

Astrology and Astronomy: From Conjunction to Opposition

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Key Words

Astrology
Society

Summary

As science communicators dealing with astronomy we often find a strong interest amongst the public in astrology — how the stars and planets directly affect our individual lives. Nowadays astrology is at odds with the scientific nature of astronomy, but this has not always been the case. Presented here is a background to astrology, to give a deeper understanding of where it has come from and why it has such an enduring place in all forms of global media.

Astrology has adapted to changes in society throughout history, and as a result it continues to benefit from a positive public image. The commercial and social success of astrology, largely driven by the media, is surprising given the dominance that science enjoys within our society. Its foundations exploit the widely held belief that pervasive connections exist between the *macrocosm* (the Universe as a whole) and our *microcosm* (human society and social relationships). Astrologers aim to decipher the hidden meaning behind planetary movements and positions, which they believe correspond to human personality traits or predict major and minor life events. The lexical ambiguity, with which these predictions are made, however, produces results that can be neither proven nor disproven.

Without an objective method by which a predicted result can be tested, astrology cannot

be considered a science. Astrological analysis, while sometimes quite sophisticated, does not utilise any traditional scientific methodology. Astrology even skips the necessary confrontation between hypothesis and proof, the opposite of a rigorous scientific approach. Astronomers oppose not only the astrological assertion that cosmological positioning can directly impact a person's destiny, but also astrology's ignorance of the physical reality, richness and variety of stars and planets.

Moreover, no serious statistical study has been able to establish the reliability of astrological predictions. In modern times, most of its adherents opt for a psychological interpretation of astrology in which the stars have set forth the keys to our destiny, personality and predilections at the very time of our birth. The foundation of a belief in astrology is based upon a deterministic approach and

constitutes a psychological alienation that can easily be over-exploited by those interested in financial gain.

Throughout our own civilisation, astrology has had both fervent and casual believers within nearly all social classes or cultures. From ancient times to the present, humans have been challenged to predict and prepare for life events from the joyous to the catastrophic. Faced by disorder on Earth, astrology proposes that an ordered and readable structure exists in the firmament that is intricately involved with the saga of human life. However, this belief does not at all constitute a cosmic science because neither the tools of the astrologer nor their subjective analysis allows the astrologer to deduce facts or test a theory. Is astrology therefore more of a social science? That is to say a mode of knowledge in competition with scientific cosmology?

Some astrologers, discontented by their relegation to the margins of official sciences, request academic recognition that would allow the public financing of astrological research and strengthen the scientific and academic standing of astrology and its followers. The utilisation of computers, statistics and ephemerides of great precision suggests an increasingly scientific practice. However, an overwhelming majority of scientists completely reject the scientific relevance of astrology and remain critical of new superficial uses of technology.

Astrologists have been at the centre of an explosion in both traditional print and electronic media that has bombarded readers with intense (and intensely lucrative) commercialisation of astrology. Astrology in the print media is especially common – today, from the tabloid to the weekly, many newspapers offer an astrology column. Some people read their horoscope as if it were fiction; others rely on it for predictions and advice that will help them manage their personal or professional lives or perhaps how and when to plan a holiday. If so much money is devoted to astrology, perhaps it is because it fulfils an essential need that neither science, nor psychology, nor religion takes into consideration.

Symbolism in astrology

One of astrology's great forces of persuasion lies in its symbolic perception of the world. This symbolism follows, more or less, from observations made since antiquity regarding the lustre or colour of astronomical bodies, the apparent vagaries of planetary movement as well as solar or lunar proximity. These symbols do not have a universal value: each culture elaborates its own.

Most people know their zodiac sign: to be a Cancer sign signifies that at that individual's birth, the Sun (when projected on the sky) was in the position corresponding to the sign of Cancer. In order to be more focused on the individual or to help account for evident differences between those with the same sign, the sign is countered or nuanced by other personalised elements, such as the ascendant sign that rises in the east at the precise moment of birth or the position of the principal planets in the birth chart.

Astrologers are equally interested in planetary transits, when planets pass certain significant points in the birth chart. They consider them to be triggers of events or decisions (marriages, divorces, births...) already predicted within the chart at the time of birth. Transits occupy a key position in astrology because it is considered possible to predict by calculation the principal transitions of a life. Horoscopes often make use

of this technique in order to determine the charted angles of a planet with respect to a sign. For example, a person born under the sign of Virgo might have the planet Mars charted in close proximity to their sign; the astrological characterisation of Mars as the planet of war could be interpreted as an indication of impending conflict.

A brief return to the past

Historically, astrology and astronomy were not considered entirely separate fields; much of an astrologer's time was spent working on star charts or taking meticulous measurements. Observations repeated thousands of times allowed the prediction of certain celestial events and, as a result, terrestrial events (the Egyptian calendars were inextricably linked to the life of the Nile). Proceeding from the correlation between celestial and terrestrial events, a control of the latter by the former was imagined. The planets or "wandering stars" were perceived as a coded communication from the deities; hence observation of tiny planetary movements was a way of interpreting the will of the Gods. The Greeks, then the Romans, were convinced of the divine nature of this kind of astrology, also known as *Chaldean*, deriving from its ancient Sumerian origins. In ancient Greece, the regularity and often predictable nature of celestial events gave birth to a *mathematical mysticism*, a singular marriage between mathematics and divination, which western astrology has drawn upon, allowing it to endure to this day. Modern astrology has broken with the concept of gods, but has conserved the belief that a universal will can be perceived through careful evaluation of planetary movements. With the evolution of both knowledge and scientific tools, the gap has widened between the premises of astrology and those of science.

Historically astronomers renounced unproven principles regarding the influence and connection between planetary configurations and terrestrial events. These became sources of disagreement and eventually rupture between astronomy and astrology. Astronomy attempts to explain the cosmos; scientists are objective observers. The astronomer builds upon or rejects a theory based on available evidence, while an astrologer's work is controlled by a doctrine of predetermination.

During this transition, astrologers were confronted by shake-ups they had not foreseen: the Earth was no longer at the centre of the system, the separation between the *sub-lunar* and *supralunar* worlds was no longer justified and distances exploded. According to the philosopher Alexandre Koyré, our human world, once at the centre of everything was transformed into a tiny player in an infinite Universe.

Astrology face to face with science

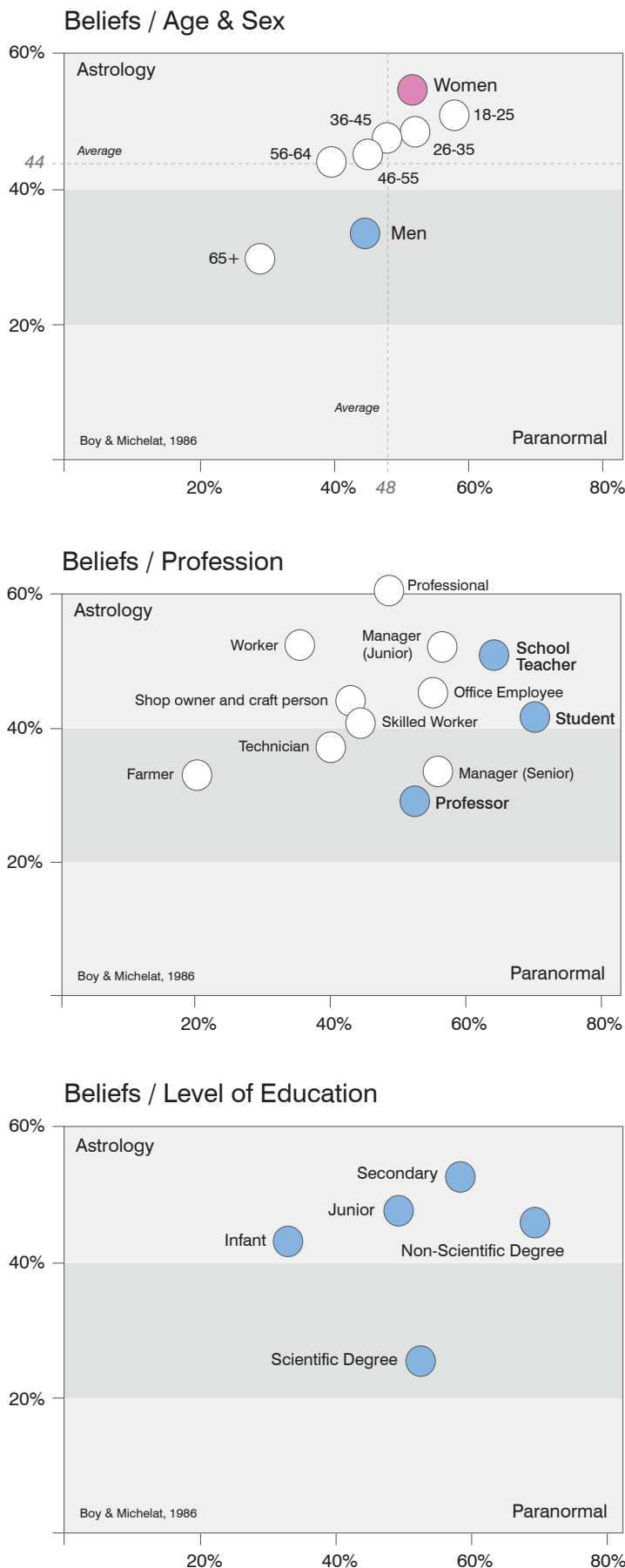
So now we have one cosmos to investigate, studied by two wholly different schools of analysis. Many astrologers describe themselves as scientists and insist upon the existence of genuine celestial influences on the individual. They hope to demonstrate its authenticity by using statistical studies that are often ill-conceived and badly executed (Fraknoi, 1989).

In borrowing astronomy's methods of calculation (the ephemerides of astrologers are scientific tables graciously made available to the public by astronomers), this type of astrology recovers a kind of scientific legitimacy that plays a role in its durability. The confusion of genres and the questions of the public are relayed by media debates where astronomers and astrologers confront one another. The most critical arguments of astronomers regarding astrology focus on the misunderstanding of the physical reality of the Universe and its richness. What is the point of invoking the sky and its planets if they are not taken into account for themselves – that is, if the sky is without object?

In essence, the symbolic language of astrology possesses some limits that keep it at a distance from the realities of the physical world. Taking the example of the planet Mars: for the astrologer, the colour red evokes flowing blood, therefore war, and with it, death; for the scientist, the colour red can have multiple causal reasons, which can only be determined by experiment. The first space missions to Mars attested to the presence of iron on the surface of this planet, the colour red was partly due to the oxidation of iron. Oxidation, however, required the presence of oxygen, most notably in the form of water. Water is considered synonymous with life on Earth so the question was then posed about the existence of life on Mars. Did life exist in the past? Such a hypothesis will be explored during future missions to the red planet. Mars-red-war-blood and death, the symbolic chain that functions on analogy has made room for Mars-red-iron-water and life, which comes from strict ties with causality.

Mars, a simple mass of red stone covered with iron oxide, continues to be assigned the virtues of the god of war. We see how a relevant observation – that of colour – can provoke a simple and elementary symbolic interpretation. However, once the *nature* of the planet is known and causal relationships revealed, that this associative game could endure after having lost all real significance does not cease to astonish.

It is certainly not necessary to understand the nature of a phenomenon in order to



establish its existence, but the first question, beyond all polemic, is to know if astrological influence is attested to by the facts.

Alas, astrologers hardly worry about submitting their hypotheses to a definitive test of refutation. The exception is the psychological test conducted by Carlson and published in the 1985 review in *Nature*, which tested the precepts and foundations of astrology. They effectively debunked all tested astrological principles.

Astrological predictions of catastrophic events rarely specify the size of disasters, location or precise date of occurrence; because of this they can almost never be contradicted or disproven. Even so, at the beginning of each year we see in the media a wave of predictions that are rarely verified — a fact the public does not seem eager to take into account. A renowned astrologer once predicted a major catastrophe because the August 1999 solar eclipse coincided with the Earth flyby of the *Cassini* probe. A petition was immediately sent to NASA demanding that they modify the date of the mission!

Despite an abundance of evidence that astrology is essentially a non-science, the academic platform of astrology does offer a certain psychological depth. Predictions can be so ambivalent that there are an almost unlimited number of interpretations on any given subject. Scientists regard such profusion as redundant, manifesting when the number of possibilities exceeds the number of unknowns. The astrological lexicon, with numerous possible meanings, allows those who use it a good deal of latitude.

Science is at the same time knowledge, method and proof. It tries to transcend cultures and national affiliations and evolves without demanding any psychic belief as a prerequisite for exploring the nature of the world. On the other hand, the term astrology should merit the plural form; so diverse are its schools. Different and numerous disciplines of astrology often contradict or ignore each other without consensus or even the need for consensus.

Public attitude

- 26% of people questioned in France declare they “believe in the predictions of astrologers”; among these, one third takes horoscopes into account in their lives.
- 41% of people surveyed declare they believe in the explanation of characters by astrological signs.
- About 13% have consulted an astrologer.

Figure 1. Examining the relationship between beliefs and life factors. Credit: Boy & Michelat.

The infatuation of the public for astrology moves more and more towards a psychology aimed at liberating the potentialities of individuals. During a session, an astrologer works in the field of affectivity, not rationality. The client finds himself in the position of expectant believer, a mechanism by which he hears only what he wants to hear, and discounts or ignores what does not fit in with his expectations.

Astrology remains at its heart the art of predicting the future, a future written according to the tendencies acquired at birth by the influence of the stars. However, this deprivation of free will engenders alienation and a strong risk of psychological manipulation (it is not uncommon to meet people who consult their astrologer before making any decisions). The determinist nature of astrology leads to the irreducible paradox in which the astrologers work as so-called psychologists. The free will that the psychological astrologer advocates finds itself confronted by the determinism of predictive astrology. How can this personal autonomy be reconciled with the blows of fate or of bad luck that Jupiter or Saturn provokes in passing by the birth sign? The client waits for the answer to be revealed to him. Astrological analysis, in the great majority of cases, is performed for pecuniary gain, which is why an astrologer formulates broad assertions, the opposite of generally prudent interpretations offered by psychotherapists.

The influence of the astrologer is not found solely in the private sphere. It has penetrated the field of politics and civil society. Certain businesses use astrology for recruitment. Astrology is judged sometimes to be more suitable to evaluate potential candidates than their CVs and motivation! A financial astrology, based on the apparent movement of Uranus has been all the rage, even on Wall Street and astrology has even been used in fee calculation for certain insurance companies! In fact, for almost any human activity or phenomena to which a great deal of uncertainty is attached, you will find astrologers eager to impart a sense of cosmic order and to be paid for securing that peace of mind.

Astrological belief is not the sole privilege of those who have access to thorough instruction but thrives in a sort of in-between state (Boy & Michelat, 1986). Statistically, a belief in astrology increases with a declared interest in science, peaking among the salaried middle class holding an intermediate-level degree, then lessens among those with a postgraduate education (notably among scientists) (see Figure 1). The sociologist Theodor Adorno (1994) pointed out that belief in astrology is characterised by a

state-of-being that he called semi-erudition. The semi-erudite would borrow some non-scientific shortcuts to find answers to questions regarding their future as a result of an unsuccessful conversion to the system of scientific thought.

The nature of astrology

Astrology is not monolithic, but finds an anchor in a current of common thought linked to tradition. It weaves social connections and allows a group of people to identify themselves with a cultural community.

We can characterise two classes of astrologers. Those who call themselves astrological scientists work under the premise that they live in a world of physical causal influence between people and the cosmos. Such astrology utilises a sort of patchwork scientific analysis, which moulds concepts pulled from other scientific fields to suit the astrological framework. More traditional astrologers consider the sky to be a symbolic template, and willingly use some mythical tales to expand their interpretations rather than expounding on a physical cause and effect methodology. Astrology can equally be perceived as a language that presents words with the use of a specific vocabulary and grammatical technique. The scientific refutations presented by astronomers only fleetingly embarrass these astrologers for whom the object of astrology is not a study of the cosmos but of man, at the same time subject and object.

Fundamentally, the differences are glaring. The astrologer scientist makes his art mathematical. The astrologer metaphysician attaches no importance to a so-called scientific astrology. There is an in-between kind of astrologer, probably the most widespread, for whom the practice comes as close as possible to penetrating intuition, of psychology and clever deductions. It is believed that the cosmos imprints upon the individual at the moment of birth and that the future of the individual is coded within that specific and unique formation. For this community, the astrologer is simply the interpreter who analyses the characteristics of the birth chart. Such astrological discourse is extremely malleable, which explains its capacity to adapt to cultural norms of modern or post-modern societies. This is again due to the rich and symbolic lexicon of astrology; a birth chart can be interpreted in so many ways as to make impartial and unequivocal analysis impossible. Astrology seduces timelessly, not because it carries the scientific weight of fact or provable hypothesis, but because it places the appearance of order upon an unknowable future. The unbridled

commercial exploitation of those seeking answers by those adept at the manipulation of a complex lexicon and a societal need for stability can only be condemned.

Some astrologers may be skilled at fitting astrological omens and portents within our perceptions of reality, but the premises and methods of astrology differ fundamentally from those of science or even social science and carry no scientific validity.

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Notes

Translation from French by Emma-Kate Symons (journalist). English editing by Brooke Sing (writing editor) and the CAPjournal editorial team.

Biography

Daniel Kunth is an astrophysicist, a specialist on extragalactic astronomy, mainly in the study of the evolution and formation of galaxies. He dedicates a significant fraction of his time to develop media outreach, give talks and write articles, in particular on the relation between astronomy and astrology.