at 15° Virgo or 15° Pisces.

Often the "shortest" midpoint is taken, i.e. the point halfway in the shortest arc between the two. What has to be done in case the two planets are exactly opposite, is not really clear! You might say: yes, but there is always a tiny tiny difference in degrees, so there is always one shortest midpoint. Yes, but it also means that if one of the persons were born a tiny tiny fraction of a minute later or earlier, the composite position would suddenly fall at the opposite side of the chart! Even worse about this method is that, once you apply it to house cusps, you might obtain very remarkable horoscopes in which the midheaven falls *under* the horizon!

No problem, as you know by now, astrologers are creative people, and nobody less than Robert Hand invented the following trick to solve the problem: take the shortest midpoints for the planets and for the midheavens, then calculate the other houses starting from the composite midheaven, and use the average geographical latitude of both horoscopes, *or* that of the place of the relationship [Hand 1975, p.1].

The last stipulation is quite vague and again ambiguous. Moreover, with this method, you get as an additional small present a composite ascendant that differs from the composite first house cusp (for which eventually a delineation can be invented of course)! So,... trash-can, if you ask me. Meanwhile Robert Hand told me that he rarely ever casts a composite anymore, because of all the ambiguities.

There is another choice for the calculation though, namely by choosing always the midpoint that one meets first if one moves from the planet in horoscope A towards the one in B's horoscope in anti-clockwise direction. So, in the above example we would take 15° Virgo.

Mathematically: M = (((B-A) mod 360)/2 + A) mod 360.

First of all, it looks like this choice can be applied without trouble to the house cusps, and secondly in this case a small uncertainty in one of the partner's birth time will only cause a small uncertainty in the composite positions, and thirdly, common house placements also show up in the composite (e.g. if both partners have the sun in 10, it will also be the case in this composite), which seems a bit logical.

Notice though: if one interchanges both partners in this calculation, all positions will turn out to be in opposite signs. M. Meyer mentions this method in his book about synastry, but gives it a twist that is completely irrelevant:

> "The cyclic orientation of humanistic astrology requires that in the determination of the composite planets we have to take into account the phase in which they are situated. That can be reached by dividing the arc between the two planets in the direction of their natural movement." [Meyer 1986, p.187]

He also states there that in principle the oldest person should be taken as person A, and the younger one as B. Again that is something that can be argued about, and to me it looks simpler to accept that only the sign axis (e.g. Taurus-Scorpio), rather that sign itself is of any importance in a composite chart.

But even here we have a hidden pitfall: in rare cases, i.e. when A's ascendant is further than B's, while yet B's MC is before A's (e.g. asc.A = 0° Aries, asc.B = 29° Pisces and MC.A = 0° Capricorn and MC.B = 1° Capricorn), then again we encounter the same problem that the composite MC falls below the horizon, and again we have to mess around to "normalize" this. One might say: "Yes but, these are only exceptions!", but as said above, it's just by studying special cases that one discovers the strength of a theory. A chain is just as weak as its weakest link!

Another fundamental problem that one encounters with composites, is the calculation of the ecliptic latitudes of the planets. Starting from the basic definition of the composite, it doesn't follow how they should be calculated at all. Maybe the definition can be made more logical by saying that one shouldn't take the midpoint in ecliptical longitude, but rather in two dimensions (longitude and latitude). But then again, all existing composites are not correct anymore of course...

So, if one absolutely wants to experiment with composites, one has to be aware of the limitations, and one better look always at the synastry aspects too. After all, the information about the relationship between the two moons, Venuses, etc. is completely lost in the composite.

3.3.9.3.   The Davison chart

Another trick to make one out of two, is the Davison chart, sometimes simply called relationship horoscope. It is positively a "horoscope", and more specifically for the midpoint in time and space (on the globe) of both partners. E.g., if A was born on April 1st, 50°N, 4°E and B was born on June 1st, 50°N, 8°E, one should cast the chart for may 1st, 50°N, 6°E [Gettings 1985, p.426]. The planet positions are therefore *approximately* equal to those in the composite (they would be exactly, if the planets moved steadily). This has the advantage that they are stable in time, i.e. if one of the partners was born a little bit later or earlier, the Davison positions will still be more or less the same, while in a composite they might suddenly turn upside down. The snake in the grass: if the partners were born far from each other, the spacial midpoint can easily fall in polar areas, with all the nasty consequences. Ingenious astrologers recommend in that case to use the place of the relationship, which is of course, again ad-hoc messing about.

I have serious doubts about this system. I cannot think of any reason why a place in Siberia would mean anything to the relationship between a Swede and an Indian; neither why the planets in 1950 would say anything about those born in 1945 and 1955.

3.3.9.4. The house contact horoscope

This is a freak of stature. Here, both partner's planets are considered, but they are stretched out and wrenched until both horoscopes have the same houses, such that the two horoscopes fit in each other [Meyer 1986, p.178]. Use your common sense and stay away from this.

3.3.9.5. The horoscope of a relationship

If one believes that the whole is more than the sum of its parts, and one therefore wants for his relationship something more than just the two separate horoscopes, the only logical solution I could come up with is to take the horoscope of the start of the relationship. That might not always be easy to define, but there is always something like "the first kiss", or the marriage. This way, one obtains a "real" horoscope in which the atmosphere of the moment and the place could be reflected.

Still, there are troubles to think about here: first of all, there is no "physical carrier" for the horoscope, and secondly we have serious problems in case of relationships that come into being on a distance, via the telephone, via internet,... Which place shall one use to cast the chart? It is hard to believe that it is possible to calculate horoscopes for some relationships and not for others.

3.3.10 Consistency

One condition to take a system of knowledge seriously is that the statements it produces should be mutually consistent, i.e. they should never contradict each other. "Of course!", you will say...
And yet, the different synastry techniques we saw, can produce totally conflicting conclusions about a relationship, and the different prediction techniques we saw, can produce very different dates to predict the same event.

We already saw that, from al the predictive techniques, transits make the most sense, and from all the synastry techniques, mutual aspects do. Well, there is another additional reason why these are to prefer, namely: they are the only ones that are consistent with each other and with natal astrology.

If two people have a certain planet in aspect to each other, they will have similar transits at approximately the same time. For example, suppose a man has his Venus at 5° Taurus and a woman hers at 5° Virgo, they will both have a tendency to fall in love when Neptune transits at 5° Capricorn, and
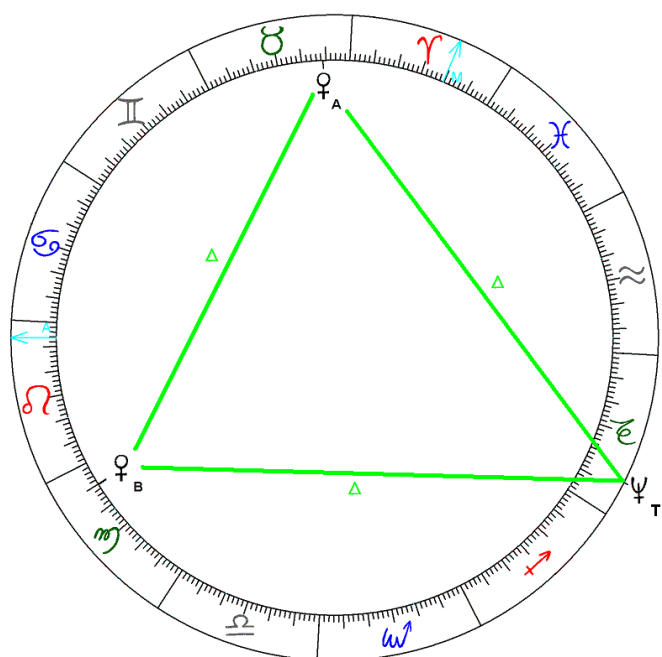
thus the chance that they fall in love with each other if they meet, is increased. This confirms that a mutual
Venus-Venus aspect has something to do with attraction. Now replace "transit" by "progression" or "direction" and the reasoning falls apart.

So, without having to do the least bit of empirical research, we can already conclude that synastry aspects have to work if transits do. And more: if we only know that transit squares and trines work, we know that also synastry quincunxes and semisextiles have to work. After all, if A's Venus is at 5° Taurus and B's at 5° Gemini, both receive a Neptune-Venus transit when Neptune passes at 5° Virgo. Notice: the opposite (transits work if synastry aspects work) is not necessarily true.

Use any kind of "relationship horoscope" instead, and it can very well happen that it receives very bad or very beautiful transits, progressions, directions or whatever, without there being a similar kind of transit, progression, etc. on their natal chart. In other words, a lot of intense things might be going on in the relationship without one of the partners being aware of it? This sure looks like a serious contradiction to me.

3.3.11 Mixing up different systems

As we mentioned above, one can divide the world in different categories, according to different systems: yin and yang, the 3 gunas, 4 or 5 elements, etc. Each system has its limitations and provides a structure to a specific facet of the human environment. So, the system of 12 zodiac signs, further structured in 4 elements x 3 qualities, gives the color of a character. To be all right, such a system has to be "complete", or in mathematical terms: a "partition", i.e. every possibility has to have a place in one of the categories. It shouldn't be that for some people we would need a thirteenth sign. In the Great Arcana 22 cards give all possible kinds of answers to a question. In the Yi Ching there are 2x2x2x2x2x2=64 of them.

The set of heavenly bodies studied in astrology is *not* such a classification system. It is a group of what one could call "organs" or "functions", and the working of each one of them can be expressed in 12 possible ways. It would very well be conceivable to practice a limited, but working, astrology using nothing but the sun and Mars, or the moon and Saturn, but never with only Aries and Taurus! The planets and the signs are radically different concepts, and thus they can under no circumstances be treated on equal terms. So, people who try to make links between the 22 tarot cards and 12 signs + 10 planets, are without any doubt completely wrong. Similarly there is no way to relate 12 signs and 64 hexagrams, whatever some may claim. How I think about the links made between numerology (which is by itself already extremely doubtful) and astrology, you can most surely guess by now!

This doesn't mean that you couldn't use several systems in a complementary way to find out things about someone. E.g.: it would be perfectly possible to combine conclusions from a tarot spreading or a graphological study with a horoscope analysis.

The existence of a connection between e.g. graphology and astrology is thinkable of course. Indeed, if someone's character depends on the horoscope, and the handwriting depends on the character, logically, there might be something like a typical "Aries handwriting" or a writing connected to a strongly aspected Saturn, etc.

3.3.12 Horary astrology

In the so-called "horary astrology" one studies the planet positions at the moment when a certain *question* was posed. Quite different rules are applied here, compared to those from personal, natal astrology. The person that asks the question is represented by the ascendant, and the requested by the cusp of the house related to the subject of the question. The answer is then delivered by looking at aspects between the ruler of the ascendant and the ruler of the house of the question.
This branch of astrology is obviously wrestling with enormous logical problems.

A question like "Will my wife come back?" is still relatively easy. In case the ascendant is in Leo at the moment of the question, one look at aspects between the sun (ruler of the ascendant) and Uranus (ruler of the 7th house cusp, connected with partnerships). If there is a "good" aspect between both, the answer is "yes", otherwise it's "no".

When can an aspect be called "good"? Of course that's a point of discussion. What is the orb to be used? Isn't it weird that an aspect with a deviation of 8°01' to the exact aspect angle suddenly doesn't count anymore and makes the answer turn into "no", while we would have a full "yes!" if the deviation were 7°59'? Do only applying aspects count? Can aspects be blocked by an interfering third planet? [McCann 1997a]

It gets even more complicated with questions like: "Will my friend's daughter move?". No problem, one take the fourth house (home) of the fifth (daughter) of the third (friend) as being the house of the question. Now the catch question: what if this daughter of my friend also happens to be the wife (house 7) of my boss (house 10)? Or, posing the question "Will John bring my book tomorrow?", does it play a role if John is my friend or not? Whether it is a study book or a novel?
What if the ruler of the ascendant is the same as the ruler associated with the question? Take a co-ruler, the moon? But what if the ascendant is Cancer? Then take the degree of the ascendant?
This starts to look like some technical game with very low credibility. Some astrologers will counterclaim that these are just rare cases, but it is exactly in border cases that one can optimally descry the strength or the weakness of a theory.

Further, everything will make or break with the choice of the house system to be used. Moreover, one can opt for the classical sign rulers or one of the modern variants. We already saw above which strings are attached to this.

One also needs a "place" to cast a horary chart. And of course there is no unanimity in this matter either. Take the location of the one asking the question, or that of the astrologer? Maurice McCann is clear about this:
> "Always use the latitude and longitude of *the person asking the question* since the question was born in their mind at their location and not at that of the astrologer's. It is their question and only they fully understand it." [McCann 1997b]

Other astrologers have the same rock-solid conviction of the opposite, like e.g. Alphee Lavoie [Lavoie 1995, p.12] and Erik van Slooten:
> "I am strongly convinced that the place of residence of *the astrologer* is the one that counts. Especially while I receive a lot of telephonic questions from abroad, I have been able to collect excellent experiences [van Slooten 1994, p.21].
Surprising, isn't it?

Shall one use the point in time when the question occurred (e.g. in the middle of the night), or the time when the client was able to contact his astrologer the next morning?

You see, there comes no end to the problems, and if you ask me, it's much easier to toss for it, if you really want a "cosmic" answer!

Ironically, horary astrology is actually more suitable to falsify than psychological astrology, since it produces neat and concrete "yes or no" answers. The above "opinions" are based on "years and years of experience", according to the authors. How come then that they don't reach the same conclusions? *Apparently something is wrong with the way most astrologers draw conclusions from experiences.*

4. RESEARCH

4.1. Two approaches

Two angles of attack are possible to approach astrology with scientific glasses: first we can wonder how there can be a relation between phenomena in space and here on earth, in other words: which mechanism might *explain* such a relation. Secondly, a lot has to be measured, found out statistically, to come to a precise description of what kind of astrological effects actually *exist*.

An explaining theory by itself will probably have little practical value to astrologers in their daily job, as little as the knowledge about brain mechanisms helps us to understand complex thinking, but is needed to give us some assurance that possible statistical results are more than just coincidences, and that we are not dealing with nonsense correlations[1]. Both approaches can come to development independently and be unrelated for a long time, just like the explanation of neural mechanisms is quite unable to explain the origins of Shakespeare's work.

4.2. Approach 1: looking for the *mechanism* behind astrology

For skeptics, the explanation of astrological effects is simple and straightforward: one reads which character traits one should have according to his horoscope, and therefore one starts to develop them. Behold, that's how the Aries becomes Aries and the Taurus Taurus.
That this indeed does play a role, has been proven (see above), but all right, let's assume there is more interesting stuff to tell.

Antique "explanations" like "so above, so below" really don't explain anything at all (see also the chapter about the meanings of planets). The era in which such dogmas sufficed is more or less over. They date from the time when people thought the earth was flat and there was some kind of "upper floor" for the gods and a "downstairs" for the mortals. Now we know that the entire solar system isn't more than a speck of dust in the universe, and in which we people are even much tinier specks.

A few years ago, on a conference, philosopher Wim van den Dungen proposed the possibility that the planetary rhythms became baked in into our genes, because the ancients were continuously observing the planets and associating mythological themes with them; i.e. some kind of collective self-attribution effect if you will. This seems improbable to me, all the more since there were only a few doing astrology.

Fashionable these days is the so-called "theory of synchronicity", always imputed to Jung, but also before him people were playing with the idea. The point is that planets don't influence us in a *causal* way: there is no cause-and-effect relation between planet positions and things happening on earth, but it is like the planets form some kind of gigantic watch that indicates something like "the quality of time". Now, this theory actually explains nothing: the problem is just shifted to another riddle: "How the... does this synchronicity work then?" [Jung 1955].

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[1] A well known example is that of the French village where suddenly many more children were born after the arrival of a bunch of storks, so...

Peter Roberts remarked that the analysis of the Gauquelin data suggests that planetary "influences" or "information" move with the speed of light and not "instantaneously". He used this as an argument against synchronicity [Roberts 1991, p.85], but I think this is besides the question; anyway there is no such thing as "immediate, useable information transfer"[1]; also to read clocks some time is needed by the light to reach us. (I don't want to throw away Einstein's theory of relativity just like that.) "Synchronicity", in the sense used by astrologers, is not more than an expensive word for "we don't know", and certainly not an explanation, and the "theory" as such can therefore not be falsified.

Jung actually stressed that one should always first look for a causal explanation, wherever that is possible. He then invents the causal theory of "time quality"[Dean 1996], but this flies in the face of what has always been a successful hypothesis, namely time being homogeneous[2]. By the way: Newton's theory of gravity was based on this assumption, which in turn led to the calculation of the planetary orbits!

Rupert Sheldrake, one of the most original scientists of this time, plays with the interesting idea that so-called "morphogenetic fields" (in my humble opinion a new word for the old Sanskrit "prakriti", in which you can already recognize "procreate") are behind the emergence of everything, which he also tries to support experimentally. Here we might one day find mechanisms to explain astrology, other than traditional causal influences. Such a theory does require a revolutionary revision of the scientific paradigm, and he will need to collect a lot of evidence before his colleagues will take him seriously [Sheldrake 1983].

So, for now, let us look if there isn't any possible explanation that fits in the current scientific realm of thought, a *physical* theory.

As far as I know, there exist only a few people on this planet who are seriously occupied with this subject.

Retired judge and astrophysicist Theodor Landscheidt investigates how planetary movements have a disturbing influence on the solar radiation and how this appears to be connected with several economical and biological cycles [Landscheidt 1989].

Astronomer Percy Seymour, who was very skeptical in the beginning, wondered how the planets might possibly influence us, and he had to come to the conclusion that there was a conceivable way, through the magnetic field of the earth, which is influenced by the tidal force of the planets, and through the solar wind which fluctuates when the planets are in certain heliocentric aspects. The nervous system of many animals (some bacteria, birds, fish,...) acts like some kind of an antenna for this. And it even seems from experiments that also humans have some sensitivity for this [Seymour 1988][3].

Medical doctor Frank McGillion studies the last step, that of the receiver. He thinks we have to search in the pineal gland in our brain. It appears that substances sensitive to magnetic fields reside there, like magnetite and melatonin. It is also proven that the quantity of melatonin present at birth (well, during the first days after birth), is one of the determining factors for the development of the person (e.g. the age of the puberty) [McGillion 1995].

So, these scientists don't have a conclusive and finished theory, but without doubt they are on some track that can lead us to one.

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[1] Well,... it is true that "immediate" quantummechanical connections exist, and also precognition phenomena, but I doubt if they have anything to do with planetary influences.

[2] In the presence of gravity time can go slower, but that is another matter.

[3] Illustrative of the lack of interest from astrologers, is the fact that his book doesn't even get sold in the sales circuit!

If the mechanism behind the working of the planets is of biophysical nature, it becomes difficult to explain horoscopes of countries, companies, questions, etc. It would be strange if there were a different mechanism for those kinds of horoscopes! Among all the predictive techniques only transits are plausible in the frame of a physical theory. Progressions etc. aren't because at the time of the progression there is nothing that can act on the horoscope owner (the planets are not really at the "progressed positions"). If it ever (indisputably) appears that these techniques work, we will have to find a different mechanism.

Apart from the question how the planetary information reaches us, there is the question how it determines us. We already mentioned this issue in the chapter about the birth time (planetary midwife vs. blueprint theory).
If the only astrological influence consists of the foetus "listening" to the planets to be born, then a weak planetary force will suffice to explain astrological effects. After all, all they have to do, is being the last drop that makes the bucket overflow.
The blueprint theory requires a "stronger" planetary force because "it" all has to happen at the very moment of birth. There is something to be said in favor of this theory, after all, it is often true that the very first impression we get from something, influences us more than all that follows. Things that we learned the first, often last the longest in our memory. If one teacher taught you something, a second one will probably have difficulties to convince you of a differing opinion.
The midwife theory as the weakness that it can hardly explain character differences related to the sign positions of the planets. After all, the foetus might have some influence on the time of birth, but practically none on the month of birth! (Unless, of course, one supposes that ephemeris table are available in heaven to be consulted by entities ready to reincarnate!)
The blueprint theory has the disadvantage (well,...?) that the horoscope might well "die out" gradually during the course of life, just like any first impression can be erased by later influences.

To conclude, let us not forget to mention the still existing possibility that the planets might have nothing to do with life on earth, but that astrologers are successful because they know how to take advantage of subtle information they pick up from their clients. That might be emotional reactions to questions they ask, mimicry, etc., and even telepathic exchange of thoughts. Maybe you think the latter is just as probable or improbable as astrology itself, but for some paranormal phenomena there is much more rock-solid evidence than for the astrological ones. If you are interested in this, I can recommend you warmly the work of Dean Radin [Radin 1997].

4.3.   Approach 2: the descriptive way of statistics

4.3.1   A descriptive theory

Currently there is no such thing as "the" astrology. Many astrological claims exist, and there isn't really much of a thread that connects all of them. Before we can ever arrive at a descriptive theory, i.e. a minimal set of consistent rules in which all observed effects fit, the wheat has to be separated from the chaff. Those still not convinced of this, I recommend authors like van den Dungen [1993, chapter II], Dean [1996], or van Rooij [1991a].

I hope to have shown enough that we can limit our efforts by selecting the most plausible techniques in advance, based upon some logics.

What I want to achieve next, is to reduce your possible fear for statistics, and to teach you some tips and tricks to observe in this difficult matter.

4.3.2   We are all doing statistics

Suppose, I show you a Fleming and a Dutchman. If you are familiar with the Low Countries, you might be able to tell at first sight who is who, maybe not. If I showed you 50 Flemings and 50 Hollanders, you would be able to identify them with quite some certainty, and you would notice the difference even if you're not from around. Why? You were counting characteristics, and you decide that the group with the most "rabbit-like" teeth has to be the Dutch one[1]. Probably you also estimate the average length and you will be even more sure about your guess if that group is indeed taller than the other.

You see what I'm aiming at? Not every Hollander has the same features, but any good caricature artist does know how to picture the "typical" Dutchman, Belgian or Englishman. Our mind seems to be oriented strongly to distillate the common things (a "Gestalt" if you will) out of repetitive observations, and to compare each subsequent observation with the reference groups in our memory, to see in which one it belongs. So, we are actually doing statistics all the time; only, sometimes we draw conclusions too quickly, because we base ourselves on too few data, because we are careless with our observations, or... because we *prefer* to see some things confirmed or disconfirmed.

Serious statistical techniques are just a tool to chart in an objective way deviations of expectation patterns (models), and to draw conclusions from this, conclusions in the sense of probabilities though.

Some more examples:

If you saw a young girl smoking a pipe, you would probably be surprised, because you would rather associate a pipe with an old, bearded man. Well, statistical techniques just say *how* surprised you should be.

A statement like "If the sun is higher in the sky, it is warmer." is not always true; there can be disturbing clouds, or wind, etc. And yet, everybody will agree with the claim that the height of the sun is indeed influencing the temperature. We can detect ("prove", if you will) this influence by *counting*, counting how often this statement is true and how often it isn't. We can then conclude (i.e. estimate with certain formulas) with which *probability* the claim is true. If there is not more than 5% chance that a claim is "false", i.e. due to random coincidences, it is usually said to be "significant".

Many astrologers are particularly hesitant about statistics, for example:

> "The derivation of "right statements" in whatever astrological theory is not possible, since astrology, strictly speaking, doesn't work with statements but with structures, who have to be 'interpreted' in terms of practically different statements. Therefore a statistical approach of astrology appears to be problematic" [Schubert-Weller 1993, p.94].

True, but even if there is a multitude of possible interpretations and manifestations for each astrological factors, that is no argument against the possibility of statistical research. In medical sciences it is also known that the same cause can have different effects on different people. Even there, one can find a coherence, just by searching for enough correlations. Astrology produces statements about people and events. And, statements

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[1] There is one thing you have to know about Flemish and Dutch people: they always make jokes about each other!

that are falsifiable, are available for statistics. The others are nothing more than thin clouds of no use to anyone.

An often heard slogan of astrologers against statistics is that "thou shalt not tear the horoscope apart", and the statistical method is guilty of that.

> "But this is like ripping out the heart of a person and then analyzing it to see what can be learned about the human body." [Perry 1995, p.33]

Well, to be able to become an astrologer, one has to go through textbooks in which all the different factors are explained one by one. Later, as a fully graduated astrologer, one can make a synthesis of the whole of the horoscope, but once upon a time one had to find out somehow what it means, for example, to have "Venus square Pluto". People having Venus square Pluto therefore need to have something in common, somehow recognizable, or otherwise the textbook is nonsense. Biologists indeed *did* learn a lot about the body by ripping out the heart! That's how medical science started. We can now study the body in a holistic way, but astrological research simply didn't come to that stage yet. We don't even know the meaning of the pieces decently, so what could we say about the whole?

And anyway, there are statistical tests who *do* use the complete horoscope, such as those where horoscopes have to be matched to the right person or psychological description. Unfortunately, astrologers have never been successful in this kind of tests, and that of course, might explain their fears.

It is also peculiar to see how astrologers wave statistical results when it suits them. So, Dennis Elwell is quite fond of the study done by Gunther Sachs (see further) in his book *Cosmic Loom*, while he writes on the same page that "...statistics produce sometimes contradictory results..." and therefore "they might not be useful in investigating astrology" [Elwell 1999, p.15]. A normal common sense, logical conclusion would be: maybe the found correlations were simply not real!

4.3.3   Technical tips

4.3.3.1.   A hypothesis

Suppose, in a class of 30 students, I do the following test to find out who is clairvoyant: I toss a coin and I ask the students to "guess" which side was up. Only those that were right, can do the next round, and I repeat this 5 times. Finally one of the students remains with all five correct. Can I conclude now that this one is the most clairvoyant? No! After all, there is one chance in 32 (2x2x2x2x2) that one guesses 5 times correct, so in such a group there is most probably someone doing this by accident. In a group of 1000 there is probably one that can do it ten times.

Similarly there is the German Gottfried Angeli who keeps himself busy trying to predict the lottery results astrologically. A nice idea of course, if it weren't that failure is predetermined since the lottery people regularly change their balls and machinery in order that never any "patterns" should emerge. The man finds "results" though! So, "284° between Mercury and Mars will favor the number 44; Jupiter at 3° Leo makes that 49 wins often, etc." Yes, what he forgets here, is that when one wildly looks around to enough different factors (midpoints, distances, positions,...), one will always find correlations. For those interested ones among you: he keeps his research "up to date" and on request he will send you his next prognoses, for the little sum of 50DM indeed! [Angeli 1994]

Less obvious maybe, but nevertheless tricky, are the studies done by Gunther Sachs. This gentleman, one of the more wealthy among us, bought a bunch of data from institutes, insurance companies, etc. to find out if any connections with sun signs existed [Sachs 1997]. He really studied all kinds of things for this purpose, from professions to death causes, from driving behavior to marital status. Of course, he found significant results, which led him to hold astrology proven without doubt. Why *of course*? Because, if you investigate 100 different correlations, by definition you'll have 5 of them producing accidentally significant results. Of course, his effort is still praiseworthy, but one has to be careful interpreting the results (also because there are many inaccuracies it[1]).

What is the moral of the story? Before one starts to investigate, one should have a *hypothesis*, a concrete statement that can either be found true or not. Of course, one can start with a so-called *explorative study* if one doesn't have a clue yet about the connections that might be found. But that won't have evidential value yet. The previous examples can be considered as such. For example, I can now formulate the hypothesis that the left over student is clairvoyant, and continue to test only him. If he *keeps on* getting good results, then we can draw conclusions.

If one can't be concrete yet, one can start with a minimal hypothesis: the so-called "zero hypothesis": the assumption that there is no effect. In the Angeli example that would be: "There is no relation between Lotto numbers and astrological factors." One can then subdue the *joint* measurements to a so-called χ^2-test (read: chi square) to know the probability of this hypothesis being valid.

Later, if one thinks to have detected something in this explorative study, one can formulate a specific hypothesis, but to confirm or disconfirm this, *new* data have to be used.

4.3.3.2. Statistical pitfalls

I will not make this an entire course of statistics, full libraries have been filled with that already [e.g. Wijvekate 1960], but it appeared useful to me to illustrate a few problems that occur especially in astrological research.

Testing an astrological rule, is more than just finding a few cases that fit the purpose. One also has to take into account those cases that don't fit, and to have a precise idea of how the situation would be if not astrology but "coincidence" were acting. And exactly the latter is much more difficult than it seems.

A typical example is the following: a few years ago I was happily surprised to find in an astrology magazine an article of someone trying to test a hypothesis in a serious way [Govaert 1995]. His finding was that among politicians Mars and the sun happen to be in the same sign much more often than expected "by coincidence". Unfortunately, the poor man didn't use the right "coincidence"!

Every astrologer knows that Mercury and Venus are always near the sun, but the fact that there is such a correlation between other planet positions and that of the sun, is quite unknown. It is an astronomical fact that, the closer a planet's orbit is to the sun, the smaller the average arc with the sun will be. This has nothing to do with the eccentricity of the orbits, it would happen all the same with perfectly circular orbits. The effect is entirely due to our observational position, i.e. earth.

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[1] For example: Sachs often "converts" numbers per month to numbers per zodiac sign, which is only possible in a very raw approximation; and what we want to detect, is exactly whether a division in zodiac signs produces more significant results than any other divisions. Also many averages are clearly calculated wrongly, and sometimes he uses wrong statistical tests, in spite of his recruitment of "qualified" people from the university of München.

A count in a group of 1000 random 20th century horoscopes gave me the result that the sun and Mars were in the same sign in 137 cases. In no more than 28 cases they were in opposite signs! So, the probability to have Mars and the sun in the same sign is *not* 1 in 12, but approximately 137 in 1000 or 1 in 7.3. For Jupiter we move more towards 1 in 12, but it is still more (99/1000, or 1/10).

So, in the sample of 212 politicians we should expect 212x137/1000 or 29 having sun and Mars in the same sign. Well, there were actually 30 of them.

If one, like in the latter example, wants to count if a certain type of people has a certain astrological factor abnormally often or rarely, one needs a control group of random horoscopes to compare with. But also with this "randomness" we have to watch out!

There are two reasons why the expectation frequencies of astrological factors are not easy to determine:

- *astronomical* ones: for example: in the northern parts of this planet, many more people have ascendant Leo and Virgo than Aquarius and Pisces; also some aspects between slow planets can last very long. And even when testing aspects with faster planets, like "Mars conjunct ascendant" one should be careful. Indeed, taken over a long period of time, the probability for this aspect is easy to calculate (two times the orb divided by 360), but if the data come from a period like a few years, the long lasting retrogradations of Mars, combined with the unequal ascendant distribution might cause seriously differing probabilities [de Jager 1991]. Many more weird chance expectations can be found [Pottenger 1995b]. Using the software program *Radix 4.1* such distributions can easily be obtained.

- *demographical* ones: for example: more people are born in the spring, and also in certain parts of the day, and these differ from country to country. Also, in studies about other phenomena than births (e.g. accidents) one has to beware for possible variations according to the season, day of the week, etc. If more accidents happen in the weekend, there might be a correlation with the lunar phases if one takes data samples in a short period (since the lunar phases last about a week).

So, ideally one should use a control group of real people, born in the same area and the same time span as the investigated group. The first one should preferably be much larger than the latter, and not approximately as large as the latter, as is often assumed wrongly in social science environments. The reason is that one should try to reduce as much as possible the noise (proportional to the square of the number) on all data. If that's not possible by using a larger test group (e.g. because of availability problems), then at least by making the number of reference data larger, if they are easy to find or to generate.

Collecting a "random" group is not evident; people on the street, customers, friends, etc. are not random. Taking a sample from the register of births might be the best thing to do, but who has access to these sources? Additional complications emerge if the test people don't come from one area and the test is about houses.

A control group can be obtained most easily by generating one in some artificial way. This can be done in several ways: (1) by letting the computer produce random moments or (2) moments at regularly spaced time intervals, or (3) by manipulating the data from the test group itself.

Method 1 has the disadvantage that it generates more noise, method 2 requires some careful thinking: one better avoids that the interval be equal to a day, or to the period of a planet divided by a whole number, because otherwise certain factors would

automatically be more abundant. Both have the weakness that they cannot compensate for the demographical disturbances.

Method 3 is probably the most refined, but it has to be invented for each kind of problem, and that is not obvious [van Rooij et al. 1992]. In case one wants to test house placements, like in Gauquelin's research, one can generate a control group by taking the same birth moments, but with birth times that are interchanged in different ways. After all, one has the correct distribution in function of seasons and hours, at least if there is no correlation between hours and seasons of birth. This is probably not the case, but to avoid taking risks, also the years of birth can be interchanged instead of the hours [Ertel 1995]. In case of synastry research one might mix up the examined couples, provided that the same distribution of the age differences has to be emulated [Ruis 1992]. If enough control groups have been constructed, the effect sizes in the whole set will be normally distributed, and the so-called z-test can be used to check how far the test group is in the tail of the distribution, to get an idea of the significance.

Not only the composition of the control group causes trouble, also that of the test group. After all, it is not always clear if someone fulfills all the requirements. One of the points on which the skeptics attacked Michel Gauquelin was that he might have thrown out wrongly some sport champions of his group. Then, Suitbert Ertel was so smart to rank the sportsmen according to their eminence and to check if the Gauquelin effect increased as they belonged more to the absolute top (which indeed appeared to be so) [Ertel & Irving 1996].

This technique is the clue to avoid the necessity to have demographically precise control groups. Suppose, for example, that one wants to examine whether the possession of a Virgo ascendant is correlated with having good skills for mathematics or not. To do so, one could go to find all the gifted pupils in a certain school and count the percentage of Virgo ascendants among them. Then one would have to compare this with a (difficultly obtained) control group of random pupils of the same age, same sex, same race, etc. One could also take the global Virgo percentage of the entire school as a reference, but nothing says this is representative for the whole population; after all it's possible that this school somehow attracts more Virgos. So, better is to compare the Virgo percentage of the mathematical pupils with that of the *rest* of the school. More certainty about possibly observed effects can be obtained by working with *gradations* of math skills, and then check if the percentage of Virgos increases as the exam results for math improve; or: compare the average scores per ascendant. Doing so, it doesn't matter if one has accidentally a few more Scorpio or Capricorn ascendants in the group. The numbers one has for each ascendant will be reflected in the standard deviations on each average, and these are in turn taken into the calculation of the global significance.

A technique apparently very unknown in the world of social sciences, while it is very common practice in the exact sciences, is *curve fitting*. There, the so-called "method of the least squares" is used to find the curve of a specific class which fits the best through a number of measurement points (e.g. math scores vs. ascendant degrees). The kind of curves to use depend on the assumptions (the model) we have about the examined effect. For example, for the investigation of many astrological effects it is appropriate to fit with wave-shaped (sinusoidal) functions ("Fourier analysis"), namely each time we search for cyclic effects like correlations with lunar phases, placement of planets in houses, Gauquelin zones [Smith 1995], zodiac signs, decanates, etc. (at least if one doesn't assume abrupt boundaries between houses etc.). In principle we might also use these functions for aspect research, but if we expect that the strength of an aspect decreases quickly with the distance to the exact aspect angle, then a more peak-shaped

function (e.g. the so-called Lorentz function) is more appropriate since it reflects better the hypothesis, i.e. there are less parameters to adapt to obtain a good fit with the measured data (see the appendix "Love at first sight" for an example).

Astrology tests for which the control group can be obtained by pure probability calculation, also exist. For example: *matching tests*, i.e. coupling the right horoscope to the right person (or description). However, care is needed also here. For example, one should select test persons randomly and not pick out cases where the horoscopes are "strikingly obvious". Otherwise we might obtain excellent results, who don't say a thing about the truth of astrology though, but rather about the bookish knowledge of the tested astrologers (the so-called Vernon-Clark effect) [F.Gauquelin 1995]. One should also pay attention to the age of the test persons; if they are present, they should have approximately have the same age, since from the horoscope (esp. the slow planets) it is quite easy to estimate the age. If the test consists in matching transits to event descriptions, one should care not to offer choices between things like "birth of first child" and "promotion at work" when one can see from the horoscope that the person is 45. All events have to seem equally probable.

For those of you who want to experiment, let's look at a test in which N times is chosen out of M cases. The probability to have all N guesses right, is then $1/M^N$; for example one in 1024 if one has to guess ten times between two possibilities. The probability to have Q right, is given by:

$$p(Q) = \frac{N!(M-1)^{N-Q}}{(N-Q)!\,Q!\,M^N}$$

For example, if one makes astrologers guess five times out of two cases (so, 5 persons with 2 possible horoscopes for each one, or 5 horoscopes with two possible persons for each one), then we have the following probabilities for having 0 to 5 correct guesses: 1, 5, 10, 10, 5, 1 in 32. This means that by pure gambling, most of them will have two or three correct. So it's better to make the test a bit more difficult, by making them choose among more horoscopes, but this will also increase the complexity of the task greatly. Just giving them more cases in which they have to pick one out of two each time, requires less painful brain activity.

People willing to know more in detail about astrological research techniques, I can warmly recommend to read the anthology compiled by ISAR [Pottenger 1995], or to subscribe to one of the magazines listed at the back.

4.3.4   Suggestions for tests

I have observed that virtually all tests fail for which (1) a great astrological knowledge is required, or (2) a complicated psychological analysis is related to an astrological one. Examples of the first are rectification tests like those organized by NVWOA and Skepsis, and matching tests like those organized in the Study group The Round Table (see appendix).
Jan van Rooij gave an acceptable explanation for the failures, namely that the mount of information that has to be processed in such tests is simply too huge, and he compared them with a contest done by a ladies magazine in which readers had to match the right husbands and wives using descriptions, which also turned out to be too difficult [van Rooij 1995].

By the second I mean all research in which inquiries, personality tests etc. are involved. Psychologists don't always agree how they should measure optimally character traits like "introvert", "sloppy", "brave",... or intelligence quotients and so on. Astrologers don't agree how they should read these things in a horoscope, so it's no wonder at all that not much interesting emerges from the comparison of both. Mike O'Neill's research concerning marriage happiness, the giant enquiry done by Peter Niehenke for his doctorate thesis, and you name it: they only brought disappointments. The latter did notice something though, in which we can find a good clue, something that looks similar like a mathematical "eigenvector" problem, which we already mentioned in the chapter "from horoscope to human language": F. Stark also conducted a personality test, but he only fathomed the character traits found by the Gauquelins. This test did give good results, while his own, neatly psychologically calibrated test didn't.

> "Stark made the meaning of the planets operational, using the keyword lists (kwl) of the Gauquelins. So, Eysenck underlines clearly the big significance of an appropriate operationalization of the astrological concepts (...). He goes so far to claim, that the success of a study aiming at a proof for the planetary effect for ordinary people might depend on the way of operationalizing the effect (by keyword lists *or* by the questionnaire FPI *or* by a questionnaire especially designed for this study)." [Niehenke 1987, p.188]

Using a metaphor, we can state that astrological factors might say how far you are inclined towards north or south, while psychological factors say how far you are inclined towards east or west. They are then complementary and they can hardly be correlated. Therefore it is probably better to assume no a priori relationship anymore between character traits and astrological factors, but to assume that each astrological factor contributes a little bit to each trait. One can then find out (statistically) how much, and conversely try to predict that trait from a model (in the simplest case a linear one, like the von Klöckler graphs or the character description based on the research of Fuzeau-Braesch and Delboy) for a new group, and check if it's fitting. Peter Niehenke, meanwhile seems to have given up all his hope, and he fears that recognizing something in a horoscope is similar to recognizing faces or sheep in clouds. Everybody can say that he recognizes something different in them, and everybody is right [Niehenke 1996]. I would comment to this: doesn't this apply for psychology too?

I think, in the first place we will have to continue (1) with tests in which the astrologer has to concentrate only on one facet at a time, like e.g. guessing the sign of one's sun (by the looks [Barret 1972], since the behaviour might be influenced by self-attribution), one's moon or ascendant, where we should not forget to use the correct probabilities; or (2) tests in which no astrologer or psychologist at all is involved.

Actually, there's enough objectively established data existing to analize: exam results (from schools), statistics from hospitals and insurance companies, stock market quotations, historical cycles,... Not that much means are required, just some goodwill to make them available.

Also research of rhythms and patterns that can be found in nature, might reveal a lot [Burns 1997].

Phenomena in which our subconscious (or however one should call this) play a big role, like sudden attraction or repulsion, mutual understanding or misunderstanding, murders, the way we write, sensitivity to extra-sensory perception, etc., are in my opinion more likely to be related to astrological factors, because the rational part of our mind seems to be less connected to them, which might give more opportunity for the planets to assert their influences.

5. CONCLUSION

I was a bit rough in my cleaning raid, maybe too rough to your taste if you are an astrologer, maybe not rough enough if you are a skeptic. I invite you anyway to digest the material and to contemplate on what's left.

I am convinced that, as soon as both astrologers and scientists put their prejudices aside and stop to cling to what their respective gurus once drilled into their minds, we will soon make progress. I don't mean to say that all the cumulated experience of practising astrologers should be thrown away; on the contrary, it should serve as a source of inspiration to the researchers.

In that case, the astrology of the next generations might start to look quite different from the current one, and it will be founded on more solid material.

To be honest, I'm kind of pessimistic about the astrologers. After all, which practising astrologer takes into account the findings of pioneers like Michel Gauquelin? And yet, I dare to hope that I have been able to incite at least a few of them to grow a more scientific attitude towards their occupation.

Many techniques remain very illogical and unlikely. For those techniques that stay as "possible" and "thinkable" according to the current scientific paradigm, certainly a lot of empirical evidence needs to be provided. Maybe this will not come as hoped.

Given that many people are happy with their astrologer anyhow, and given that they say that he/she is able to tell them specific things that he/she couldn't possibly know, eventually we might have to conclude that rather the psychological or paranormal gifts of the astrologer are important than the astrology itself?

I realize that I can impossibly have been complete in my plea, and that it might very well contain flaws. So, I am open for any **well-founded** criticism on what I wrote. Also I will accept gratefully any suggestion or practical help to do further research.

<div align="right">Koen Van de moortel, January 28, 2006</div>

6. APPENDIX: LOVE AT FIRST SIGHT...

An investigation about astrology and attraction

(Lecture at ISAR - Chicago 6 July 1996)

6.1.   Motivation

If it is true that we learn the most about ourselves through relationships, because others act as a mirror for our behaviour, then synastry is probably the easiest part of astrology to investigate. People like C.G. Jung and Jan Ruis (Gauquelin married couple collection) got promising results indeed, and my personal experience told me that aspects between charts seem to play an important role in relations.

Collecting marriage data is a tedious task, and not all couples marry just for love. Therefore I decided to study the moment where it all begins, the very first interaction with an unknown person. It seems - I think most people can confirm that - we have some "sixth sense" to judge someone at first sight, we like him/her or we don't, without being able to tell why. Since we have little information about a person at that time, the "astrological information" (if any exists) may thus be dominant.

6.2.   Experimental design

For an experiment to be "scientific" we need to have a well designed protocol to collect the data, as well as a concrete hypothesis about the results.

6.2.1   Data gathering

A shopping street is an easy place to find "unknown" people, so I sticked with that.

Picking out just people that look sympathetic or attractive would be a method, but then you would need a control group. For example: if there were a lot of "cancers" in the collected group, it wouldn't be possible to determine whether (1) cancers like to shop anyway, (2) cancers like to stop for any inquirer, (3) cancers like to stop for this specific inquirer or (4) there simply exist more cancers.

To avoid the necessity of a control group, the inquirer addressed himself to as much different people as possible, asked them the same question, and based upon the short talk and physical appearance, noted down a "rating" from -3 to +3 (--- to +++), meaning:

---	"bah, ugly disgusting creature"
--	"very unpleasant/not handsome at all"
-	"rather unsympathetic person, not handsome"
0	"neutral"
+	"seems not a bad person, sympathetic"
++	"really good looking, very friendly"
+++	"Wow, I'd really like to take this one out for dinner tonight!"

(& eventual comments), the sex, and finally he asked their birth date, time and place. If the precise time was unknown, he asked if it was morning, evening,...

The question asked was always "What do you think about astrology?" but it could be any question that allows the inquirer to form an opinion quickly about the inquired. To avoid problems like injuries, nothing about the real question was ever told.

6.2.2   Hypothesis

Based upon previous experience, I assumed the following hypothesis:
> *People having a major aspect (within an orb of 6°) between their natal Moon (geocentric ecliptical longitude) and the inquirer's will be found more attractive to the inquirer. The same goes for Venus and Mars.*

("Major" aspects are conjunctions (0°), sextiles (60°), squares (90°), trines (120°) and oppositions (180°).)

6.3.   Results

369 people were inquired by myself (no other volunteer was available) in the summer of 1992 in my home town Gent. 275 of them were female, 94 male. 257 of them knew their birth times within 2 hours. The others were not considered for the Moon-Moon aspects. The birth data and scores were entered in the astrological software program "Radix", giving an average value (μ) of 0.745 and a standard deviation (σ) of 0.96. The females were found to be more attractive (μ=0.793, σ=1.01) than the males (μ=0.596, σ=0.79), but that might be caused by other than astrological factors. The variation was good, though not optimal: a score of -3 never occurred, -2 only once. Of course it's difficult to detest someone who is at least friendly enough to stop and give you 2 minutes of his time.
The average of the group with known birth time was higher, but that's normal, considered they were mostly younger, thus physically better conserved.
The results are presented in the next table (M=male, F=female, T=total):

Table 1: average ratings for different aspects and genders.

		Moon-Moon			Venus-Venus			Mars-Mars		
		n	μ	σ	n	μ	σ	n	μ	σ
conjunction		13	1.308	0.86	9	0.778	0.83	14	1.429	0.85
opposition		7	1.286	0.95	13	0.923	1.04	15	0.600	0.91
square		15	1.200	1.27	28	1.071	0.94	22	0.773	0.92
trine		17	1.118	0.86	28	0.821	1.02	26	1.192	1.13
sextile		24	0.542	0.88	15	0.467	0.74	20	0.600	0.82
major	M	17	0.588	0.87	33	0.606	0.90	27	0.741	0.81
aspect	F	59	1.119	1.00	60	0.983	0.95	70	0.986	1.04
	T	76	*1.000*	0.99	93	*0.849*	0.94	97	*0.918*	0.99
no	M	36	0.583	0.84	61	0.590	0.74	67	0.537	0.79
major	F	145	0.738	0.99	215	0.740	1.03	205	0.727	1.00
aspect	T	181	*0.707*	0.96	276	*0.707*	0.97	272	*0.680*	0.95

We see that the attraction ratings were higher for cases with a synastry aspect, as expected! The important question to answer now is: was this just an accidental deviation, or is it a "real" effect?
An appropriate statistical test that allows you to check if two samples belong to the same population, is the so called t-test. Applying this test to the group with a Moon-Moon aspect in relation with the group without this aspect, it says that there is less than 4%

chance that they don't really differ. This is generally accepted as a significant result, though in the case of astrology, skeptics tend to require more convincing results. The significance for Venus-Venus aspects is only 25%, while for Mars-Mars aspects it's 4% again.

Of course, we see that if we had left out the sextiles, we would have had a much better result (0.1, 2 and 1% significance)! But we have to play fair and stick to the hypothesis. It is interesting to notice that also in Jan Ruis's study of aspects between married people, the sextile dropped out [Ruis 1992].

Some more tools to examine the truth of the hypothesis exist, though. Firstly we can check how a change in the orb affects the result, and secondly we can see what happens when the inquirer has more than one of the aspects with an interviewed person.

The average attraction value versus the used orb is displayed in the following graph. To make a global average, an offset value, equal to the average score of those who didn't
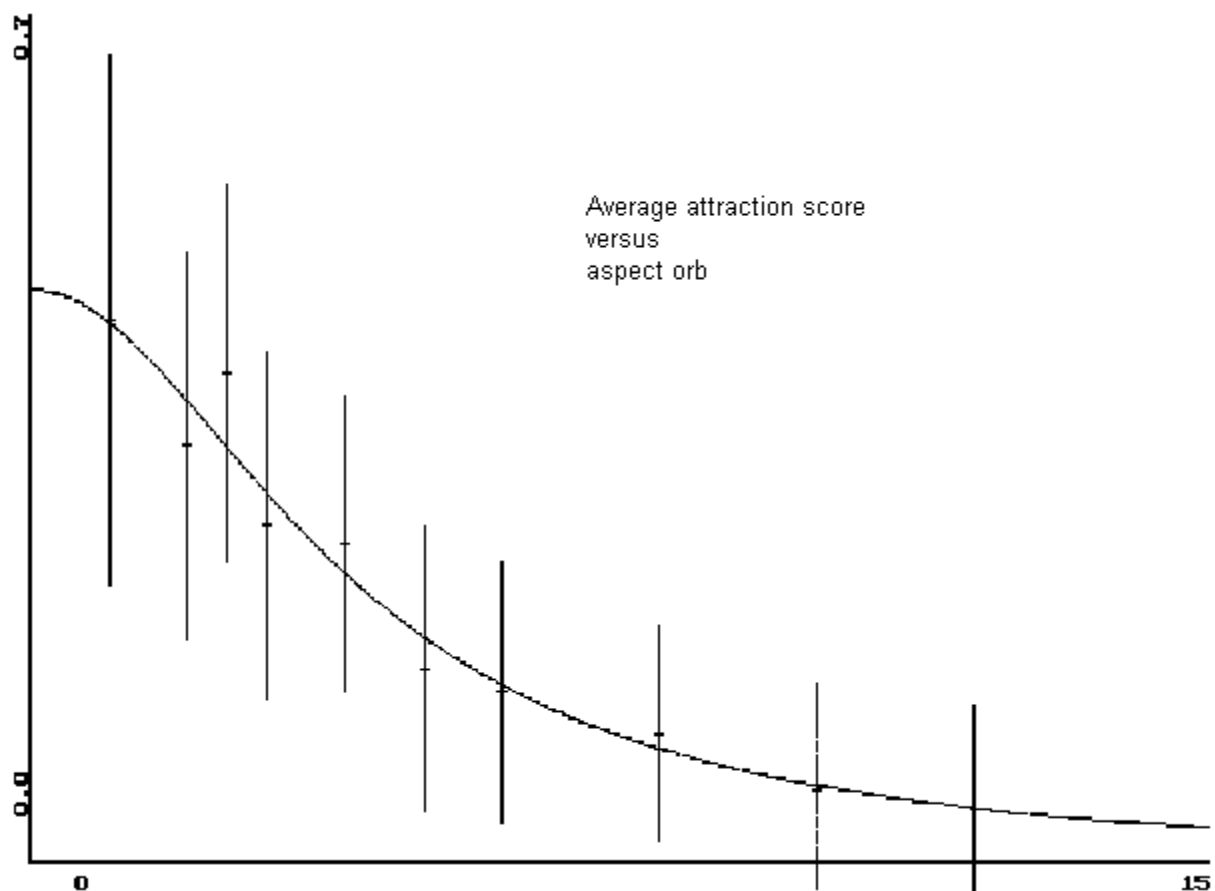
Figure 9: attraction versus orb.

have the considered aspect within a 12° orb, was subtracted. The error flags represent the deviation from the average plus the intrinsic error on every measurement (0.5 "point"). We see that a "Lorentz function" fits nicely trough all of the points, while it would be very hard to fit a horizontal line trough them. In other words: the narrower the orb, the more pronounced the effect. This observation definitely supports the hypothesis.

In the next table, mean scores for people with combinations of synastry aspects are shown. For combinations with Moon-Moon aspects only the group with known birth time was taken into account.
What we get here is, again, consequent with the hypothesis: more than one synastry

	Venus-Venus and Mars-Mars	Moon-Moon and Venus-Venus	Moon-Moon and Mars-Mars
both aspects	μ = 1.045 n = 22 σ = 1.00	μ = 0.941 n = 17 σ = 0.97	μ = 1.050 n = 20 σ = 1.05
just one of the aspects	μ = 0.836 n = 146 σ = 0.95	μ = 0.933 n = 105 σ = 0.99	μ = 0.963 n = 127 σ = 0.97
none of both	μ = 0.642 n = 201 σ = 0.96	μ = 0.667 n = 135 σ = 0.95	μ = 0.615 n = 130 σ = 0.94
not a single aspect		μ = 0.585 n = 94 σ = 0.94	

aspect increases the attraction, whatever combination we make ($\mu \approx 1$), while a total lack of aspects produces the lowest attraction (μ=0.585). In fact, if we compare the latter value with the averages from the first table (one or more aspects), the significance levels become 1, 5 and 2%!

6.4.   Conclusion

The hypothesis that there is a relation between synastry aspects and attraction or sympathy, seems to be confirmed. The data show a consistent pattern, which allows us to estimate the level of significance in the order of 5% or better.
In case of a replication, the hypothesis could be fine tuned by excluding the sextile aspects, since they didn't contribute to the positive result at all.

6.5.   Remarks

Improvements for the data gathering can be made:
-    As the results were more pronounced with people from the opposite sex, it would be wise not to collect data from the same sex anymore (better said: use the preferred sex only).
-    Giving two different scores, one for sympathy/antipathy and one for physical attraction, might increase the value of this research.
-    Suppose the inquirer has a conjunction Venus-Mars. In that case it is impossible to determine whether (e.g.) it is a Moon-Venus synastry aspect that causes attraction or a Moon-Mars aspect. Therefore, having several inquirers to judge smaller groups would be more interesting than one inquirer to judge a large group. The ideal situation would be: a group of unknown people judging each other. The sample size would also increase dramatically: for example, a group of 30 people would give 30 x 29 = 870 judgements!
-    Skeptics told me the results could be biased because it was the same person that interviewed and asked the birth data.

Probably that would be true if the position of the sun were involved in the hypothesis, but it is a huge task to memorize the ephemeris tables of the other celestial bodies! Anyhow, it would be better that the inquiries be done by someone with no astrological or astronomical knowledge.

It would not be good to use another person to ask the birth data - I think - because some "intimate" atmosphere has to be created to feel nothing but the inquired person's "energy", and if some obscure second person is standing there watching the interview, they might get suspicious, and even think that you are recruiting for some sect!

Volunteers who want to do a replication are very welcome to contact me.

7. APPENDIX: TRANSIT CONCENTRATIONS

(Lecture at ISAR research conference, Chicago, IL, July 6, 1996)

7.1. Event prediction

Some astrologers offer a service they call "birth time rectification". They ask you dates of important events and try to fit them in some kind of progression technique. As far as I know, their results are not very convincing for skeptic people! If we could design some kind of "life graph" that would indicate *the* important moments in someone's life in an objective way, this sure would be a good case for astrology. Therefore this question has been intriguing me for a long time.

My experience tells me that transits usually "do" things to their victims that tend to correspond with delineations as described in many textbooks. But sometimes nothing happens! Some astrologers say a slow planet has to be "triggered" by another, faster planet, and that seems plausible to me. Only, bodies like the Moon are aspecting planets all time, one after another, so it remains unclear at which very moment something will actually happen.

I think it depends on what you are looking for. Do you want to foresee an accident, the birth of a child, a love affair? If you follow the bit of logic in astrology, every kind of experience is related to a specific *combination* of transit aspects (or progressions or whatever). For accidents, for example, this might be a combination of a Saturn-mars, a mars-Saturn and a Pluto-mars aspect. Many types of aspects can be more or less related to the event type we're looking for. So we should probably look for aspect "patterns" or certain "concentrations" of aspects.

7.2. What would be a good method to visualize aspect patterns?

7.2.1 Harmograms?

Nick Kollerstrom and Mike O'Neill experimented with what they called "*harmograms*". Such a graph shows the evolution of transit aspects belonging to the same "harmonic" (as defined by John Addey). They assume the "force" of an aspect decays linearly with the distance from the exact aspect angle. That is most probably an oversimplified model, but it speeds up the calculation times, so I can understand why they used it [Kollerstrom & O'Neill 1996].

I raise more objections to the idea of "harmonics" here. The theory of Fourier analysis says that a periodic function can be described as a sum of a sine wave with this period and its harmonics (i.e. waves with the period divided by 2, 3, and so on). *The* point of this theory is that a complicated function can be approximated by a *limited* number of sine waves, and that *every added harmonic improves the approximation* (the limit of the amplitudes is zero). Now this hasn't got much in common with the harmonics above: (1) it is not clear what function is approximated and (2) it is totally obscure where we should stop, at the 12 harmonic, the 777th? The total number of occuring aspects is about the same for every harmonic (the higher the harmonic, the more aspects, but the smaller the orb), so every harmonic has the same importance. But the higher the number, the more unreliable the harmonic aspects are (aspects in the 777th have an orb of 12/777=0.015°, hence an aspect with the MC lasts only 3 seconds).

Remark: the theory of elements and sign qualities is not in harmony with other than multiple-of-30° aspects either. That is a logical - though not an empirical - argument against using harmonics other than 1, 2, 3, 4, 6 and 12.

7.2.2 Concentration patterns?

Experience - not only mine - suggests that (1) the influence of an aspect can be felt some time before and after it becomes exact and (2) the nature of the two aspecting planets is more important than the type of aspect and (3) aspects of different angles might have different levels of importance.

This means that the function describing the "activity" of a planet pair versus the angle between them should look like a series of "smooth" (1) peaks rather than simple trigons. A graph of the activity versus time should not only show one "harmonic" but all peaks of the successive aspects formed by the planet pair (2), though they might have different heights (3). To distinguish between aspects they can be given a different, recognizable color like blue for conjunctions, green for trines, red for squares, etc.

Example: such a graph for the sun-sun aspect cycle (1 year) has one blue peak at the person's birthday, two red peaks 3 months later and earlier, etc. In a graph of most other cycles some of the peaks will become three adjacent peaks because of the transiting planet's retrogradation.

This function *could* be described in terms of sine harmonics, but because of its "spiky" form, a description in terms of Lorentz functions looks more appropriate; i.e.: it needs less parameters. The Lorentz function looks somewhat similar to a Gauss curve, but is mathematically simpler (needs less calculation time): $y = a / (1+bx^2)$.

The height and the width of a peak should reflect the relative importance and thus be in direct relation with the aspect orb.

Example: suppose we give 10 "points" to an exact aspect that has an orb of 1°. Using the Lorentz function we get 5 points if the transiting planet is already 1 degree apart from the natal planet, and only 2.5 points if they are 2 degrees apart, etc.

A "transit concentration" according to a specified pattern can represented as a linear combination of each planet pair's peak series, the coefficients representing the relative weights of the planet pairs.

7.2.3   Implementation in the software program *Radix*

The calculation of the transit concentration C at a specified moment is implemented as follows:

$$C = \sum_{k,j,i} K_{ij} \frac{O_k}{1 + \left(\dfrac{B(D_{ij} - H_k)}{O_k}\right)^2}$$

Here is

O_k :   the orb   of aspect no. k,
H_k :   the angle   "   "
D_{ij} :   the angular distance between transit planet i and radix planet j,
K_{ij} :   the weight for the aspects between planet i and j,
B   :   a width factor, common to all aspects.

To be able to distinguish what type of aspect is active, the concentrations for each aspect color are calculated separately and then drawn on top of each other in the graph. So, much red in a certain period means many "red" transits (usually squares and oppositions). The width factor can be adjusted to 2, 5 or 10. The smaller, the faster the transit will be "over" (effect: smaller peaks).

Example: Saturn transits to all natal planets for a period of my own life. The middle of the first big peak coincides exactly with the death of a friend, the rightmost one was what one could call an "identity crisis" and I started attending philosophy courses besides the university studies that I just started. The middle peak was the end of my high school.

Each weight can have a value between 0 and 9. 0 means a transit doesn't count, 9 that it counts maximally. Only the relative weight values are of importance, just like it doesn't matter in a quiz whether every player gets 1 or 5 points for each good answer.

The scale of the graph is automatically adapted to the highest possible concentration of the chosen type for the actual horoscope.

7.2.4 Value for research

The number of adjustable parameters in this transit representation is large. Millions of different graphs can be produced by selecting different planet pairs, changing orbs, etc. So, the ideal way to use it is to test a very specific hypothesis. For example, suppose you think transits from Jupiter and Neptune to Venus are "responsible" for nice romantic adventures, and in a lesser measure Mars to Venus, Venus to the Sun, etc. You can now define a pattern with, say 9 points for the first ones, 6 points for the others, etc. Then let the program calculate the graph for a period in which you know there has been some romance, and check if there was a peak indeed. If there is one, and no other peaks of the same size appear in periods without increased romance, you're on a good track. Of course, you need to do the test for as much cases as you can!

Another interesting question that can be studied using this technique is the orb that has to be taken for transits. This is translated in the B-parameter: choosing wide peaks means choosing a wide orb. With a small B value the three peaks in case of retrogradation appear separately, with a large B they become one wide peak plus eventually a small one, so the moment of maximal intensity can differ from the time the aspect is exact. So, depending on the observed event times, we might be able to find out what the best orb is.

You might wonder what happens if you just add up *all* transits with equal weights. I have been playing with that, using the usual aspects and the usual orbs, and my first impression was that you get a nonsensical noise-like image. If you print the graph for an entire life time though, it seems that some periods have a significant higher transit concentration, and in the cases I studied, they coincide quite well with the most important periods in their lives. Plenty of room for research as you see!

7.2.5 Remarks

I realize the proposed representation is just an approximate model that can only be justified by its eventual predictive results.

Actually, it might be the case that a transit has some "incubation" time, that we have to "accumulate some transit radiation" before something happens. We can't say much about this because we don't know at all how planets influence us; only a few people like Percy Seymour [Seymour 1988] and Theodor Landscheidt [Landscheidt 1989] are working on that, as far as I know. But if it would be like this, some more parameters come in the play to make everything even more complicated: event times could shift depending on the dose we are susceptible to...

Your research experience is very welcome!

8. APPENDIX: MATCHING TESTS CONDUCTED IN THE STUDY GROUP *THE ROUND TABLE* (Gent, Belgium)

8.1.   Announcement in the newsletter of Jan. 1996:

Everyone with a certain knowledge of astrology is warmly invited at this evening. Five people of the same age will come to present themselves (life vision, interest, tastes, opinions about actual situations, etc.) and the astrologers are requested to use all their knowledge and skills match the right horoscope to the right person. They can also ask questions, as long as it isn't their birthday they ask for, of course! Critical observers are also welcome!

To make it more attractive, the astrologers can also stake an amount of money which will be divided among the winners (a part of the pool will be used to cover the costs).

If the planets really influence our behavior, this should be a feasible task for everyone who has some experience in this matter, I'd think. At least, the average number of good guesses should be significantly higher than expected by coincidence. The more participants, the more interesting the results will be from a scientific point of view.

An often heard criticism of astrologers about statistical research is that it usually looks at some separate factors, out of the horoscope's context. in this test, ladies and gentlemen astrologers, you have the total person *and* the total horoscope!

8.2.   Results in the newsletter of march 1996:

On January 29, 1996 we organized a test consisting in matching 5 horoscopes to the right "owner". 14 practitioners of astrology were found to compete in the contest. They were free to ask any question to the test persons. None of them though, found all the correct combinations! Two astrologers had 3 out of 5 right, three had 2/5, five had 1/5 and four 0/5. Altogether this gave an average score of 1.333 out of 5, which is a little bit above the value expected by coincidence (1/5), but not significantly.

I myself was standing a the best horseman on my feet (I couldn't join the party since I knew the test persons), and I had the impression that most astrologers made things too complicated, focused too much on irrelevant details. Those having the best scores limited themselves to a few essential astrological factors.

We tried a second time on February 26, with only 4 test persons. Unfortunately, again nobody had 4 out of 4 right. Three had 2/4, five 1/4 and seven 0/4, which was an even sadder result as the first time, namely an average of 0.733, below the expectation value of 1. This time I joined, and I experienced personally that it wasn't a simple game. So many factors have to be evaluated, and if you have one wrong, automatically a second one is wrong... And yet, we would expect something to come out statistically.

Why was the result so poor (leaving the possible failure of astrology itself out of consideration)?

Maybe because astrologers are trained to act in the opposite sense: to say something about the character, starting from the horoscope, while this time an analysis of 4 or 5 characters had to be made (in about one hour) and then they had to be recognized in the horoscopes.

The test persons might have tried consciously to mislead the astrologers, although a good judge of human character should be able to see through this, shouldn't he?

Using young, innocent, children as test persons, might possibly be better.

8.3. Newsletter of may 1996:

The 2 astrological matching tests done in march and April still received some interest, in spite of the poor results of the previous two. Now, the astrologers received 5 horoscopes for two test persons. At the test in march, the result was in perfect harmony with "coincidence", but at the one in April, miraculously, we seemed to have a better result. Unfortunately, a χ^2 test showed us that even this was not statistically significant.

9. USEFUL ADDRESSES

Serious research is done - among others - in the following associations:

Astrological Association: 396 Caledonian Road, London N1 1DN, UK; tel. 0044/171/700 3746; fax: 0044/171/700 6479.
<small>(conferences, magazine "Correlation")</small>

Astro-Psychological Problems (Françoise Gauquelin): 8, rue Amyot, F-75005 Paris; tel.: 0033/1/45871412.

Centre Associatif de Diffusion et de Recherche d'Actes de Naissance (CADRAN) (Petitallot Patrice): 10 Lann Fouesnel, F-56350 Allaire.

C.U.R.A. (University Centre for Astrological Research): http://cura.free.fr

Deutscher Astrologenverband (DAV), Forschungszentrum (Peter Niehenke): Lorettostr. 38, D-79100 Freiburg; 0049/761/406784

International Society for Astrological Research (ISAR): PO Box 38613, Los Angeles, CA 90038-0613, USA; Tel: 001/805/5250461, fax: 001/213/4613417, www.isarastrology.com.
<small>(conferences, magazine "The International Astrologer" (formerly "Kosmos"))</small>

Nederlandse Vereniging tot Wetenschappelijk Onderzoek v/d Astrologie (NVWOA): De Blieckstraat 145, NL-3572 WB Utrecht; 0031/30/2617723; fax 0031/30/2732954,
e-mail: lexbruin@worldonline.nl.
<small>(Lectures, magazine "Astrologie in Onderzoek")</small>

RAMS (**Groupe de Recherche en Astrologie par des Méthodes Scientifiques**; Suzel Fuzeau-Braesch e.a.): 15 Rue du Cardinal Lemoine, F-75005 Paris; tel. 0033/1/43548888.

Society for Scientific Exploration: scientificexploration.org

Werkgroep De Ronde Tafel (study group The Round Table): Jules De Saint-Genoisstraat 98, B-9050 Gent, tel.=fax: 0032/9/2277036, www.astrovdm.com
e-mail: koenvandemoortel@compuserve.com.
<small>(Lectures, newsletter, experiments)</small>

On our website, **www.astrovdm.com**, one can find links to these and other addresses.

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