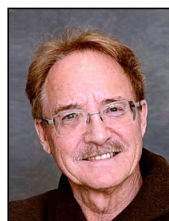


An In-Depth Philosophical Critique of Contemporary Western Astrology



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The imagination of mankind is naturally sublime, delighted with whatever is remote and extraordinary, and running, without control, into the most distant parts of space and time...
Hume, *An Enquiry Concerning Human Understanding*, 1772, section 12, paragraph 25.

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Acknowledgements. We would like to thank philosopher Karl Pfeifer and former astrologers Serge Bret-Morel, Arthur Mather and Geoffrey Dean for their careful readings and suggestions on earlier drafts. Bret-Morel is a former board member of the Federation of Francophone Astrologers. Mather is a former Research Coordinator of the UK's Astrological Association 1971-1978 and a consultant editor of *Correlation* from its re-launch in 1981. Dean was the founding president in 1983 of the Federation of Australian Astrologers in Western Australia.

Abstract

The focus of this article is the **philosophy** of Western astrology as practised since the start of the 20th century. In non-Western countries astrology evolved under different cultures with their own metaphysics and social conditions. Their astrologies differ from Western astrology, and studies that happened to support them would likely create problems for Western astrology. Therefore we also consider in passing the philosophies of non-Western astrologies.

A birth chart starts with **planets**. But its **interpretation** is largely based not on astronomy but on the mythological attributes of gods that the Greeks linked to the planets. Because they saw Mars as the god of war, Mars in the birth chart is interpreted as if it had the attributes of the Greek god of war with keywords like *Energy*, *Heat*, and *Activation*. But other cultures had other ideas. Thus, the Aztecs saw the god of war as the Sun, not Mars. In Mesoamerica Mayan wars were triggered by the movements of Venus, not Mars. Less directly, the Sun is masculine in French but feminine in German. And vice versa for the Moon.

In other words Western astrology's associations did not start from empirical observations but are based on analogy, metaphor, and **Greek mythology** in general. Like similar practices (Tarot with special cards, graphology with handwriting, numerology with numbers, palmistry with hands, tasseography with tea leaves) astrology gives supernatural significance to ordinary objects. This supernatural significance can intrigue curious minds but is open to potential disconfirmation on many fronts – theoretically, conceptually, philosophically, and empirically.

As a result, the interests of believers are instead maintained by public appeals to experience ('astrology works!') and by announcing new extravagant findings or new research programs. But we have been there many times before. Given the **extravagant claims** ('as above so below') of astrologers, the claims should be **easy** to confirm. In fact over 1000 studies have been conducted since 1900 on mainline astrological claims, roughly half by astrologers anxious to find support for their claims, but nothing commensurate and independently replicable has emerged.

This awkward result is **ignored** by astrologers, or is **dismissed** out of hand ('we *know* astrology works!'), or is submitted to more and more **complex arguments** to explain why supposedly obvious astrological effects are so difficult to uncover. It is like claiming your house lights failed due to changes in one of the supposed properties of electricity rather than a dud globe.

The present critique goes beyond such evasions to focus on Western astrology's **philosophical foundations**. By which we mean the **deep-down arguments** on which today's practice depends. In what follows we uncover many philosophical weaknesses missed by the astrological literature. They include astrology's competing assumptions, internal disagreements, problems revealed by time twins and by wrong charts working, and a pervasive uncritical acceptance of anything goes.

They boil down to **questions** anyone could ask of astrologers ("what would convince you that *as above so below* was mistaken?"), but are never answered. The **bottom line** is that Western astrology, despite its long existence, is both scientifically and conceptually bankrupt. It does not give us knowledge not already known. You can skip the details by jumping to page 95.

Introduction

Western astrology, in most of its varied forms, claims that heavenly bodies **don't just move**. They also **mirror past and future events** on earth, irrespective of whether they involve people, companies, nations, animals or ideas. The events are linked to heavenly bodies not by physical

means (at least none have been discovered) but by **symbolic relationships** that are somehow tied to the event's moment of birth. Only **symbolism** (or what astrologer McRitchie 2022 calls 'semantic taxonomy') is used to explain what goes on under the abstract label 'astrology'. If X in the sky is prominent at your birth, and there are no opposing indications, you will turn out to be whatever X is symbolic of – artistic, energetic, stubborn, whatever. Or so it is claimed,

To add to the vagueness, astrologers of all kinds do not entirely agree on what astrology is. They see it as variously a science, an art, both art and science, a proto-science, a future science, an esoteric science, an occult practice, a divinatory practice, a spiritual practice, a post-modern or post-positivist practice, a system of magic, a craft, a philosophy, individually or in combination.

To retain their beliefs, astrologers will often jump back and forth between these positions depending on the situation and whether or not it is being critically examined. In some cases there may be an emphasis on belief, as in accepting astrology as a language rather than as a science, which makes it a tool for applying existing knowledge rather than creating new knowledge. It also raises the question (important for clients) of just how far the subconscious / unconscious / or even collective unconscious can be penetrated by such a language.

There is no agreement on how the all-important **symbolic relationships** came to be known. Many different sources have been proposed. They range from ancient gods, an implantation in our minds by an astral intelligence, connections intuited by minds using paranormal means, inferences from planetary appearances, and archetypal meanings made by the unconscious mind, to skilled ancient observers who established them through centuries of **refined observations**. In a critical analysis, Kelly 1997/2005 p.15 concludes that none of them can 'plausibly account for the origin of a comparatively straightforward claim', which, as we show later, creates problems for the whole idea of workable symbolic relationships.

As well as disagreement about symbolism there is an astonishing variety of astrological belief systems across history and geography (https://en.wikipedia.org/wiki/List_of_astrological_traditions,_types,_and_systems). The result is rampant **unresolved disagreement** about the complexity of the systems, the factors considered important, and the values, practices, and underlying beliefs, to say nothing about the experiences and expectations associated with each system (see Dean *et al* 2022 pp.71-74, 79-102 for how widespread the differences are).¹

Even when there is **agreement**, where does this agreement come from? And when would the various numbers of astrologers who agree on various claims count toward their validity? We need more than just agreement on what claims are ostensibly true. We also need explanations for why they are true. Are the agreed-upon claims true because of fit with historical astrological traditions? Was this agreement achieved through extensive objective replication of results and scholarly debate? Through strong theoretical backing? There are no agreed-on answers.

Further, given that most astrologers in the world are **not** Western astrologers, what would such

¹ Compare agreement among astrologers on any astrological topic (such as what a whole chart is), to agreement among biologists on evolution, or agreement among physicists on the speed of light. Among scientists agreement has been reached only after years of critical discussion on evidence from diverse sources and fields. Among astrologers this has never been the case

agreement mean for astrology in all its **worldwide variations**? Are we to believe that each variation picks out some parts of our lives and life on earth and not others? We revisit these and many other questions in-depth in the rest of this article.

Cultural inheritance is largely the main factor in deciding which particular astrology a person believes. Thus dogmatic advocates of Western astrology would be equally dogmatic about Vedic astrology if born in India, or about one of the varieties of Asian astrology if born in a particular Asian culture. It is memorable that both Chinese and Vietnamese astrologies associate particular zodiac years with most animals in common, and contend that people born in each of these years share some of the characteristics of the animal associated with that year. Hence we have talk of the year of the rat, ox, dog, pig, and so on, often with name changes according to their translation such as buffalo for ox, hare or cat for rabbit, serpent for snake, sheep for goat, cock or phoenix for rooster, and boar for pig (Dean *et al* 2022 p.63).

Although Vietnam and China agree on most of the animals, baby booms have been related to cats in Vietnam, and dragons (not cats or rabbits) in China, because cats and dragons are associated with good luck (Bryson 2023). This illustrates how believers in each country find their local astrological beliefs fit what their astrology tells them (see Courgeau 2022 for how astrology contributes to misunderstandings of human life).

But there is no widespread debate on what would best settle **astrological disagreements**. In contrast, **academic disagreements** are subject to much philosophical and scientific debate. See for example, Quammen 2018, Svensson 2022, Wood and Uluutku 2023 on evolution, and Zimmer 2023 on consciousness. There are very public debates on quantum mechanics, or the Hubble constant, or sentience in insects. But there are almost no public debates on astrology.

But without any sound basis for its claims, nor agreement on how to resolve disagreement, any notion of progress in astrology is **deeply problematic**. Indeed, what passes for progress seems to consist of merely piling up new speculations, new techniques, or new symbolisms for newly discovered heavenly bodies, all as a way of giving astrology a superficial credibility. For example some astrologers have extended their speculations to include variously quantum mechanics, relativity, chaos theory, dark matter, emergence, and information theory, all of which are developments they did not predict at the time (see Kelly 1997./2005).² The inability of astrology to confront serious philosophical criticism is why some reflective astrologers have

² Keep in mind that astrologers use many of the same terms and expressions as those in the sciences and philosophy, but, in astrology, they are used in a very loose fashion that does not correspond to their academic usage. Consider the word 'theory': McRitchie 2011 says, of recent astronomical discoveries: "If new asteroids or planetoids are discovered, astrologers will proliferate theories and the theories are developed among the community". What seems to pass for 'theories' in astrology are speculative appeals to mythology and new word or visual associations of various kinds, such as 'an asteroid with your name has implications for your life', plus tying in any mythology associated with that name. For example, astrologer Blake 2022 tells us:

Which of the celestials can take on Pluto – planet of abuse, terrorism and tyranny? Step forward Ceres, dwarf planet of pleb consciousness that challenges patrician power – and is Pluto's mother-in-law!

Ceres is one of the large asteroids. If these astrological 'theories' are 'developed', it is by adding new speculative jargon and word or visual associations, not 'developed' in the usual sense of building on known virtues other than speculation. For an example see <https://www.twowander.com/blog/what-is-chiron-astrology-how-to-use-for-healing>). Retrieved from <https://bienveillantes.wordpress.com/2011/02/14/astrology-and-its-problems-popper-kuhn-and-feyerabend/> Oct 21, 2021. Here astrology is progressing divergently and uncritically towards more noise, whereas science progresses convergently and critically towards more signal.

given up astrology (see Dean *et al* 2022 pp.23-54).

Astrology cannot be easy to prove and hard to test

If you are a university lecturer and wish to convince your students that astrology (or anything else potentially related to psi) actually works, you have an immediate problem:

there is not a single demonstration of a psi effect that could be used as the basis for a first-year practical psychology class with a reasonable chance that the alleged psi effect would be actually demonstrated. In contrast, there are dozens of psychological effects relating to memory, perception, and attention that rarely fail to be reliably demonstrated on demand. (French & Stone 2014 p.268, a view repeated by French 2024 p.297).

To put this another way, if astrology is in some sense universal or perennial, as is claimed by some astrologers, why do people across astrological traditions hold mutually incompatible astrological beliefs? For example, about which zodiac or house system to use? There seems to be no single non-trivial set of beliefs or a common core embedded in all astrologies across history and geography, apart from a vague 'as above so below'.³ When we consider the full range of these systems, to claim validity for any one of these systems is to consider the others either false or more limited than one's own astrology.⁴

In an astrological consultation, exploring aspects of life that we all share can be insightful, but does not by itself decide between good or poor approaches. In modern Western astrology:

the consultation is most commonly a **dialogue** where the astrologer is making statements about the chart and what predispositions and things they would expect in terms of the range of archetypal dynamics that would manifest or possibilities. And then they're getting feedback from the client so that it becomes like this loop where it gets stronger and stronger and more specific and you're able to do more and more and say more and more and go deeper and

³ A useful reference for early Western astrology can be found in Lawrence (undated). Lawrence describes some of the early criticisms and defenses of astrology, including the criticisms of Sextus Empiricus, whose views are still worth reading.. See B. Koene 1996/7 Sextus Empiricus: an ancient philosopher's criticism of astrology. *Correlation*, 15(2), 26-34. Available at <https://www.astrology-and-science.com/>. The tie-in of astrology with magic in the Renaissance era can be found in Agrippa's influential occult philosophy described in Grafton 2023.

⁴ Astrologers typically respond to criticism of the great variety of different astrologies by responding that all fields have a variety of different theories/approaches. For example, astrologer Robert Marks says, "there are disagreements in every field" (*Astrology for Skeptics* bobmarksastrologer.com). The big difference is that disagreement over fundamentals **is central** in scientific fields in order for them to progress, while serious disagreement over fundamentals (e.g houses, signs, rulerships, transits) is discouraged in astrology (see Perry 2018). The history of **science** shows that disagreement can help us get to better theories. A check of journals and textbooks in scientific fields will illustrate this, while a check of **astrology books** will show the opposite.

Further, to modify slightly a philosophy statement "Unlike in the sciences, where there is increasing consensus on the truth of various theories and facts (for example, about facts of chemistry, biology, and basic physical forces), *dissensus* prevails in [astrology]: there are lasting disagreements among [astrologers] on virtually every major [astrological] issue" (Arvan 2022). (Arvan is suggesting that we start from science in philosophy rather than from common sense).

Again, the very few research journals on astrology in the Western world such as *Correlation* all seem to be premised on finding **supporting evidence** for astrology, not on critically examining central astrological claims. The **opposite** is the case in the best science, where new challenges are continuously made to dominant theories. Some astrologers compare the disagreement among astrologies with the disagreement among religions, but the comparison with religion is a poor one – while many astrologers may tie astrology to a transcendental reality, others will not, for example those who claim astrology is based on long-time empirical observations. Further, most astrologers do not identify astrology with religion (Campion 2004 Ch 9).

deeper based on the feedback you're getting from the client; and like statement feedback that helps you to specify things once you understand the context more. And it seems like what's coming through the most ... is the importance of context in providing [what] the astrological chart does not give you. (From a transcript of The Astrology Podcast, Episode 167, *The Problem of Twins in Natal Astrology*.)

An issue that arises here is that **every** astrologer of every persuasion (along with psychics, Tarot readers, numerologists, palm readers, and so on) can accept clients and come away convinced that their own particular approach 'works', regardless of how different their approaches are (for more on this see Dean, Saklofske & Kelly 2021). Understanding context in the individual's life is of course important, and the more information acquired by such means, the less the need for astrology. This is supported by the observation that all astrologies, including very incompatible ones, work equally well in client sessions.

An attempt to get around this awkward issue would be to contend that different astrologies are different attempts to understand and interact with the same astrological reality. On this view, different astrologies may provide different sets of information about the same astrological reality, an approach often made understandable by the parable of the elephant and blind people. Different blind individuals feel different parts of the elephant and each understands a different part of the whole elephant. But this story clarifies little. Disputes don't arise over the existence of elephants as they do over the existence of astrological realities.

Further, we suspect that while many astrologers are prepared to **tolerate** other astrological approaches, they are not prepared to say their own approach holds only part of the truth about astrology. Indeed, given that this 'astrological reality' is largely unknowable, it doesn't follow that different astrologies will have different inside information on this reality. Perhaps they do differ in how informative they are, or perhaps none of them have a clue, but how would we know either way? Unless we somehow know what the 'real' astrological reality is, how could we know that different astrologies have some part of it, or even any part of it?

A related complication is that astrologers using **any** theory, astrological or not, and a dialogue approach – indeed, any psychotherapy or clinical approach based on therapy by conversation – can come away feeling that their time with the client has supported their approach.

On the **positive side**, the dialogue approach can lead clients to a better understanding of themselves. This is no bad thing, but it doesn't mean it can necessarily be singled out as providing insights unavailable with other approaches. Understandably, this will matter little to the client. As an example, Hunt 2021 mentions how Tarot can be used as a set of metaphors to help self-understanding and seeing other ways of dealing with issues and problems. Similarly the US psychologist Andrew Neher 1990 pp.229-242, after reviewing existing tests of astrology and the results of his own tests (subjects had to pick the one that was theirs out of several Tarot, I Ching, numerology or palmistry readings, but no result was better than chance), concludes:

this does not mean that readings are worthless...viewed as tools for the projection and understanding of the content of our own unconscious, readings can be very useful. ...Thus a generalized personality description can operate in the same fashion as any projective personality measure, as a mirror to our inner selves. Likewise, of course, projection occurs when we interpret readings concerning past events or future happenings. People who are not sufficiently aware of their own tendency to project may be mystified by what appears to be a strangely perceptive reading and consequently may

ascribe some kind of 'power' to the stars, a deck of cards, or other objects. [Ironically] a description derived from a valid personality test is likely to be sufficiently specific, as well as threatening to our preconceived image of ourselves, so that we fail to 'project' ourselves into it and thus fail to see its greater validity (p.233)

The values and dangers of uninformed and uncritical belief will be apparent. Either way, there is no evidence that projection is a gateway to actual hidden realities, only to hidden fantasies.

This is close to what many divinatory astrologers have proposed for astrology (eg Cornelius 2011, 2016), namely as a set of metaphors to help self-understanding and seeing other ways to help with problems. Here the **empirical** approach to astrology (advocated by astrologers Currey, McRitchie and others), and to prediction, is rejected by divinatory astrologers.

Each astrology is rooted in its own **cultural and historical context**, with potentially different values, goals, and views of human destiny. But all deal with common human issues such as relationships and career. So we might also ask if there are levels or grades of manifestations of astrology? Do some offer a better overview than others (eg Western vs Vedic vs Jewish)? Or are they all somehow equal (and if so how could we find out)? Unanswered questions like these will become increasingly common as we progress through astrology's philosophical problems.

Many astrologers claim that the differences between astrologies, even between astrologers using the same astrology, demonstrate the great richness of astrology. But their diversity demonstrates only the great richness of the problems, which creates serious problems rather than plausible explanations. Indeed, celestial configurations are so overwhelmingly numerous that astrologers are forced to pick and choose. Synthesis is impossible unless priorities are made, so astrologers necessarily get different partial translations of 'the message from the stars'. In other words, **the astrologer, not the stars, becomes the author of her interpretations** (Dean *et al* 2022 p.125; Bret-Morel 2015, *Astrologie: des astres ou des points virtuels?* /youtube/itjSdxOSrml?t=2931).

Nevertheless, many astrologers suggest that all approaches are correct in **some sense**, so none can be considered better than the others. Indeed, they **all** report successes with clients. If some report more successes than others it is only because they are believed in by more people.

But experienced astrologers tend to disagree anyway due to their reliance on personal validation⁵ and on personal experience.⁶ Indeed, entire schools can differ on what they see as important, the most famous case being the Ebertin school's rejection of houses. According to Barton 1994, the same kind of differences existed in ancient Greece, where learning astrology was possible only from a teacher – and teachers showed off their mastery by advocating factors their opponents were ignorant of, so validity was rarely a concern. So much for Greek traditions.

⁵ Personal validation means judging a result without controls or precautions. If it looks right it is right. For more on personal validation, see David Kyle Johnson's entry on the topic in Arp, Barbone, & Bruce 2019 pp.392-395. Johnson 2020 on conspiracy theories has much that is relevant to belief in astrology.

⁶ For example, the archetypal astrologer Richard Tarnas 1987/2013 advocates "the combinations of planetary archetypes, the major aspects (including midpoints), and transits. I regard these, after many years of research, as the **most essential factors** in astrology, possessing great precision and richness of meaning." (bolding ours). What is the relative weighting given to the various factors drawn from sources as disparate as mythology, word and visual associations, and personal experience? It depends largely on the individual astrologer. Later we discuss such matters in detail, see under Tarnas's archetypal astrology..

And there is always the *Golden Rule* that only the 'whole chart' should be used for interpretation, which involves whatever factors your *Golden Rule* endorses. But the number of possible chart factors is far too large (at least many millions, all of which have been seriously proposed, see Dean *et al* 2022 p.124) for the 'whole chart' to mean anything.

At which point astrology emerges as a futile war of opinions supported only by wild imaginings based on the astrologer's personal experience and training. We continue below with a look at the role of experience in creating belief in astrology, and then in detail at the resulting problems. There is far more to it than you might imagine, so be prepared for a long haul.

Personal experience and what astrologers believe

Happily (as it were) astrologers are all too human,

Hence it happens that nothing is so firmly believed as what is least known, nor are any people so confident as those who tell us fables, such as alchemists, prognosticators, astrologers, palmists, doctors—that whole breed. – Michel de Montaigne (1533-1592), the famous French philosopher who spent his life knocking the arrogance of intellectuals.

Their **own personal experiences** and self-focused motives play a dominant role in creating belief in their system of astrology regardless of how much it differs from other astrological systems. As astrologer David Cochrane (undated) recently tells us,

Every time we interpret an astrology chart we are doing research, because we are seeing if our astrological ideas and theories work with this new chart that we are looking at

But what they are doing rarely involves controls, so it cannot be genuine research, only practice in making astrology fit after the event, which will then satisfy themselves and their clients that astrology can see into the 'real person' (itself a problematic concept). Here former astrologer Serge Bret-Morel confirms how astrologers will typically trawl through interpretations until something fits, and then pursue it in more detail. Regardless of the reality, astrology cannot fail:

When I met people for whom I was erecting a birth chart, I would give them some interpretations and watch their reaction. When they said to me something like 'Yes, that's interesting' we would talk about it. Then with the rest of the astrological chart, I was able to develop other interpretations related to the point I had just found. ... By proceeding in this way in an astrological consultation, one can quite quickly tackle fundamental problems for the client and bring them another point of view. This approach is very effective, and a little of it beforehand allows me to know what they want to talk about. Then I say, Where are the planets? Let's see what we have (Bret-Morel & Feytit 2020, translated from French).

Cochrane plays down scientific research on astrology unless it promises to somehow support astrological claims, and the belief that the day will surely come when astrology becomes a full-blown science.⁷ The rhetorical dimension of such a process is clear – astrologers rarely seek to

⁷ However, if support is not forthcoming, Cochrane already has his 'out':

Some astrologers feel that the very strict rules and requirements for scientific research are too limiting and restrictive for the language of astrology. However, many of us are also becoming increasingly aware that there are many research designs, and very restrictive quantitative research designs are not our only option. (ISAR Astrological Research – isarastrology.org, accessed May 29, 2022.)

deepen their understanding because they are interested only in saving the day with a particular client, not in theoretical problems or in research programmes for improving astrology.

The problem is that the result cannot fail to support astrology, so the astrologer **already knows** 'it works' through their daily experience,⁸ as do most mainstream practitioners of all types such as Myers-Briggs. One difference is that in mainstream areas, but seldom in astrology, extensive tests are made to separate plausible from less plausible approaches.⁹ For psychological concerns about the quality of such testimony see Pozzi and Mazzarella 2023, and for philosophical discussion of the resulting problems see O'Brien 2023. But to astrologers success is obvious. For example US astrologer Glenn Perry 1991 says,

There is no greater proof of astrology's validity as a diagnostic and prognostic tool than its daily application in clinical practice. Each hour of every working day I witness how the charts of my clients reflect their underlying psychodynamics, their interpersonal relations, the apparently random events they encounter, as well as key periods in their process of growth and change.

Similarly astrologer Benjamin Dykes, whose *traditional* astrology is **very different** from Perry's *psychological* astrology, tells us, "In my own practice I see every day that traditional methods of delineation and prediction work" <http://www.skyscript.co.uk/bdykes.html>.

Consequently most working astrologers will dismiss any criticism of astrology out of hand. They see how astrology seems to work every day with every client, so nothing that critics can say, no matter how soundly based in controlled replicable studies or how serious the outcome for their claims, has the slightest chance of being considered. All negative studies are obviously wrong, period. But such a response hides how every astrologer of **every persuasion** (such as Perry and Dykes), no matter how conflicting their astrologies, claim the same thing – their own astrology 'works'. Which can only prop up the seemingly unstoppable proliferation of new approaches,¹⁰ which in turn gives no reason for thinking that any particular approach is better than any others.

Hence, **if** the results are negative, the quantitative approach is too restrictive or the study design is wrong. But **if** the results are positive, all is well, or at least until problems emerge that are not resolvable by complexity laid upon complexity. Astrology does not have the resources to deal with its anomalies, nor is it ever likely to, see Kelly 1997/2005 p.20.

⁸ Non-mainstream approaches such as phrenology, graphology, and palmistry cover the same ground as psychological astrology and get similar positive endorsements from their practitioners and clients, for examples see Kelly 1997/2005. The same is true of fortune-tellers of all kinds. Consider this certainty about the beliefs held by a joint Tarot reader and astrologer:

When I first began reading Tarot cards...I never thought I could get the truth from a single card. I was 22 years old, and was reading Tarot books with big, complicated spreads. Today I use only one card – for everything. Within one card you can see the past, present, and potential future. <http://www.Jessicaadams.com> (accessed June 25, 2022).

⁹ One response to the diversity of different astrological approaches is that different people may respond to some approaches better than other approaches, or that "sometimes one (astrological) system performs better than the other depending on what we are looking at" (<https://astrology-jay.com/why-use-complementary-approaches-in-astrology>. Accessed Oct 18, 2022). Apart from assuming the truth of all these diverse approaches from the start, astrologers are notorious for giving them the nod while secretly holding that their experience shows their own approach is superior. One might ask, what tests did they make, and what evidence led them to their position? Would other astrologers agree? And what reasons would be given to support their view?

¹⁰ For example astronomers have discovered over 5000 exoplanets (planets around stars other than the Sun), see Deacon 2020. Some astrologers already include some of them in birth charts. Given their huge number, to say nothing of the huge number of asteroids that are now equally popular as an influence in human lives, one might expect traditional chart factors to be left with nothing to explain. Unless one adopts the suspiciously convenient view that they have to be named to be potent in our lives.

Further, while many astrologers **claim** that they disregard chart factors that 'don't work' and retain those that 'do work', this is not the least bit helpful for others, simply because they are unable to agree on what works and what doesn't. For examples see Dean *et al* 2022 pp.92-93.

Conclusion: Astrologers' testimonies are not about one thing called 'astrology' but only about their own pet brand of astrology. And **all** have testimonies for their brand, and **all** can claim 'it works'. This makes talk by astrology's defenders that 'we need to test astrology, not astrologers' totally ambiguous, if not impossible in practice. Next comes an absolutely essential rule:

Thou shalt not criticize astrology

Consider this quote from the world-famous philosopher Karl Popper:

If we are uncritical we shall always find what we want: we shall look for, and find, confirmations, and we shall look away from, and not see, whatever might be dangerous to our pet theories.

A look at astrology books and websites will quickly confirm that astrologers generally see astrology as mostly infallible (only astrologers are fallible) and therefore incapable of being wrong. They ignore serious criticism, and welcome from the rooftops anything that could be construed as showing the validity of astrology (see Kelly 1997/2005, 1998; Kunth & Zarka 2018; Kelly, Dean & Saklofske 2020; Dean, Saklofske & Kelly 2021). As astrologer Perry 2018 says

[For astrologers] every [astrological] knowledge claim, every method and technique, 'works'. Such an attitude compensates astrology's shadow – the fear that nothing works. ...To keep these fears at bay, an unspoken but powerful taboo has arisen: *Thou shalt not criticize anything astrological*. (italics ours).

Hence, astro-philosopher Garry Phillipson 2003 says that for many astrologers, **whatever approach** to astrology they use and whatever celestial entities they include:

astrology is self-evidently true and accurate for anyone who tries it; therefore, people who cast doubt on it must be either ignorant or working to some secret and sinister agenda.¹¹

¹¹ This attitude carries over to many astrologers rejection of any research studies that do not find positive evidence for astrological claims. McRitchie 2016 denies that studies with negative results provide evidence against astrology: "there is no reliable evidence against astrological theory and practice (p.176)." Similarly, on astrologer Robert Currey's website, we read, "In fact, there is not one valid scientific test where astrology has not shown positive results." (<https://www.astrology.co.uk/news/News.htm>, accessed Sept 23, 2021). He considers one negative study by explaining it away (Currey 2021). He tells us,

Nona Press and two other astrologers gathered 311 records of birth data of subjects who committed suicide in New York between 1969-73 who were also born in the five boroughs of New York City. Despite statistical comparison with a multitude of astrological conventional and unconventional techniques such as asteroids and minor aspects, they were unable to find significant results that related to suicide. However, their results (Press 1977) were duly published in an Astrological Journal. [Even so] Some astrologers have argued that there may not be an astrological signature for suicide (since this is not part of normal astrological practice) or that astrology is divination and cannot be objectively assessed by empirical studies. <https://www.astrology.co.uk/tests/basisofastrology.htm>, accessed July, 22, 2022.

However, Press used three replicate groups, whereas Currey avoided replicate groups because they "reduce or eliminate significance" and then cherry-picked the results to get what he wanted. But the crucial question "did it replicate" – which was answered in Press's careful study (no replicable results related to suicide could be found) – could not be answered, so the whole exercise – which filled many *Correlation* pages – was arguably uninformative. For more see Dean *et al* 2002 pp.439-440.

But if the practice of astrology is self-evident, there should be far fewer disagreements *within* a given astrology than *between* astrologies around the world, which seems unlikely – even within Western astrology the disagreements are awkwardly many, see Dean *et al* 2022 Ch 4.

Any criticism of astrology is commonly dismissed by astrologers as biased, bigoted, ignorant, and obviously untrue. For most astrologers, criticism is to be rejected, not learned from.

For example, the traditional symbolism associated with Mars (named after the Greek god of war) involves energy and violence among other things. No empirical study (however well conducted), no negative finding (however many are accrued), and no criticism (however sound) would overturn this symbolism for most astrologers. This is because the symbolism associated with Mars does not stand by itself but is inextricably connected to the many other symbolisms in astrology, **all** of which would become problematic if the Mars symbolism was overturned.

For example, Mars can be symbolically related to all sorts of diverse celestial entities (and therefore diverse human activities) including asteroids (as in transiting Juno conjunct Mars) and Uranian hypothetical planets (as in Hades opposing draconic Mars), and so on. The end result of abandoning traditional Mars symbolism for the vast majority of astrologers – **regardless** of any negative studies, however well-conducted, and however well-controlled and numerous – would be too traumatic for astrologers to even reconsider or revise.

And the same goes for the symbolism of everything else in astrology, especially the signs that in Western astrology are divorced from the constellations they were once named after.¹² As Mayer 2021 p.92 points out, the sun signs featured in horoscope columns are

dealt with the same way as with the difference in biological sex, body size or eye colour. While the latter characteristics are indeed biological facts, the sun sign is treated as if it were a biological fact. But the zodiac [is] a human construction and not a natural ... period of time.¹³

Despite the implausibility of sun signs on many levels, astrology as practiced by most Western astrologers would be unrecognizable without them. Sun sign columns are the public face of astrology in the majority of Western newspapers and most women's magazines. Nevertheless sun signs are the most empirically disconfirmed factor in the whole of Western astrology (Dean *et al* 2022 pp.197-267 and 761-771). If astrologers were to give up sun signs, Western astrology

¹² An interesting article on the psychology behind why we perceive constellations rather than individual stars (we can't see patterns in individual stars) can be found in Cropper, Hamacher, Little and Kemp 2022.

¹³ Cull and Mehdi 2023 contend that two social mechanisms allow believers to be influenced by the characteristics attributed to each sign. The first is 'a looping effect' where people adjust their behavior to understand themselves better:

Suppose you are a Pisces... you see a meme on the internet that suggests that Pisces tend to do X. So, you start to do X, because that's what Pisces do...your behavior is consciously modified to fit the label. [Even if] not a fervent believer in astrology...it is enough to think that astrological claims...have some weight in the accurate prediction of behavior and character...In such a case, the labelling effect occurs (p.8-9)

The second is a 'proleptic [anticipatory] mechanism' where behavior is consciously fitted to the sign:

Suppose...your friends... suggest, for instance, that Tauruses [like you] tend to be incredibly stubborn... Queried about why you [are stubborn], the excuse "Tauruses like me [are stubborn]" will make sense to you [as an explanation to supposedly satisfy your friends]...you don't need to believe in astrology at all (p.9).

would look very different, but apart from the confusion in popular culture that would result, the social and financial costs for astrologers would be too high. Regardless of how devastating the criticism of sun signs is, the present-day astrological community **won't budge**. The popular role that sun signs play in Western astrology is too essential to its practice to be given up.

That said, successful exceptions to supposed disaster if any traditional factor is rejected include Ebertin's cosmobiology (houses are rejected in favour of midpoints between planets) and Witte's Uranian system (houses are rejected in favour of hypothetical planets), both of which were very detailed and supposedly based on observation, and both achieved large followings. In effect both rejected the simplicity of houses for the complexity of something else, which complexity then provided more opportunities for apparent success

The focus of this article

This article provides a critical examination of the concepts and assumptions of astrology in the modern Western world (Europe, North America) as found in astrology books at local bookstores, in magazines such as *The Mountain Astrologer* and *The Astrological Journal*, and on typical astrological websites. It focuses largely on the **common symbolic meanings** that underlie most of modern Western astrology (psychological, mundane, horary, electoral, medical, spiritual), and is more in-depth than existing philosophical critiques.¹⁴ Much of it is filled with important but unanswered questions that illustrate the problematic nature of the associated astrology,

Our focus is of course less on **empirical issues**, which are covered in a large empirical literature such as Culver & Ianna 1988; Crowe 1990, Komath 2009; Dean *et al* 2022; and Courgeau 2022.

This present article is an extension of Kelly 1997/2005; of the joint analysis by an expert mixed team including Kelly in *Correlation* 1995; and the serious issues raised in those articles.¹⁵

¹⁴ There have been several philosophical critiques of astrology in the *academic* literature (Krips 1979; Thagard 1980; James 1990; Kelly, Dean & Saklofske 1990; Kanitscheider 1991; Kelly 1997/2005; Kelly 1998; Reudell 2019; Duka 2020; Natale *et al* 2022). Mukerji & Ernst 2022 criticize homeopathy as 'argumentative bullshit' with issues that apply equally to astrology.

Alone in the *astrological* literature is a **joint review** by a total of 15 astrologers, philosophers and scientists including Kelly ("Some Philosophical Problems of Astrology", *Correlation* 14(2), 32-44, 1995, with 38 references). **Issues of satisfaction** (Is astrology popular? Do astrologers find it satisfying? Do clients accept it?) were value judgements that could legitimately differ and were therefore unproblematic (the response to each questions was a resounding Yes).

The same did not apply to **issues of accuracy**, which were seriously problematic:

(1) Astrology is defined as precisely not the result of any means we know of. (2) Astrological effects are essentially statistical and nonidentifiable except after the event, and therefore cannot be an independent source of knowledge. (3) Astrologers have been reluctant to describe what their model predicts, the criteria by which it could be tested, and the evidence they would accept as showing it had failed. (4) No claims to accuracy can be justified unless astrologers make proper experiments *and* distinguish between alternative explanations *and* have independent reasons for thinking that astrological effects exist, (p.32, their emphasis). Nevertheless "a lie that was sufficiently noble, innocent and important might be worth most people believing it ... but hardly apply to astrological beliefs, for nobody proposes that astrology holds any modern society together including ours" (p.41).

This was followed in the same issue (pp.45-58) by **two responses**. One was from four US astrologers who accused the authors of "scientism" and "committing category mistakes" (as in confusing *astrology* with the *study* of astrology), but without showing how their correction would support astrology. They also failed to comment on most of the arguments. The other was from Ronald Harvey, whose 1996 book *The Spindle of Meaning* sets out "the philosophical aspects of astrology". But "it will not prove anything, indeed there is a chapter on the impossibility of any conclusive proof" (p.63). Noise 1, Signal 0

¹⁵ It is noteworthy that the most influential philosophers of science in the 20th century (Karl Popper and Thomas Kuhn) reject astrology. For Popper (1969), astrology overly focuses on confirmatory findings and ignores or 'explains away' negative studies, and through continuous after-the-event excuses renders itself unfalsifiable. Kuhn (1974), on the other hand, rejects astrology

That said, the focus of this article can at times be on natal astrology considered as directly or indirectly supportable by empirical research, as it seems most astrologers and clients (whatever they may **say**) understand astrology in this way. That is, their claimed problems disappear whenever a scientific study produces results that can be interpreted as support for astrology, as when quantum indeterminacy, or a holographic universe, or chaos theory, or dark matter is surmised to somehow make astrology more plausible.¹⁶

because it does not have the theoretical resources to solve any scientific puzzles that could conceivably arise in practice. These critiques are aimed at astrology considered as a science, a proto-science, or occult science, as in this article.

For those interested in Kuhn, some recent themes emerging from Kuhn's philosophy, including its stance toward pluralism (different people have different interests and beliefs), can be found in Wray (2021). While Kuhn in his post-Revolution writings continues to deny the progressive, accumulated view of scientific development over time (a view unfortunately held by many modern astrologers), he denies that his views reject the cognitive authority of science and contends that other notions of scientific progress hold. He further backs off from talk of 'paradigms' and 'revolutions'.

The philosopher Paul Feyerabend has also looked at astrology and has been misrepresented by astrologers. As Phillipson 2021 pp.78-79 points out,

Paul Feyerabendhas sometimes been cited as a defender of astrology against scientific attack. The reason for this is to be found in five pages of his *Science in a Free Society* in which he criticised the attack on astrologers contained in the 'Statement of 186 Leading Scientists' in the Sept/Oct 1975 *Humanist*. Feyerabend cited [physical] evidence for the influence of solar flares upon life on Earth, and mentioned the sensitivity of oysters and potatoes to lunar rhythms. Aside from such phenomena, however, he made it clear that his remarks 'should not be interpreted as an attempt to defend...Modern astrology [which] inherited interesting and profound ideas, but distorted them, and replaced them by caricatures more adapted to the limited understanding of its practitioners.'

Later, he found it necessary to reiterate his lack of sympathy for astrology as currently practised, writing: 'My use of examples from astrology should not be misunderstood. Astrology bores me to tears. However it was attacked by scientists, Nobel Prize winners among them, simply by a show of authority rather than arguments, and in this respect it deserved a defence.' The extent of Feyerabend's interest in astrology should not therefore be overstated. His discussion of astrology is best characterised as a means to the end of attacking authoritarian and objectivist tendencies in modern society, particularly from the scientific establishment – as seen in his assertion: 'Science is one Ideology among many and should be separated from the State just as Religion is now separated from the State.'

Others who have looked carefully at Feyerabend's writings support the view expressed by Phillipson that Feyerabend's interest in astrology was largely in combating attacks on it by those making dogmatic uninformed statements [see Kidd 2016, Pigliucci 2016]. He wasn't defending the practice of contemporary astrologers. Indeed, it would seem that he would regard most modern astrology practitioners and researchers as 'cranks' (for more on this see Shaw 2017, pp.82-85).

¹⁶ Astrologers of every age have tried to tie their astrological beliefs to the science of the time. For example Geoffrey Cornelius, a prominent British divinatory astrologer, in his presentation at the *United Astrology Congress* (1998) pointed out:

Intelligent critics of astrology maintain that astrologers have always managed to use the prevailing culture and ethos of the times in which they live (ie science and philosophy of the period) to disguise themselves and cunningly continue with their practices. This is absolutely true. That is how our extraordinary form of symbolic consciousness has survived. We disguised ourselves as Aristotelian science for the better part of two millennia. Then we tacked ourselves onto modern science in the revival of two centuries ago when astrology disguised itself as magnetism and electricity, and later as radio waves. Depth psychology [ie Jung] is just the latest disguise. Perhaps we can do nothing else, for how can this form of symbolism survive without being in the corrupt position of lying about itself in some way in order to get by?

Cornelius holds that astrologers have to re-think many of their basic assumptions and public deceptions. The round peg of astrology never seems to come close to fitting the square pegs of scientific theories, reasonably implying that astrology is not a science in any sense (as Cornelius points out). The end result boils down to endless speculations, assuming that each new speculation is correct, and passing the burden of proof (Kelly 1997/2005 p.36)

What exactly is astrology?

We can define astrology as the idea that the planets have psychological characteristics, and that their positions relate to people and events on Earth as seen through the birth chart, which is:

a sky-map positioned on the birth of the individual, called the native, as a microcosm at the relative center of the Solar System, and in the greater macrocosmic sense, at the center of the universe. Hence, the native's planets (including the Sun and the Moon) are relative planets because they, in a fashion, move around the native, as does the native's universe (McRitchie 2022 p.707).

Western astrological factors typically include planets, aspects, signs and houses. All describe **symbolic** connections between astronomical events and present, past, and future happenings on the earth, and all are interpreted according to certain received rules (analogous to cookbooks) usually tied to particular astrological traditions.^{17 18} As King 2024 points out: "modern Western astrology draws heavily on the symbolism and terminology of ancient Greek astrology". Rossi & Le Grice 2017 explain how it works:

Simply stated, astrology is the practice of interpreting the **meaning of observed correlations** between human experience and the positions, interrelationships, and cycles of the planets (including the sun and the moon) in the solar system. (from their Introduction, to which can be added:). Each planet**symbolizes something** in all our lives - a universal component of our experiences. They rule over different parts of our psyche - different desires, different needs that create who we are. Therefore your own personal combination of zodiac sign, planet locations and houses end up depicting a portrait of you in something known as the natal [birth] chart. We get this natal chart from a mapping of the heavens during the moment of your birth into the world (<https://labyrinthos.co/blogs/astrology-horoscope-zodiac-signs/astrology-planets-and-their-meanings-planet-symbols-and-cheat-sheet>).

Here is a more detailed example of how it works:

In [Western] Greek mythology, Venus is Aphrodite, the goddess of beauty and love. Venus regulates the world of love and desire, lust, artistic expression, and the pleasures of life. It represents one of

¹⁷ Many astrologers prefer to describe astrology more broadly as "*the study of the correlation between the positions and movements of celestial bodies and life and physical processes on Earth.*" (<http://www.astrology.co.uk/tests/basisofastrology.htm>). This expansive definition allows astrologers to include ANY relationships discovered by scientists as indirect 'evidence' for astrology, even though such relationships are **irrelevant** to the **symbolic** claims made by astrologers, and to how astrologers actually practice their craft (see Kelly & Dean 2000a). Studies documenting effects of sunspots or solar winds or biological clocks or geomagnetic or lunar effects on human terrestrial activities, or season of year effects on human behaviour (see Holloway 2015 for a popular overview, and Cypryański 2019 for how they might change over time), together comprise a **heterogeneous variety** of effects and are fully scientific, ie they are consistent with present-day natural science or social science and do not require paranormal explanations as do most forms of astrology.

Nor do most people consider the Aurora Borealis or solar sunspot effects on shortwave radio propagation, or solar storms, power cuts and blackouts on earth, as evidence of astrology, and neither do the researchers on these topics consider themselves astrologers. **Indeed, such influences could be non-existent and astrology would go on as usual.** Further, as we shall see from the rest of this article, there is still a huge gap between the scientific findings on terrestrial events and the symbolic connections of astrology (Taurus's are stubborn, Leos are generous). Physical forces are known to be incapable of underpinning such symbolic associations (Plait 2011).

¹⁸ Some astrologers make a distinction between **traditional** and **modern** astrology. Modern (as in contemporary) astrology is a product largely of the early 20th century and is more focused on psychology than is traditional astrology where the main focus is outward rather than inward. For more see Brennan's 2008 discussion of how traditional astrology differs from modern astrology. For a critique of modern astrology by a traditional astrologer see <https://qz.com/1170481/horoscopes-2018-astrology-isnt-fake-its-just-been-ruined-by-modern-psychology/>; accessed Jan 14, 2021. Our focus in this article is modern (20th century and beyond) astrology and is largely but not solely on those who advocate astrology as a physical or esoteric science.

humanity's most basic drives: the need to relate. That's Venus in Astrology.¹⁹ (Venus in Astrology - Meaning, Signs and Birth Chart. AstroMundus, accessed, Feb 4, 2022).

Symbolism is everything in astrology. The physical characteristics of planets, such as their size, and whether they are made of mostly gaseous or rocky material, is considered irrelevant to astrological claims. Hence, astrology while '**founded** upon mathematical and astronomical data, is **interpreted** according to general [astrological] principles' (Carter 1925 p.14).

Each planet's position in the sky is interpreted by the categories of: its sign, its house (a 12-fold frame of reference affixed to the local horizon and meridian, not the ecliptic), and its aspects (its angular distance to the other planets). For example, a cookbook-described position would be for: Mars in Sagittarius, Mars in the ninth house; and Mars opposite Moon (with Mars and Moon on opposite sides of the earth, 180° apart). (McRitchie 2022 pp.206-207)

The **procedure** is important to keep in mind. A consultation with a professional astrologer will involve the interpretation of a birth chart via the personal approach held by the astrologer. The astrological symbolism associated with the different planets and other factors can be modified (enhanced or diminished) by the symbolism of the other planets or factors in the chart: "a multiplicity of factors in any natal chart are assumed to converge, intersect, or otherwise blend together" (McRitchie 2022 p.708). For example, when Ganymede (the largest moon of Jupiter) is prominent (as when located between Jupiter and Earth) then Jupiter still has the same symbolic interpretation, except Ganymede indicates what symbolic parts of Jupiter receive more focus and emphasis (<https://www.astrolog.org/astrolog/astromoom.htm>, accessed June 6, 2023).²⁰

Ever since the days of Alan Leo (1860-1917) astrology students have been routinely taught to *combine* the influences of factors acting together, a process that is central to their classes and examinations. The combining of factors shows how we deduce their combined interpretation from the individual interpretations of the planets and the aspects between them.

¹⁹ Venus in astronomy and the natural sciences is extraordinarily different from the love planet Venus in astrology:

Venus has a thick, toxic atmosphere filled with carbon dioxide and it's perpetually shrouded in thick, yellowish clouds of sulfuric acid that trap heat, causing a runaway greenhouse effect. It's the hottest planet in our solar system, even though Mercury is closer to the Sun. Surface temperatures on Venus are about 900 degrees Fahrenheit (475 degrees Celsius) – hot enough to melt lead. The surface is a rusty color and it's peppered with intensely crunched mountains and thousands of large volcanoes. Scientists think it is possible that some volcanoes are still active. Venus has crushing air pressure at its surface – more than 90 times that of Earth – similar to the pressure you'd encounter a mile below the ocean on Earth. (<https://solar.system.nasa.gov/planets/venus/overview/>, accessed Feb 4, 2022).

Understandably astronomers do not view Venus as a love planet. Astrologer Grasse 2019 nicely summarizes the point that symbolism in astrology is quite distinct from science:

As seen by astronomers, for example, Jupiter is simply a large gaseous planet with certain measurable properties, traveling at a particular speed, in a particular orbital path. For astrologers, however, Jupiter **symbolizes** a particular set of qualities: expansiveness, joviality, excess, exploration, spiritual learning. ... Importantly, this symbolic dimension can't be grasped through strictly scientific or quantitative means. If we traveled to that distant planet and took samples, or tried using instruments to measure its energy fields, we still wouldn't be able to isolate the **symbolic meaning** associated with the planet by astrologers.

Furthermore, a planet's actual distances from the sun, or from other planets, or their physical characteristics such as composition and size, play almost no role in astrological interpretations.

²⁰ Ganymede is a beautiful youth in Greek mythology and consequently symbolizes "beautiful youth" in astrology,

On the typical astrological world-view, "no occurrence is random, and ... the universe is an intelligent design" (Fernandez 2022 p.33). Some religions of course hold the same view but without embracing astrology. But if we accept this view, should we modify how we talk about luck, responsibility, and the likelihood of events in our lives?

How did we get the Principles of Astrology?

While mathematics is tied to the astronomical data used by astrologers, how did we arrive at the principles and cookbook claims? Astrology books and websites suggest a form of astrological *foundationalism* that is popular with many astrologers. It holds that the **meanings** of the astrologically significant factors are based on a pedigree of centuries of documented observation and practice, along with a linear corpus improved over time:

we must ask how the astrological meanings could have been derived, which takes us away from causality to questions of observation. We have postulated that astrological identifications are based on **empirical observations**, which are **developed** through the practice of astrology....These are simply things that are empirically observed, like any other properties or behaviors in nature. (McRitchie 2022 p.714, bolding ours).^{21 22}

This view of astrology as arising from actual observations conflicts with views held by philosophers of science from Kuhn 1962 onwards, and with informed historians of astrology such as Nicholas Campion 1986, letter, *Astrological Journal* 28(2), p.76:

The myth that astrology is based on observation was fostered by the ancient Greeks ... The available evidence indicates that astrology owes its origins to early religion and magic. While the sciences today are independent of magic, it still seems to be the overriding undercurrent in astrology's survival today.

An example of the 'based on observations' approach is provided by Richard Tarnas 2009, who points out that astrologers found their observations of **Pluto** (named after the Greek god of the underworld) closely fitted its **Greek mythology**:

Observations of potential correlations with Pluto by astrologers in the subsequent decades suggested that the qualities associated with the new planet in fact bore a striking relevance to the mythic character of Pluto, the Greek Hades, and also to the figure of Dionysus, with whom Hades-Pluto was closely associated by the Greeks (p.46-7).²³

²¹ Former astrologer Bret-Morel points out (2016 Ch 16): "The technical and symbolic complexities of astrology are known but astrologers are not aware of the pitfalls that are generated. They continue to see in it proof of the infinite wealth of their discipline, oblivious to the fact that their gaze is often biased. ... The lack of individual rigor and the total disorganization of the environment can only perpetuate this well-established state. The silence of astrologers on these matters is simply deafening!"

²² This talk is difficult to take seriously given that (1) the many different elements in the horoscope interact with one another, (2) the interactions are highly complex, and (3) most astrologers claim that each interaction can manifest in many different ways. If our particular study gets nowhere, did we miss something important? Like what?

²³ What observations could Tarnas be talking about? He insists that each planet's relationships with terrestrial events can be known only **after the event**. But once we know what to look for it is relatively easy to find confirmation. For example,

Pluto is associated with the principle of elemental power, depth, and intensity; with that which compels, empowers, and intensifies whatever it touches; sometimes to overwhelming and catastrophic extremes [and so on for another 62 words]. Pluto represents the underworld and underground in all senses: elemental, geological, instinctual, political, social, sexual, urban, criminal, mythological, demonic (Tarnas 2009, p.47).

This wide description allows him to easily fit a huge diversity of events to Pluto (discovered in 1930), such as;

Along the same lines is the common talk by astrologers of astrology having a 2500-year history of new celestial discoveries along with new techniques. This seems highly implausible:

(1) There are no known historical sources that support such a belief. (2) There are far too many combinations in astrology for our unaided abilities to make sense of. (3) Nor are they sensitive enough to detect or discriminate between the claimed effects, regardless of what might be observed. (4) Powerful modern methods have found nothing strong enough to be directly observable by the ancients. (5) Nor is there evidence for early observations that later became corrupted. In short, astrology could not be based on observation (Dean *et al* 2022 p.70). A useful short overview of the early history of astrology can be found in Courgeau 2022 Ch 3.²⁴

Although zodiac signs are important today, their central role in astrology did not begin until the days of Alan Leo a century ago. They are *not* a tradition. Nor can we accept the idea that astrology is still laying down its foundations, because a discipline, whatever it is, cannot be *founded* on an ignorance that once existed. Nor is there a supposed linear development:

Modern astrology, as it was practiced in the 20th century, and as it is practiced even today by the majority of western astrologers in the early 21st century, was **not** the result of a linear development and refinement of the subject over the centuries which culminated in the form that it is in today. This is one of the great myths surrounding modern astrological practice. Rather, modern western astrology is largely the result of a handful of influential 20th century astrologers who inherited a few fragments of the astrological tradition and then created a new construct around it which was then infused with their own religious, ethical and theoretical speculations (Brennan 2008; accessed Jan 18, 2021; also Campion 2004 Ch 6).²⁵

What can modern astrology allegedly tell us?

Why take any notice of astrology in the first place? Today, to get some idea of how people's lives may vary, we consider **genetics** together with environmental, social and **economic variables** and the influence of **chance**. (For more on chance see under Role of chance in our lives.) A poor autistic person will likely have a very different life compared with a wealthy talented person. But

synchronistic phenomena in the decades immediately surrounding 1930 ... the unleashing of nuclear power ... military force ... rise of fascism ... psychoanalysis ... increased sexual and erotic expression ... awareness of the criminal underworld ... mass violence ... catastrophic historical developments ... world wars ... ecological devastation ... power struggles ... depth-psychological transformation and catharsis, and the scientific recognition of the entire cosmos as a vast evolutionary phenomenon (Tarnas 2009 pp.47-48).

One could match a similar variety of disparate events to any time period in human history. The only difference is that, in the 20th century, events of all kinds are easier to find due to mass media reporting and new technologies. For more on the problems with after-the-event fitting see Bouldry 2013, Fosl & Baggini 2020 p.130, and Manninen 2018. Tarnas seems to suggest the discovery of Pluto was associated with disastrous 20th century events across the world. But given the earlier lack of resources and knowledge, it is not clear why he excludes earlier disasters. For example he seems to imply that an incomparably worse disaster such as the Black Death (it killed up to half the populations of Europe and the UK) doesn't count because it occurred six centuries before Pluto was discovered.

²⁴ But "we cannot assume the reasons one might reject astrology today are the same as those that rejected astrology in the past" (Pfeffer 2021). As Pfeffer points out, "For many of astrology's early modern opponents, the religious status of astrology was more significant than its scientific status." Today, its scientific or philosophical status is the main focus of criticism. Although the corpus of astrological writings may **explain** certain astrological beliefs that are held today, they do nothing to **justify** them. Ideas of historical interest are no longer relevant to present-day ideas because advances in knowledge have made them obsolete. Today no-one who is getting a degree in chemistry is criticised for not having a knowledge of past writings in alchemy

²⁵ This suggests that appeals to justify astrology via its long 2500-year history, or appeals to the historical 'astrological corpus', or appeals to ancient observations as supportive of today's astrology, are themselves deeply problematic.

most astrologers claim the birth chart goes far beyond such broad outlines. For example Charles Carter, the leading British astrologer of his day and noted for his clarity of expression, makes this definitive statement in his *Principles of Astrology* 1925 p 18:

Practical experiment will soon convince the most sceptical that the bodies of the solar system indicate, if they do not actually produce, changes to: 1. Our minds. 2. Our feelings and emotions. 3. Our physical bodies. 4. Our external affairs and relationships with the world at large.

Non-astrologers have no reason to think that more could be provided than is already provided by the sciences and our education. To claim otherwise implies that, just for starters, astrologers are more informed than highly educated specialists. Astrologer Robert Currey's view is typical:

You may know who you are, but your chart reveals who you can **become** [that is, your potential]. Your **Character Portrait** horoscope identifies more than just obvious personality traits that you will gladly recognise. It will uncover hidden talents and unravel complex parts of your nature. It brings a level of self-understanding that will lead to greater self-confidence. It can lead to more successful relationships and friendships and open up career possibilities that you may never have considered before ... **The Character Portrait covers the whole pattern of your life.** ²⁶ (From <https://www.equinoxastrology.com/characterportrait.htm>, accessed Jan 13, 2021, bolding ours.)

And, astrologer Andrikopoulos 2013 tells us:

The astrological chart is a rich source of information on our unique energy pattern ... In working with the knowledge we find there, we are able to raise our vibration of attraction; in this state we are able to attract a soul-mate, someone whose vibration is a match for our own uniqueness. ²⁷

Astrology claims to provide information about human beings and worldly events not easily available from other sources, supposedly making certain possibilities open to us. As a typical example of a public astrological reading, read this analysis of the relationship between musician Harry Styles and actress Olivia Wilde in the *New York Post* (January 12, 2021).²⁸

²⁶ The 'potential' or 'self-understanding' usually assumes a deep, generally positive self underlying all outward trappings. One might consider the possibility that some of us are natural psychopaths, or have little potential, or possess an evil nature (read <https://www.thephilosopher1923.org/smith-bregman>). We leave it to the reader to determine whether or not we all have such a potentially largely positive essence within ourselves. Maybe if only Stalin, Hitler, or Atilla the Hun had seen an astrologer?

Note that talk of an underlying self (deep or true or real) is itself problematic and difficult (see Steinberg undated; Sparby, Edelhauser & Weger 2019; Stern 2021; Seth 2021). Recent neuroscience suggests that the self is constructed and fragmented (see Lehrer 2012; Borgoni, Kindermann & Onofri 2021), so it is extra problematic for astrology's claims to describe it. See Garfield 2019 Ch 3 for Hume's early views on the self (he had no reason to believe in a self that went beyond inner experiences).

It is interesting (at least for philosophers) to consider notions of personal identity in astrology. Astrology considers life paths of people over time. But does it adopt a bodily or a psychological approach to personal identity? The former would be problematic in cases of physical enhancement or biological implants. The latter would be problematic in cases of psychological damage such as dementia. For excellent discussions on the topic of personal identity, see Kind 2015 and Earp *et al* 2022.

²⁷ The word 'energy' is popular in many astrological writings. Its use by astrologers (and by others such as psychics and Tarot readers) has little in common with its use in science where 'energy' implies causation. The expressions 'unique energy pattern', 'vibrations of attraction' and 'vibrations matching our own uniqueness' would require a lot of explaining to make sense. See Reudell 2019 for critical comments on the use of 'energy' in astrology. See also McLean & Miller 2023.

²⁸ Astrologers tend to view astrology as being able to accurately describe client personality and behaviors and provide insights independent of other approaches, or to provide information more readily. However, similar claims are made by Tarot readers, graphologists, palm readers, psychics, phrenologists, and so on. And all groups can quote rousing testimonials. For example, some people claimed phrenology would last forever. Thus the co-discover with Charles Darwin of natural selection, Alfred Russel Wallace FRS, said in his 1898 book *The Wonderful Century* "in the coming century phrenology will assuredly gain general acceptance" (p.192). He is cited in J.M.Severn's 1913 *Popular Phrenology*, p.6) as saying "the phrenologist has shown

"I don't think it's going to be a long-term thing," Madi Murphy, astrologer and co-founder of *The Cosmic Revolution*, recently told Page Six of the romance. "That being said, it doesn't mean it's not going to be a successful relationship," she said, noting that time is not the only measure of a relationship's success. "I do think they're going to learn a lot about each other and learn about themselves and both be catalysts of change and personal transformation for each other."

Murphy explained that 26-year-old Harry, whose sun sign is Aquarius, has not yet experienced his Saturn return, the astrological "period of emotional adulthood" and a "cosmic coming of age time." And the 36-year-old "House" alum's sun sign, Pisces, is also directly aligned with the singer's Saturn placement, giving the relationship an underlying theme that there's work to be done together.

"They're going to come out of it as different people and it's not necessarily going to be about a romantic connection," she said, hinting that they could end up collaborating on a successful work project or charitable endeavor further down the road. Murphy also noted that they share the same Venus sign in Aquarius, and thus speak the same love language. Styles may have ignited a part of Wilde that lay dormant for a while (<https://pagesix.com/2021/01/12/whats-in-store-for-harry-styles-and-olivia-wilde-according-to-astrology/> accessed Jan 13, 2021)

The caveat against 'a long-term thing' was a wise aside, because six months after the above was written, the relationship between the two celebrities ended. Such a reading is typical of popular Western astrology. It covers all outcomes and is guided by what is already known about people in general and about typical celebrity relationships. It is also well larded with vagueness ('I don't think', 'tendency to', 'potential', 'inclination', 'may', 'not a long term thing', 'speak the same love language', 'emotional adulthood') which allow them to cover all bases. A few astrologers believe that astrology offers only partial explanations of human behavior,²⁹ but many of them seem to believe that astrology provides an all-encompassing view of everything.

For example, astrologer Crimmin 2021 says, "Everything under the sun, including *gardening*

that he is able to read character like an open book, and to lay bare the hidden springs of conduct with an accuracy that the most intimate friends cannot approach". *The British Phrenological Year Book* 1896 was even more emphatic (and for the best of reasons), phrenology was "so plainly demonstrated that the non-acceptance of phrenology is next to impossible" (p.64).

But can we believe any of it? Listen to psychology historian J.C.Flugel, who sixty years later was able to say, "By a piece of irony phrenology was the most popular of all the doctrines of psychology in the whole history of the science [indeed, in its heyday it was far more popular than Western astrology is today], and at the same time the most erroneous. It affords a striking example of the dangers of erecting a vast superstructure on inadequate observation and inexact methods" (*A Hundred Years of Psychology* 1964 p.36) . To which twenty years later Dean and Mather (*Astrological Journal* 28(10), 1985 p.25) added:

Astrologers are like phrenologists: their systems cover the same ground, they apply them to the same kinds of people, they turn the same blind eye to the same lack of experimental evidence, and they are convinced for precisely the same reasons that everything works. But the phrenologists were wrong. So why shouldn't critics conclude for precisely the same reasons that astrologers are wrong?"

The *Journal* had a then readership of about 1500 and was widely circulated around the world. More than 35 years have now passed with no reply from astrologers except to dismiss phrenology as irrelevant. But phrenology for all its faults has not been a total loss to modern science. It led to the discovery that brain and mind were associated and that localization in the brain existed. It established *function* as a psychological term and the expression of traits on scales such as 1 to 5. And it confirmed the futility of metaphysical speculations about human nature, Which is why phrenology and not astrology appears in general histories of psychology. The same with modern brain-imaging devices. which when first introduced were met with skepticism because they seemed like phrenology. But they proved to be very fruitful with many new insights, such as the view that all brain systems are interconnected. Has astrology ever left a similar useful legacy? Absolutely not..

²⁹ This view would reduce astrology to just another set of factors that operates and interacts within and alongside the physical and social factors found in the sciences. This would require being able to identify astrological influences independently of physical ones and a plausible theory of how astrological factors interact with those of the physical and social sciences. It would also suggest (contrary to the writings in astrology books and websites) that in some cases, astrological factors could be overruled by factors known in the physical and social sciences. Here theory would be centrally important.

styles, can be viewed through an astrological lens" (italics ours). Similarly, at the online *Astro-Talk* site, we read, "[In] our Horoscope dwells every aspect of our body, soul, life, and purpose" (<https://astrotalk.com/astrology-blog/astrology-and-mental-health/>).³⁰

Again, "Astrology is the ancient science of interpreting the relationship between the physical world, the spiritual world, and the cosmos to answer **all of these questions** and more." (mysticmag.com *Astrology Basics Explained: A Beginners Guide to the Stars*, accessed Feb 24 2022). And, "Astrology **explains everything**, and it does so on many levels and on whatever level you are at this very moment. ... but not in a causal way ... astrology connects everything." (<http://risinglightastrology.com/> accessed June 9, 2022).

Similarly, in full-page advertisements on the back or inside covers of *Horoscope* magazine (now defunct since 2023) UK astrologer Robert Currey tells us, "Tell Robert Currey three things about yourself and he'll tell you everything about yourself". In exchange for your date, time and place of birth and \$45, you discover "your ideal careers path, how others see you, the key to social, romantic, spiritual and material success, as well as deeper – and often hidden – strengths ... discover who you really are. ... And even if you don't know your time of birth, we can still tell you a surprising amount from just two". And astrologer Roy Gillett 2023 p.28, who is president of the UK's *Astrological Association*, tells us:

what we experience, or are disposed to do, is the product of the background pressures (outer-planetary cycles), the contemporary mood (inner- planet cycles) and triggers to act or to happen now (Moon and angles). Potential triggers are constantly occurring. Only a few will indicate specific outcomes. This does not invalidate the benefit of knowing background pressures that may trigger future events, in order to adjust environments to encourage the most beneficial outcomes.

Some astrologers tell us that astrology can provide important information about our past lives – that is, the soul's evolution from past life to the next past life and so on to the present life (<https://mauricefernandez.com/reincarnation-astrology-charts/>). To put it another way, astrology shows the inner essence or nature of things, past and future, through their symbolism. It is almost God-like in its possibilities – compare "not a single sparrow can fall to the ground without your Father knowing it." (Matthew 10:29-31). The rich, constant changes, ambiguity, and messy complexity of our lives can be somehow (or somewhat or largely, depending on the astrologer), captured in the external motions of bodies of rocks and gasses.³¹

Let's put this in perspective. As Schellenberg 2019a points out, we humans haven't existed that long on this planet, maybe only 300,000 or so years. Dinosaurs were around several hundred millions of years longer than us. So unless a major catastrophe occurs, we will be around for a

³⁰ The idea that modern astrology can tell us the smallest details of our lives would require the celestial bodies 'reflecting knowledge' (or being set up by gods who have such knowledge) to know everything about everything at every possible point in the lives of the eight billion people on this planet, including their evolution since the remote past. Given that we have been around on this planet for only 300,000 years or so, this level of knowledge seems very unlikely.

³¹ Or newspaper headlines. The *New York Post* tells readers on January 23, 2022, 'Mars in Capricorn will make your sex life extra horny' (nypost.com). One might wonder how astrology will deal with sex robots and our relationships with them in the near future. Likely for the robots themselves astrologers will default to some kind of birth-date centred on the date of manufacture, or the date they were sold, or when they first engaged with a human. Whatever date is selected, the astrologers will be able to retro-fit it to subsequent events. For interesting thoughts on sex robots consult Karaian 2022. The same is likely with how astrologers will deal with digital humans (for more see Green 2022).

very long time in the future.³² Given an evolutionary time scale, and given that astrology in its various forms has been around for only 2500 years or so, astrological claims to deep insight based on 'as above so below' are very suspect. It seems miraculous in the extreme that we could have achieved such powerful insight about lives and events on earth in such a short time. At least its unbelievability explains the common appeal to transcendent realms and gods to underwrite the claims of astrology in all its disparate forms

At which point we'll leave readers to consider the immensity of time that humans have ahead of them to make massive improvement in all areas of knowledge – except of course astrology, which is somehow miraculously beyond any significant improvement (Schellenberg 2019b).

Competing assumptions

The traditional metaphysical assumption of astrology is both as old as astrology and deceptively simple. It assumes that happenings in the macrocosm (sky) are related to happenings in the microcosm (earth) in specific **symbolic** ways, a connection usually summarised in the Hermetic maxim 'as above so below'.^{33 34} For most astrologers this is a fundamental feature of reality.

But 'as above so below' is difficult to assess. Whenever astrologers try to be more specific, the result seems to be either trivially true ('we are all interconnected'), or vague assertions without details ('supported by Bell's theorem / chaos theory / fuzzy logic'), see Kelly 1997/2005 p.35.

So how do we know what to include and what to exclude in the 'above'?³⁵ We can't focus on everything that is up there ($\sim 10^{20}$ stars for starters). The answer depends on the astrologer. Planets are considered essential (but not necessarily all planets, thus Vedic astrologers exclude the three outermost planets). Some include hypothetical planets, or comets and meteor showers, or fixed stars, or asteroids, or exoplanets.³⁶ Others don't. And so on. But astrologers can disagree

³² This same point was also made by philosopher Derek Parfit 1984: "The earth will remain habitable for at least another billion years. Civilization began only a few thousand years ago. If we do not destroy mankind, these few thousand years may be only a tiny fraction of the whole of civilized human history".

³³ The expression 'as above so below' is usually tied-in by astrologers with the term 'holism'. However, the use of 'holism' in astrological contexts fails in several informative ways: there is no way of knowing which elements are necessary or strongest in astrology – different astrologies contain different elements and claims with no agreed upon way to separate out working elements from non-working elements. And the use of 'holism' is associated with extreme dogmatism in that its astrological parts such as planets and signs are unresponsive to negative evidence and new theoretical insights in the sciences. In other words the use of 'holism' in astrology differs from more legitimate notions of holism (for more see Hansson 2022).

³⁴ Astrologers often view 'as above so below', as well as the meanings of astrological symbolism and their links with earthy events, as being beyond the need for justification. How is this done? One approach is to claim the symbolism as used by astrology is a fundamental property of reality, autonomous and disconnected from physical properties. As it stands, this would be an empirically empty claim, and nothing would follow from its acceptance for particular approaches to astrology. While one can understand such appeals in regard to consciousness, no informed person today denies the existence of consciousness, whereas many do in astrology and other occult practices. But why is there no need for justification? Easy. Astrology works, yes?

³⁵ Man-made satellites are not included in astrology, but why not? After all, socially constructed entities such as buildings, nations, ships, and marriages are supposedly covered. Further, tiny asteroids are included by many astrologers, see Smith 2023. The international space station is now the third brightest object in the sky – and more are coming. <https://www.inverse.com/science/10-brightest-objects-sky-satellite-more-coming/> They are also named, for example, Odin, Kepler, Swift.

³⁶ See, for example, <https://www.pointsincase.com/your-horoscope-for-when-the-trappist-exoplanets-are-in-retrograde> (accessed March, 2022). Do only 'nearby' exoplanets (several light-years away) matter to those astrologers who take exoplanets seriously?

on their utility.³⁷ Some experience a given factor as especially useful while others experience the *same* factor as totally useless, for examples see Dean *et al* 2022 pp.92-93. Nevertheless all seem to have satisfied clients. So astrologers are not bothered by such disagreements.

Further, the '**above**' is the cosmos as seen from the Earth. The essential astrological factors are recorded in the astrological *birth chart*, an earth-centred map of the heavens at the moment of the terrestrial happening '**below**', which can represent anything with a unique moment of coming into existence however diverse, such as the birth of a person, a company an event such as a marriage or losing a job, a dog, an ant, an idea, even an entire age.³⁸ Exactly how it works is 'explained' by various disagreeing poorly-developed theories, from esoteric physical causes to Jung's quality of time, synchronicity, and transcendent realities beyond science.

Physical causes

As it happens, 'as above so below' in the early days had awkward side issues such as seeming to deny free will, which led to a long tradition of defending astrology by moving its connections from the occult to physics, for example by Ptolemy in Alexandria around 200 AD, by the influential Islamic astrologer AbûMa'shar in Baghdad around 800 AD, and by the Franciscan friar Roger Bacon in England around 1250 AD.

Today this assumption has lost ground due to a lack of likely physical causes such as gravity, magnetism, quantum effects, and radiation, along with how such causes could set the stage for diverse **lifelong** aspects of our lives such as our love lives, career prospects, physical ability and cognitive development over our lifespan, let alone associated institutions such as nations and companies, non-humans such as animals, and our abstract ideas. But it is still supported in some astrological quarters in the hope that future science might find a plausible physical cause.

Psychological astrology

Here, the *as above so below* assumption still exists but the connection is made purely by the mind. This approach, which became popular in the 20th century, seems to be currently the most common astrology in the Western world. It works like this:

As with mythology and psychology, astrology operates in the land of archetypes (or a collective pattern or symbol) of the collective unconscious and personal unconscious. The planetary symbols and meanings relate to universal representations that can be found everywhere in the human experience. For example, the Moon in astrology represents our internal, emotional selves, our mother, and the things that are unconscious in us, but is also a physical entity (<https://www.wildwitchwest.com/about-archetypal-astrology>. Accessed April 25, 2021)

After all, given there may be as many as two trillion galaxies in our universe (Siegel 2022), each with a huge number of suns and planets, astrologers might have a problem.

³⁷ See for example, <http://astrologycritics.com/fixed-stars-in-astrology/>, and astrology.com/astrology-on-the-web-fixed-stars (both accessed March 30, 2022).

³⁸ For those astrologers who claim that an asteroid with your name on it plays a significant role in your life, the **moment** of the naming signifies when the asteroid **starts** to play its role in your birth chart no matter how old you are (even 100 years old). Even the date a song is initially thought of has been considered significant, see <https://mountainastrologer.com/tma/the-astrology-of-the-thong-song/>. As for recorded music, some astrologers also use the date it was first released, or when it became a hit, and have no problem fitting charts for the different dates to subsequent events.

The goals of psychological astrology are concerned with self-awareness and personal integration, which is essentially the same as in most non-astrological psychodynamic approaches. However, most of the research in present-day **psychology** is in cognitive science and neuroscience, which differs considerably from what is taken seriously in astrology and Jungian psychoanalysis, at least in most of their modern forms (Wiseman 2022, Bloom 2023).

Divination

Here the 'as above so below' assumption is challenged by a competing assumption, namely that the alleged connection between heavenly bodies and earthly events does not empirically exist:

astrology is based on one-off, non-repeatable instances, in which everything depends on the astrologer's ability to read the symbolism and endow the horoscope with meaning (Campion interview 2020).

it is neither necessary nor sufficient that there is a particular planetary correlation in the sky. Instead, astrology is considered to be divination ... a process seen as a reaction to a non-human responsive cosmos, or helped by divine intermediaries such as gods, spirits, or daemons (Brockman 2016).³⁹

In short, the 'above' is no longer connected to the 'below' in any **necessarily consistent way**. So this view of astrology (ie astrology is not necessarily relevant since divination supposedly does all the work) is not considered in this article. In any case the topic of divination is too large, too fuzzy, and too underdeveloped to be adequately covered without a gross inflation of our page count. Instead we refer interested readers to useful overviews.⁴⁰

Limitations

The *as above so below* assumption is subject to certain **received** limitations, which serve as escape clauses whenever astrology is under threat of disconfirmation:

- Stars incline, not compel.
- Birth time is often unreliable.
- Client does not know herself.
- The potential shown by the chart is unfulfilled.
- The manifestation is untypical.

³⁹ A daemon is any spirit, good or bad, including the spirit of a living human, while a demon is exclusively a bad spirit. Divinatory astrology has more in common with religion than science. A thoughtful humanistic case for **divinatory** astrology is made by Brockbank 2011. He contends that "a scientific approach cannot elucidate astrological practice" (p.11) and that such practice does not rely on natural (scientific) laws. Instead he proposes, and defends (pp.133-136), an occult divinatory approach based on the notion of a benevolent, non-capricious, 'responsive cosmos' which does not rely on any necessary connection between 'above' and 'below'. Planetary configurations are viewed as just one way the non-human agency can respond to human enquiries and does not always provide expected results. This approach makes divinatory astrology quite distinct from other forms of astrology, which means that astrologers should not call themselves 'divinatory astrologers' and go on as usual.

Phillipson 2019 gives a philosophically informed extension of divinatory astrology by focusing on James's notion of pragmatic truth. He rejects regular astrology as a reliable source of information, but claims that divinatory astrology is true if it provides a subjectively useful reading, ie useful = true. Dean *et al* 2022 pp.720-725 see this as mere semantics (it is useful to believe X will help even if not true). To divinatory astrologer Cornelius (2002, 2011) the basis of astrology is not 'as above so below' but gods and spirits. Reading a chart is an omen whose meaning is in the hands of the gods whose answer we are hoping to receive.

⁴⁰ Useful overviews of divination can be found in Fernandez-Beanato 2020, Boyer 2020, Mercier & Boyer 2020, and Hong & Henrich 2021. An especially insightful review of divination over many centuries of Chinese rainmaking with asides on astrology is Hong, Slingerland & Henrich 2024. A readable view of divination in actual practice can be found in Zenophon's *Anabasis* (Brennan, Thomas & Strassler eds, 2021, pp.319-326). For some concise criticisms of the divinatory approach to astrology, see Dean *et al* 2022 pp.353-354, 381-382, 467-468, 835-851.

That is just for starters. Many more are available if needed:

- Each planetary configuration in a birth chart has a range of possible meanings.
- The same planetary configuration in different birth charts may manifest differently.
- Another chart factor is interfering (other factors can **always** be found).
- The astrologer is not infallible.
- Client was exhibiting her free will.
- There is more to astrology than we know.
- Astrology cannot be tested by science.
- The reading was made by an ignorant astrologer with improper motives (the assumption here is that there are bad astrologers as well as good ones).
- Astrologer lacks experience.

These limitations are an *unfailing* way of getting out of any difficulty in any astrology. They protect all approaches from every conceivable disconfirmation. One disadvantage is that an astrology that cannot be proved wrong because of the above limitations, suffers from the same limitations when the aim is to prove it right. There is also a final fundamental problem:

A fundamental problem

For those who see astrology as a science or proto-science, the problem is that literally a thousand empirical studies have **consistently failed** to show that astrology (whatever its assumptions) can provide useful or reliable empirical predictions (Dean *et al* 2022). What may seem meaningful to astrologers does not necessarily arise for the claimed reasons (Dean, Saklofske & Kelly 2021).

In other words, it may be fruitless to examine astrology on **empirical grounds** because there is nothing genuinely empirical to examine. Instead critics can point to probable psychological biases, group-think, self-fulfilling prophecies, philosophical naivety, unconscious signalling, reasoning artifacts, and echo chambers (sealed-off groups of believers that restricts the flow of information to what confirms their beliefs), see Pigliucci 2010, 2023; Boudry 2013; Arp, Borbone & Bruce 2018; Fantl 2018; Simler & Hanson 2018; Ballantyne 2019; Nguyen 2020; Tavis & Aronson 2020; Galef 2021; Marshall 2022; Blancke & Boudry 2022.

Others have focussed on **epistemic vices** such as gullibility, dogmatism, closed-mindedness, failing to recognize one's cognitive limitations, cognitive laziness, and metacognitive over-confidence (Nadler & Shapiro 2021; Tvrđy 2021; Kidd 2021).

Also vices that ironically are common among **people of intelligence** such Sir Arthur Conan Doyle and his case of the Cottingley fairies. Such vices include dysrationalia (wrong attitude), motivated reasoning (ignore negative evidence), bias blind spots (ignore own flaws), earned dogmatism (our expertise gives us the right to be closed-minded), and entrenched automatic behaviours (my expert ideas have become rigid and fixed), see Robson 2019.

See if you are immune: Is this a logical statement? *All living things need water. Roses need water. Therefore roses are living things.* 70% of clever university students said Yes. They thought it said *All things that need water are living.* It doesn't. Welcome to the vice club. From Robson 2018 p.47.

Collectively these vices effectively explain astrology by psychology and leave nothing over for non-psychology eg physics. Nor is there room for chance effects, as explained next:

Role of chance in our lives

Before gaming and gambling inspired the rise of statistical tests in the 17th century, the often uncontrollable and unpredictable uncertainties of life were hard to explain except by gods and spirits. Since then the roles of chance, probability, and variability have been developed although perspectives can affect their acceptance. Thus traditional perspectives – as in astrology – tend to see "all events and entities...as intricately and meaningfully connected" (Hong 2024). It is why astrologers can see celestial symbolisms as part of earthly happenings. As astrologer Fernandez 2022 p.33 puts it, the universe is an "intelligent design", and "no occurrence is random".

In contrast, scientific perspectives deny appeals to cosmic meaning. Instead they see events as routinely subject to random (ie chance) effects assessable by statistical tests (Hong & Henrich 2021, Hong 2024). For example, in direct contradiction of Fernandez, psychologist Bandura 1982 p.747 says "chance encounters play a prominent role in shaping the course of human lives" and gives examples, while philosopher Hamilton 2016 p.37 says:

You did not choose to be born or where to be born. Nor did you choose your parents or your siblings, if you have any. You did not choose your sex, or your mother tongue, or your physical characteristics, and you did not choose the basic characteristics of your character. Nor did you choose the socioeconomic class or group into which you were born or the basic opportunities and difficulties that were placed in your way as you grew up.Moreover, **throughout life this continues to be so**: the people you meet, the interests that you develop, the place you end up living in and much else besides; all of this is largely a matter of luck or chance, good or bad. (Hamilton 2016 p.37; for more see Frank 2016, Heesen 2017, Kaufman 2018, and Riggie 2022).

Even before we are born, chance events like an accident can influence our lives in many ways, and can continue long after. This means that modern Western astrologers like Fernandez have to either **(1)** deny the role of chance in our lives, or **(2)** confirm the role of heavenly bodies commensurate with the claims. But if either was actually the case, three centuries of increasingly powerful statistical testing of the huge variety of events in people's lives would have **routinely confirmed it**. For socioeconomic reasons alone such a result would have been so important it would have been shouted from every rooftop around the world, and the Royal Statistical Society founded in 1834 would now be the Royal Astrological Society. But none of this happened, see any history of statistics. For a readable account with many diverse examples see Spiegelhalter 2020. Astrology had been given a fair go and had failed, see Dean *et al* 2022 Ch 5.

In other words supposed astrological effects exist only in astrologers' minds. Nevertheless:

Astrology is pervasive

It is hard to avoid astrology in modern society since we are inundated with daily newspaper horoscopes, astrologers on talk shows, astrological internet sites, articles and advertisements in newspapers and magazines, along with astrology books common in the metaphysical section of any book store and library. For more on how Western culture supports such beliefs see Herreid 2019, Natale *et al* 2022, and Pratkanis 2023.⁴¹ No wonder that many people contend astrology is

⁴¹ Indeed, people are introduced to astrology early in their lives. For example, *Teen Vogue* has the article 'How the fall Equinox will impact your zodiac sign' in its fall 2021 issue. <https://www.teenvogue.com/story/how-the-fall-equinox-will-impact-your-zodiac-sign>. Further, the vast majority of newspapers and many popular magazines contain daily horoscopes. For a critique of the accuracy and belief in such horoscopes see Natale *et al* 2022. A critical book on astrology for pre-teens and teens is Blaker 2018..

a science, or that there is 'something to astrology', whatever that means.⁴²

It is therefore worth stepping back to see how astrology in the 21st century is **so different** and **in conflict** with the rest of what we know or believe today. We can start with the 'quality of the moment' as tied to one's moment of birth using two thought experiments.⁴³

Thought experiment 1: Invent your own astrology

Imagine an extraterrestrial alien anthropologist has been looking at our sciences, history, and philosophy, and is now visiting the earth to find out more. Let's put this in context. The alien wants to know how we see ourselves in the universe. What would she/they/he expect to hear?

A series of Earth experts would talk about environmental evolution, cultural evolution, phenotype plasticity, genetics, epigenetics, microbiomes, neuro-psychology, and evolutionary psychology (quoting as needed Cashdan, Silk & Willard 2020; Barrett 2020; Barker 2022; Crimmins & Faul 2023; and Henrich *et al* 2023).

Others would talk about health psychology (Marks, Murray & Estacio 2020 and Christensen *et al* 2023), horizontal gene transfer (Quammen 2018), how life experiences shape health and disease (Penkler 2022), neuro-philosophy and brain research (Sapolsky 2018; Simler & Hanson 2018; Henrich 2020; Richards & Pigliucci 2020; Muthukrishna, Henrich and Slingerland.2021; and Watkins 2021). And of course the sensory worlds of animals (Yong 2022).⁴⁴ There are lots and lots of experts but the alien is used to this sort of thing.

Since our philosophical thoughts on society and life might also be of interest, Loftson 2020 provides a good start. Someone says maybe birth data is important. Also whether forceps were used, how roughly the baby was handled, the cleanliness of the hospital, the skill of the staff, and the local environmental and economic conditions. The alien remains unfazed.

But suppose the alien asks if happenings in the Himalayas at the moment of birth were equally important? The experts wouldn't know what to say. The only way it could be important might be if the child's father or rich uncle was climbing in the Himalayas and fell to his death. But before they can point this out an astrologer elbows them aside and loudly announces "the state of the solar system at the moment of birth is very important, and this is also true of non-physical things with birth times such as businesses, companies, universities, and ideas".⁴⁵

⁴² The vague appeal to 'there is something to X' is considered in Baggini 2022.

⁴³ Thought experiments (also called 'intuition pumps' by philosophers) are hypothetical situations where ideas can be explored and examined. They play a large role in philosophy, the sciences, and the arts. For more on thought experiments see Baggini, 2006; Frappier, Meynell, & Brown 2013, Gvalier and Goldberg 2019, and De Cruz 2022.

⁴⁴ While astrology is stuck in the past about human concerns, science advances and uncovers many new and interesting developments. Visit <https://www.sciencedaily.com/> and compare it with you find in astrology books and websites.

⁴⁵ Here there are no agreed-upon rules adopted by the astrological community, especially for the 'birth times' of abstract things such as ideas, companies and nations. For example here are possible dates and times for the birth of the USA (from <https://www.astrology.co.uk/news/USA.htm>; accessed March 6/2021). Each is supported by astrologers who give reasons for their choice:

- 2nd July 1776. Congress passed the resolution declaring independence from Great Britain, Philadelphia, PA.
- 4th July 1776. Declaration of Independence drawn up, agreed and (according to some historians) signed by some or all parties. Philadelphia, PA

At which point we get worried in case the alien sees us as slightly bonkers. How could this moment of birth stuff possibly fit it in with our bragging about hard-won scientific knowledge, about ourselves, and about the world in the 21st century? There is absolutely no fit at all.⁴⁶

The astrologer then looks into the alien's eye and announces even more wackiness. What is crucially important, he says, is what the solar system looks like from each place of birth. To the alien this is clear evidence that humans have a conceit about their role in the grand scheme of things, a role that even from their own human evolutionary perspective is decidedly shaky.⁴⁷ The alien starts thinking. If we were on another planet (say Mars) planetary conjunctions and transits as seen from Earth would of course look very different, in the same way that a cinema screen seen from outside the drive-in looks different. Would earth-based astrological symbolisms still apply or would completely new symbolisms be required? How could happenings on Mars involve the **mythology** of Greek people who were never on Mars in the first place?.

Step back a moment. What is going on here? Given the background provided by science, philosophy, and our own evolutionary history, the alien would **not expect** to hear talk of symbolic associations between Earth and Mars. There is a total disconnect. Calling my cat 'Mars' or having a photo of Mars on my wall does not make me Mars-like.

But the alien is supposed to believe that attaching such labels to planets in a birth chart gives them magical powers over our social lives, career opportunities, health possibilities, and so on, for as long as we live. The alien tries not to be exasperated, explaining in words of one syllable that the background provided by our achievements already provides a good guide to life and is becoming more and more fruitful. You earthlings have no need of astrology.⁴⁸

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- 2nd August 1776. Declaration of Independence signed by 56 delegates to Congress.
 - 3rd September 1783. Treaty of Paris signed. Formal ending of the Revolutionary War.
 - 14th January 1784. American Congress of the Confederation ratifies Treaty of Paris. Annapolis.
 - 9th April 1784. King George III ratifies Treaty of Paris <https://www.astrology.co.uk/news/USA.htm#years>.
 - 30th April 1789. First President Washington took the oath of office. New York, NY

Even if one selected time retro-fits events better than others, will that selection predict future US events better than others, and will it lead to increased understanding of other nations? No definitive tests have been made..

⁴⁶ See Case 2021 for how the planets and moons in the solar system were named. See also Rowen 2019/2023. A scientific consideration of the various theories of planet formation can be found in Raymond, Izidora & Dasgupta 2021.

⁴⁷ Astrologers might respond that evolutionary theory faces similar issues, for example the few predictions that have been made (eg for naked mole rats) are not very specific, yet after-the-fact explanations are available for most evolutionary developments. So what's the difference? Actually, a lot. For starters, evolutionary theory provides empirically checkable mechanisms for a change of species over time and for the diversification of species. It also fits in with the rest of science (Park 2019), – including the abundant hominid fossil record, and recent genetic analyses – and does not require paranormal processes to explain it. Further, predictions have provided supporting evidence (Coyne 2009). A good theory in science helps us arbitrate between conflicting issues in public (see Buranyi 2022). This is how science works, But there is nothing similar in astrology.

⁴⁸ Many astrologers seem to believe, or at least claim, that ancient observations of what happened during the times of particular celestial configurations **preceded** the symbolism attached to planets – like people, having seen how dark clouds promise storms and rain, gave clouds the appropriate mythology. This implies that the mythologies arose from observations, so we would expect historical records to confirm this, and for modern studies to **easily** reproduce the process,. But they don't (Dean *et al* 2022 Ch 3). In any case, regardless of history, modern astrologers go straight to mythology for the symbolism needed to interpret new factors. When Pluto was discovered in 1930, its interpretation was not based on the observation of people with Pluto in their birth charts but on its mythology (it was the Greek god of the underworld, which led to its symbolism *transformation*). When nearly 60 years of use later this Pluto symbolism was tested via a 36-item questionnaire on 175 mixed adults, they fitted no better than chance (Dwyer 1987). The results were published in *Correlation* and were ignored by astrologers. This is how astrology really works.

Thought experiment 2: Try again

Let's approach astrology with another related thought experiment: Suppose astrology has never existed. Everything else is the same as exists today, but some group of people decides to invent astrology. **Where would they start?** Given that the sciences have progressed enormously over the last several hundred years, there is no good reason to think they would start with the same **earth-centred** ideas of the past, or with procedures based on ancient mythologies.

Also we are far more aware about the role of chance in our lives (Bandura 1982 provides early thoughts on this topic). So why would they **even begin** to believe that people born in particular months tended to be stubborn, or generous, or whatever, or claim that certain planets in certain positions in the sky as seen from earth indicated important events?

In other words any new-from-scratch astrology would likely be **very different** from what exists today, whereas any corresponding new science would likely be roughly similar to what exists today (for a start, see Vickers 2022).⁴⁹ And of course it doesn't help that we still have not the faintest idea how to answer the many critical questions about Western astrology raised in this article despite claims that, in some form, it has been around for 2500 years or so.

In summary, we hope these two thought experiments have convinced you that we are dealing with matters that for a very long time have been greatly in need of critical explanation.

Quality of the moment

We need to first ask, what is '**the moment**'? In Western natal astrology, this is generally tied to the time of our birth. The exact time you are born is therefore considered of special importance in Western astrology (Grof 2009 p.52, 57-59). As astrologer Mike Harding 2019 says,

The astrologer will cast a chart for a moment of time. Generally, this is the time of your birth. The chart will depict the positions of the Sun, Moon and planets as they appear in the sky relative to the place of birth. Thus, charts for the same moment, but set in different places, will be different.

⁴⁹ Astrologers make much noise about people rejecting astrology without knowing much about it. Some concerns are indeed based on misunderstandings (see Phillipson 2019 b) and not just in astrology (Gordin 2021). In some ways this is an odd thing to say, given that astrology does not feature in our educational system, and is full of conceptual and scientific problems from beginning to end (Kelly 1997/2005; Dean *et al* 2022). Further, many cogent criticisms of astrology have been provided by knowledgeable ex-astrologers such as those thanked in our acknowledgements, and those described by Dean *et al* 2022 pp.23-54. It means that **the onus is on astrologers to persuade us to take astrology seriously**, not on the rest of us to disprove astrology.

On the other hand, the philosopher Fantl 2018 Ch 4, see also Stove 1991, would contend that no one is justified in accepting astrology given its severe problems, lack of fit with other fields, rejection by most experts in a variety of fields, and astrologers' failure to engage in debate over strong contrary arguments other than to dismiss them. Others may ignore astrology because its talk of symbolism makes no sense, see Blackburn 2021 (his focus is religion but his points apply equally to astrology).

Further, astrologers themselves, like most of us, reject all sorts of beliefs on insufficient examination. They may reject other religions, contrary political beliefs, and various scientific beliefs without properly understanding any of them. Further, very few astrologers seem aware of informed critical arguments **against** astrology. Some of the most naïve writings by astrologers are based on 'I used to be a skeptic'. But from the reasons given for changing their minds it is clear that they had little contact with the serious critical literature such as Kelly 1997/2005, 1998; Trachet & Martins 1998; Bret-Morel 2016, 2020; and especially Dean *et al* 2022 whose work is specifically directed to the scientific understanding of astrology. The need to be informed applies especially to astrologers who see astrology as scientific, which by definition requires **all** relevant evidence to be considered (ie. conceptual as well as theoretical and empirical criticism).

But why the focus on time of birth? A popular response is

The birth time indicates the exact moment your soul entered your body when you were born. It's required to be able to figure out your rising sign, which is considered to be the most 'you' part of your birth chart in astrology. <https://www.astrology.com/article/birth-time-meaning/> Accessed Nov 23, 2022.

Indeed, the astrologer Kampanes 2022 goes further and tells us,

the life and destiny of each 'born soul' is not determined by the celestial configurations at the moment of its birth, but is predetermined before birth, by some higher intellect!... the moment of our birth is predetermined in order to conform to the universe's 'kaleidoscopic' pattern at a specific moment, so that it becomes feasible for the soul to identify the challenges that is bound to face at the various stages it will go through in life.

Archetypal astrologer Richard Tarnas 1987/2013 says much the same to give importance to the birth chart with its specific configuration of planets:

I personally believe that the circumstances of our birth are not accidental, but are in some sense a consequence of our spiritual and karmic character. Like many others, I have come to believe that we choose the circumstances of our lives, we [pre-birth] choose the family and culture and age into which we are born, and that this choice is somehow made from a higher level of our spiritual being than that of which we are usually conscious. From this point of view, the birth chart is not the randomly allotted prison structure of our inexorable fate, but can be seen rather as defining the basic structure of our potential unfolding – suggesting the personal gifts and trials that we have chosen for this lifetime to work with and evolve through.⁵⁰

Note that to save the astrological notion of the **importance of the birth moment**, Tarnas (and Kampanes) and many other astrologers invoke problematic metaphysical theory after the event. There is no attempt to defend their metaphysical beliefs, and neither to show any awareness of the vast philosophical literature on such topics.⁵¹ Indeed, in some parts of the world, your birth-date can even offend the gods, although happily there are rituals that the unfortunate individual can undergo to reduce the negative impact (see <https://skeptical.org.uk/2023/07/fan-tai-sui-the-chinese-superstitious-belief-that-your-birth-date-has-offended-the-gods/>)

⁵⁰ Neither Kampanes nor Tarnas say much about pre-birth souls, but surely this is important, even though soul-talk is unlikely to be plausible (see Berger 2018; Johnson 2013, 2022c; Augustine 2015; Olson 2021; Cottingham 2023). De Cruz & De Smedt 2017 provide a useful overview of the psychological dispositions that underlie afterlife beliefs. On the other hand, Rickabaugh & Moreland 2023 have provided a strong set of arguments in favor of the substance of dualist views that is worth considering. For critiques of the notions of Karma and Rebirth, and of Reincarnation research, see Ransom 2015; Angel 2015; and Smythe 2015. Do we retain our personal identity throughout this supposed transition or are we distinct entities? Are souls propagated through sex? See Sidzińska 2023 for discussion on pregnancy and the soul view. Some defended answers to such questions might influence our views on the desirability and plausibility of such claims. See Ribeiro 2011 for some interesting thoughts that could be applied to such woolly speculations. Moberger 2020 would call such speculations by astrologers "obscurantist pseudo-philosophy" p.599. The question of animals is relevant because many astrologers claim that astrology can tell us a lot about our pets. Do our pets have souls/immaterial minds? If animals have a material mentality, how are their minds different from human minds? Is there a metaphysical difference between animals and human beings in astrology?

⁵¹ For example, Bassham (undated) The law of karma; what is it? Does it make sense? https://www.academia.edu/9889697/The_Law_of_Karma_What_is_It_Does_it_Make_Sense. This view also assumes a dualistic view of the human being, which has difficulties that need to be confronted, see Robinson 2020 and Grace 2017. Indeed, most philosophers of science contend that our best science should inform our metaphysical speculations, not the other way round.

Many astrologers in the West tend to acknowledge, with variations, the view made by the 20th-century German astrologer Thomas Ring (1892-1983):

During pregnancy, the developing fetus becomes increasingly attuned to the astronomical environment and its rhythmic structure, including the earth....the (future) mother chooses instinctively, and unconsciously, the 'appropriate' point in time for conception ⁵²....human behavior is determined by the genotype (genetic makeup), cosmotype ('cosmic' makeup) and phenotype, resulting from genotype, cosmotype and environmental factors (Mayer 2020 pp.778-779). ⁵³

Terms and expressions such as 'attuned' and the mother 'choosing the appropriate time for conception' do no more than name what requires explanation, and say nothing about the way such a supposed effect is produced.⁵⁴ McRitchie 2016 goes further:

Environmental and lifestyle factors, **such as those described in astrology**, are easily underrated yet can shape an individual's personality and habits in ways that are difficult to assess in other disciplines. An experimental evaluation of **astrologically conceived environmental influences** should more realistically be regarded as no less challenging than psychologically conceived evaluations of innate personality. (bolding ours)

While it is unclear what 'astrologically conceived' means, we might also note that while we have a basic (and increasing) understanding of genetic and environmental factors in the social and biological sciences, such 'astrologically conceived environmental influences' talk draws a blank. Has anyone identified any such influences? What could they possibly be?

From the perspective of modern physics and biology, there are many puzzles:

the importance of the moment of birth of a thing seems hard to explain in terms of physics (Carter 1927 p.15)...there is no particular or evident reason why the stellar influence should impress on the infant more durably at the moment of birth than at any other time, and it is [further], hard to imagine even with admittedly mysterious forces finding anything at the birth of an abstraction such as a company upon which they could make any impression (Carter 1927 p.24).

From modern scientific, social and biological perspectives, astrology is giving too much weight and influence to what is largely a random process.⁵⁵ The astrological emphasis on the moment of

⁵² What about rapes, all unwanted pregnancies, and miscarriages?

⁵³ This differs from Tarnas's (1987/2013) claim that people themselves, due to their 'spiritual and karma' background before birth, choose when they will be born. How could he know this?

⁵⁴ How do astrologers view premature or late delivered births? Gauquelin found little evidence for many traditional astrological claims (this point is rarely mentioned by astrologers). But he did find weak links between some planets and the births of eminent professionals that tended to disappear with induced births. However, most astrologers disagree with Gauquelin and claim the moment of birth is always relevant whether induced or not, which is astrologically important since typically 10-15% of births are induced (UN data from Cyprijański1, Hozer-Koćmiel & Gracz 2021). Another issue is the increasing ability of biological science to manipulate genes and the characteristics of future offspring (Anomaly 2020), which might influence astrological practice. But we suspect that most astrologers will continue to assert that the moment of birth is all that is needed.

⁵⁵ From a social or natural science perspective, why should being born a few minutes earlier or later make any difference to our lives? Jukic *et al* 2013 pinpoint the precise point at which a woman ovulates and a fertilised embryo implants in the womb during a naturally conceived pregnancy, and found that the average time from ovulation to birth was 268 days, and varied by as much as 37 days. There was five weeks of variability. The authors concluded: "The length of human gestation varies considerably among healthy pregnancies, even when ovulation is accurately measured. This variability is greater than suggested by the clinical assignment of a single 'due date'. According to many astrologers, somehow the mother or the pre-birth spirit chooses the 'correct time' for the birth. Given the horrible lives that some people later experience, such 'choices' seem uninformed.

birth and what it portends is at variance with what we in the Western world already know from our own collective experiences, and what we have learned from the sciences. In effect it denies that chance could be important, see under The role of chance in our lives.

At which point the **problems** for astrology start to pile up. There is evidence that many of our prenatal experiences in the womb play a far larger role in our lives than the **moment** of birth (Paul 2011; Jasthi *et al* 2022, Fox-Skelley 2023). Paul notes that research has shown how factors that occur throughout gestation, such as variations in maternal health and social conditions, contribute to our individual intellectual and emotional nature and may have long-term effects.

The biological and social sciences acknowledge the existence of genotype (unique sequence of DNA) and phenotype (how it is expressed), but talk of an astrological 'cosmotype' would be considered superfluous and empty.⁵⁶

One would also need an exceptionally strong theoretical underpinning to claim that the moment of first breath underlies claims regarding 'the whole pattern of your life' and 'complex parts of your nature', let alone forecasts regarding future experiences, a claim made by astrologer Robert Currey for his. *Equinox Character Portrait* (equinoxastrology.com).

In other words all this merely emphasises the conflict between astrology and science, and between astrology and evolution. Astrologers provide us with **no idea** how this conflict could be understood except by ignoring it, especially in regard to the natural biological and environmental way physical causes operate. How could evolutionary or epigenetic changes to the way genes work allow us to respond to celestial configurations of interest to astrologers but which are not part of our earthly environment and are not even visible? (We come to Jung in a moment)

Examples are Uranus, Neptune, and Pluto, and most asteroids. Nor do they have any effects on humans that our evolution could respond to.^{57 58} The difficulty is made even worse when other astronomical objects such as exoplanets are found that were unknown until relatively recently. Astrological talk about how largely anything involving science is simply irrelevant leads to an important consolidating point in our philosophical critique, a point where:

Astrology begins to collapse

The problems we have uncovered **should** create serious problems for every modern astrologer who accepts astrology just because 'it works'. If it did work, the cosmotype (ie stellar imprint)

⁵⁶ Given that our behavior and personality is also related to bidirectional relationships with hormones and other internal biological events, do the heavens influence or mirror these internal events in all their complexity, or just their outcomes?

⁵⁷ Astrologers could nonetheless claim that heavenly configurations (via cosmic rays, gravitational waves, or whatever) might induce the random but constrained mutations from which evolution selects. However, to take such speculation seriously, we need more information on how such physical effects can affect individuals differently while still being in accord with astrological claims. Further, such physical effects act continuously from the genesis of sperm and egg, through conception and the rest of an individual's life, and do not have the characteristics required of any astrological influence (Carter 1927 pp.13-14). Indeed, research is increasingly showing that even moral stances may have strong genetic bases, see Karinen *et al* 2021.

⁵⁸ A readable description of how evolutionary adaptations occur is Kennedy 2020.

would likely have a **stronger relationship** to our lives than any genotype or environmental influence. But how could we know? ⁵⁹ ⁶⁰ Let's bring together some of the problems that are emerging for closer examination, starting with the emphasis on time of birth.

Some Western astrologers are aware that this emphasis on time of birth is not straightforward. Even daylight saving time can create timing dilemmas, see Arens 2023. Astro-historian Nicholas Campion, in his *The Book of World Horoscopes* 2004 p.13, makes this telling point:

There is a clear gulf between the rhetoric of astrology – that precise data is vital – and the practice (to judge from astrological books and journals) – which is that, in many cases, it just doesn't matter. ... All that is required for the interpretation to be correct is that the time is believed to be correct,

While all of us can agree that being born in different countries, or even different regions of the same country, may well have different cultural and environmental consequences for one's life and opportunities, astrologers are more specific. They contend that being born even a few minutes later than someone else in the same locality will make a difference, because the **celestial configurations** at that later time will be different. They claim the planets will still play a large role in your life even though they may be very distant and seem very tiny.

But most cultures, while interested in the sky, did not rate the time of birth as important as in Western astrology. And even when they did, their conclusions differed from those of Western astrology (see https://en.wikipedia.org/wiki/List_of_astrological_traditions,_types,_and_systems). How would we decide between traditions? Why prefer one over another? Maybe mixtures of traditions are best, but how would we know? How could Western astrologers persuade astrologers from different astrologies that Western was better? Further, what does the '**quality** of the moment' actually mean? What follows from this idea? What does Jung say?

Carl Jung famously said "Anything born in the moment of time carries the quality of that moment". This is an interesting claim, but again what does it mean?⁶¹ Jung seems to have seen it

⁵⁹ Assume that astrology works as claimed, but it suddenly stopped working since the year 2000. How could astrologers ever find out? They already have a built-in set of after-the-event excuses to explain away all failures (see our *Limitations* section). So they have no means of finding out that it was no longer working. A true astrology and a false one would be indistinguishable.

⁶⁰ The perspective of astrology is that of the heavens as seen from the earth. But we are not trapped in this perspective. Our imagination (as in science fiction) allows perspectives from other planets both inside and outside the solar system.

⁶¹ Think of the immensely huge and diverse number of things going on around the world at any **particular moment**. Animals and people are being born, dying, mating, eating, interacting. Wars are occurring. Peaceful processes are occurring. People are sleeping, waking, working, talking, watching TV, Rivers are being rechanneled. Storms are occurring. Grass is growing. The sun is shining or not shining. How is it possible to capture such a massive diversity, plus each individual future, in a **single** 'quality of the moment'? What criteria could we use? The answer is information theory (see under [Information theory to the rescue](#)). It considers the vast unimaginably huge difference in the information content of both sides and give a clear answer: it is simply not possible for a single moment to do the job. Now consider this response by an astrologer to a skeptic at a party:

*[astrology] uses the stars and the other celestial bodies as points of reference to measure time, not just its quantity, but its "quality" above all. If you are born on October 18th, this tells you the quantity of time, but the fact that the Sun was in Libra tells you **the quality of the time when you are born**, and that can tell you the quality of who you are, and that's just the beginning.* The guy looked at me surprised and speechless. He started to realize he knows nothing about Astrology, and the only thing he said was "Oh, interesting". So, from that point, I opened a brand new world to him (iordanus.com, The 4 most frequent criticisms that skeptics do about Astrology: Your 4 smart and classy answers to them accessed May 8, 2022). .

as something like 'the moment captures the qualities of the season and year in which the birth occurred'. This is not helpful. See how it depends on the specifics:

To set the future outlines of your life, would not the 'quality of the moment' have to include the same outlines of all those other people you come into contact with – who "represent parallel universes or parallel worlds so to speak" (McRitchie 2022 p.707) – as well as your future social and physical environments? And to do this not just for you but for *all possible people on earth, all possible entities like the UN, all possible events, and all in the same single moment?*

Again it boils down to the sheer **incompatibility** in information content. Look at it this way. To understand anyone requires an understanding of much of their constantly changing environment and their various situations. And all the continually-changing factors that influence that person's day-to-day life over the course of a lifetime. How do the heavens encode all of this, even if only in broad outline? The claim is that it is nevertheless **somehow** encoded in your moment of birth.

The claim could hardly be more extravagant and is immediately denied by the constraints of information theory. A moment presumably lasting little more than 0 seconds cannot possibly encode as much information as a life typically lasting more than 2,000,000,000 seconds or 63 years. Believing that the sun will continue to rise, or that future pandemics are likely to occur, are as nothing compared with believing that somehow the solar system, in some **symbolic** god-like fashion, encodes the future lives of billions of people, companies, and ideas. Even in the short term such forecasts assume the impossible, see Kahneman, Sibony, & Sunstein 2021, Chapter 11. It is here that astrology begins to collapse. As shown below, it now gets worse:

Time twins and time of birth

One would expect birth times to be relevant to the evaluation of astrology by time twins – people born at the same time in the same place. Indeed, one might expect this to be a central foundation on which astrology is based. As Phillipson 2019a p.150 points out:

Time-twins ... are people who, whether siblings or not, were born sufficiently close in time and space that their horoscopes are virtually identical – in some cases, so close that an astrologer would not distinguish them as being different in any way. This would seem to cut out many of the problems in testing astrology. By looking at time twins it is possible to evaluate the viability of correspondences between charts and the lives and characters of the subjects to whom they belong, without relying on any specific form of astrology. This is because in looking at time-twins one implicitly looks at two kinds of correspondence, the first of which does not involve astrology. The first type of correspondence is between the lives and characters of given pairs of time-twins. The

Astrology supposedly describes both the 'quality' and 'quantity' of time! No matter that we have little idea of what such talk means, it still sounds profound. The astrologer then goes on to 'clarify' astrology by telling us that heavenly configurations don't *cause* human activities on earth, they merely *reflect* them:

the celestial **macro-cycles** reflect themselves on the earthly **micro-cycles**, As ancient masters said, man is a micro-cosmos, a small reproduction of the whole Cosmos, in body and mind, so he responds to the same laws. Astrology studies those laws and the correspondences between macro-cosmos (Universe) and micro-cosmos (Man). That's why the fundamental precept of ancient philosophers, and consequently the first law of Astrology, is: '**As above so below**' ... and time is not linear.

These **extravagant question-begging claims** are stated as brute facts, supposedly smart and classy answers to any expression of doubt. This is typical of astrology books and internet sites. It is how astrology actually works, not what astrologers tell you.

second type of correspondence is between the horoscope that is shared by the time-twins, and their shared characteristics and life events. To the extent that the first type of correspondence does not exist, the possibility of astrology is rendered null – for so long, at least, as astrology is expected to deliver straightforward objective correspondences between horoscopes and individual lives.

Phillipson quotes the late British astrologer John Addey as saying:

"If astrology is true then those born close together in time must have similar elements in their lives", and characterising the comparison of time-twins as an important way of evaluating "the truth or falsity of the astrological hypothesis" (Phillipson 2019a p.151).

Of course, the similarities would have to be beyond what one might expect from time twins (as with identical twins) sharing the same or similar genetic profiles, being brought up in similar family situations and social and physical environments, and the inevitable probabilistic outcome that some pairs will be similar through chance alone (see Evans 2023 for a review of studies on nature and nurture with twins; and Beck 2016 and Rosenthal 2018 for reviews of chance and coincidences). What does research on time twins show? Phillipson gives this summary:

:

Subsequent research has seen a pattern broadly similar to that seen in other astrological research [namely] a lack of vindication for astrology on the scale astrologers might have wished for and expected, and disagreement about whether there was or was not any evidence that would merit further investigation of astrology (p.152).

This is an important point because weak relationships, even if confirmed, would hardly support the **grandiose claims** made in astrology books and websites. The speculations provided by astrologers in response to this awkward situation have been weak *ad hoc* appeals that further reduce astrology's already low credibility. Phillipson gives this example:

[Well-known astrologer Bernard Eccles] has twin daughters who were born so close together in time that they share the same ascendant degree. He told me that they have considerably different characters, and that the explanation which works best in his experience is to say that the first-born takes the horoscope for the moment of birth, whilst the second-born takes the same chart after it has been 'turned' so that the cusp of the third house (the house of siblings) becomes the ascendant. The younger twin, therefore, has a chart which is changed and defined by the fact of being a sibling. ...

The idea, then, is that an individual's horoscope would not define their life and character in an absolute way, but that it would be one factor amongst several, and that the way in which the chart manifested would be conditioned by these other factors. One example of such 'other factors' would be that someone who is born as a younger twin may have their chart significantly affected by that fact. That would not explain the difference in character between time-twins born to different families, and in fact [Eccles remarked that] time-twins from different families sometimes resemble one another more closely than time-twin siblings because of the absence of a drive to differentiate oneself from a sibling. (p.153)

Note how easy it is. Just tweak a few words and the job is done. It is not even a problem to explain why apples fall upwards (and not downwards) as 'an urge to break the bonds that tie them to their originating seeds'. In contrast, listen to cosmologist Stephen Hawking 2018:

I have spent my life travelling across the universe, inside my mind (p.3). I was born exactly 300 years after the death of Galileo. ... However, I estimate that about 200,000 other babies were also born on that date; I don't know whether any of them were later interested in astronomy (p.8).

Hawking's ashes rest in Westminster Abbey between those of Isaac Newton and Charles Darwin (p.xvi). Astrologers who dismiss him as ignorant of astrology are missing the point. They should be showing how they know more than him about the universe, and how many Hawkings exist.

That differences between the characters of time twins can exist is a serious problem for astrology. They contradict the idea that astrology is a source of useful information about individuals. The response to this by astrologers can be astrological (one twin is identifying with the sun, the other with the moon), or non-astrological (one twin is psychologically reacting against the other twin in some way). Either way, serious problems remain. There is no plausible independent evidence for the supposed astrological explanations, and putting forward non-astrological reasons creates serious new problems for astrology.

First, after-the-fact rationalizations using non-astrological factors contradict the claim made by many astrologers that planetary configurations are all-important. **Second**, there is no plausible theory of how planetary configurations could take cultural or social factors into account. **Third**, these excuses are never given **in advance** of the discovery of awkward differences, so they remain egregious examples of *ad hocery*.

Indeed, given that our moment of birth is supposed to astrologically reflect our future existence, how can we be sure these awkward differences do not upset astrological indications in general?⁶² Or even always, whether largely or completely.⁶³ Astrologer Kenneth McRitchie 2016 p.167 tells us that the claim that time twins should lead similar lives is too deterministic. For starters he says it is not easy to find enough close time twins to make reliable inferences.⁶⁴ He continues:

Another challenge is that astrological theory is not very deterministic. Even if natal charts are each considered as a whole, as they generally are in time twin studies, there is no theory on how much twinning of personality or lifestyle is to be expected. Astrological textbooks offer options of related interpretations for each natal chart feature and this reflects the adaptive choices that a native can

⁶² Given this, astrologers should also consider the possibility that a myriad of other factors throughout life might counter astrological manifestations over time in the same way – and these may not necessarily be under the conscious 'free-will' control of the native. In which case, astrology would play a diminishing role in our lives as we get older.

⁶³ Astrologers have a large variety of variables they can appeal to, to maintain their belief in astrology, **whatever** the found difference(s) between twins. Listen to <https://theastrology podcast.com/2018/08/10/the-problem-of-twins-in-natal-astrology/> or read the transcript at Ep.167 Transcript: The Problem of Twins in Natal Astrology - The Astrology Podcast. The discussion is at a level similar to what you would find at a pub discussion among drinking buddies after several rounds, as in this example:

"there are literally like innumerable or just like millions of variables that astrologers could take into account. And oftentimes the astrologers don't take those into account and just physically can't. Like we lack the ability to take into account all of the major variables that could be taken into account. But that doesn't mean that they're not necessarily there or they're not necessarily operative on some level, and they become relevant in instances ... where we're talking about minute differences and whether two charts really are identically the same or whether there are significant differences that are actually there if you really wanted to push the point".

Here astrology is a self-sealing system for believers. But how can they know which variables are providing 'minute differences' when tiny asteroids are considered very significant by some astrologers and not by others?

⁶⁴ McRitchie claims it is not easy to find close time twins but gives no numbers to support this. However Dean & Kelly 2003 pp.187-189 were able to test nearly 1500 time twins born in SE England an average of 5 minutes apart on 110 variables vs controls and found no hint of the similarities predicted by astrology. Further, for birth rates typical of Western populations, about 20% of those living in a city of a million people will have a time twin born within ten minutes, and a tenth of those will have two. The numbers increase very rapidly as the city population increases, so time twins can be surprisingly common (Dean *et al* 2022 p.700). Presumably not a point McRitchie wants us to know.

make throughout life. Just as in genetics where it is understood that different environments and epigenetic configurations can contribute to differences in genetically identical twins ... it can be similarly argued that different adaptive choices within identical astrological environments can contribute to differences in time twins. (pp.167-168).

Such points should make McRitchie wonder about the central premise of astrology, namely those born at the same time in the same location should exhibit more similarities than expected by chance. In addition, he says, we have the problem of

how the hits or close resemblances in twin states are defined. What if one time twin is 182 cm tall and the other is 180 cm? If one is an oboe player in an orchestra and the other is an avid karaoke singer, do they closely resemble each other? 2016 p.168).

McRitchie is saying that the difficulty of assessing similarities between time twins is a good reason to discount the problems they pose for astrology. But assessing the similarities between ordinary twins – whether identical or non-identical – is not difficult at all, and is now routine in a huge number of areas including alcoholism, body language, career choice, chastity, clothing, conformity, conversation, dental history, divorce, fingerprints, food likes, gestures, headaches, health, heart disease, hobbies, hypertension, infectious diseases, insomnia, jewellery, libido, mannerisms, marital relations, mental illness, phobias, politics, quirky habits, religious interests, schizophrenia, self-control, smoking, social attitudes, speech patterns, suicide, tics, tolerance, voice, even major life events (Lawrence Wright, *Twins* 1997, pp.20, 60). Again, the truth is presumably not something that McRitchie wants us to know.

Astrological claims are further undermined by studies of identical twins reared apart, which largely eliminates contributions from similarities in their environment. Identical twins occur in about 0.35% of births regardless of nationality, and the results show that identical twins reared apart are more similar than different. In any case the correlations between biological twins are generally **two orders of magnitude** larger than for time twins (for a comparison see Dean *et al* 2022 p.808).

In other words the analogy provided by McRitchie between genetics and adaptive choices does not even get off the ground. While we have some (continually increasing) understanding of how genetics and the environment affect our behaviours and minds, we are at a loss to understand abstract talk such as 'different adaptive choices within identical astrological environments can contribute to differences in time twins'. But abstract talk and long words are typical of anyone (not just in astrology) who wishes to obfuscate simple issues yet give the illusion of profundity. Clarity must of course be avoided at all costs lest liabilities become obvious.

We would also need a theory connecting the interactions between a person's 'adaptive choices' and 'astrological environments' with biological and social environments. However, if we have such problems even with time twins, they would necessarily involve all astrological claims right from the start. For an extended discussion of the problems time twins make for astrology, see Dean *et al* 2022 pp.795-809.

To put this another way, if we can't straightforwardly spot astrologically related similarities with **time twins**, implying they don't exist, whence astrology? If astrology was as non-deterministic as McRitchie claims, the ancients would have had no hope of observing it, nor would astrologers be

able to detect **any** astrological patterns in the lives of people or in their comparison. This adds even more skepticism to the idea that astrological relationships exist in the first place.

The Problem of Wrong Charts Working

Astrology contends that birth charts reflect their owners. However, it is the experience of many (perhaps most) astrologers that they have unwittingly used a birth chart based on the wrong date of birth (whether wrong by hours, weeks, years makes little difference), yet the interpretation *still accurately fits the client*. It means the astrologer has no way of knowing the chart is wrong unless they look at the birth data – and even then most astrologers, with some imagination, can fit any chart to any person, company, nation or idea.

A typical example of such a fit is in the Dutch book *Hoe Waar Is Astrologie?* (How True Is Astrology? 1993) where the birth chart of singer Michael Jackson is shown to fit his life perfectly as confirmed by excerpts from his biography. The accuracy was amazing. No wonder astrologers claim that astrology works! Except the birth chart was not Michael Jackson's but Dr Marcel Petiot's, one of the worst mass murderers in history.

Another example (for many others see Dean *et al* 2022 pp.856-859) is Russian leader Joseph Stalin, whose birth on 21 December 1879 has always been accepted by astrologers. The problem that arises is that, in 2001,

the historian Jean-Jacques Marie, a specialist on the USSR consulted the registry papers from the Church of Gori, where Stalin was born, and, looking at his birth certificate discovered that the supposedly official date used by astrologers was *off by one-year and three days!* It means that astrologers have illustrated how accurate astrology was by fitting life events to the wrong birth chart! [Astrologers had no trouble fitting two different birth charts (wrong, accurate) to events in the life of Stalin. His exact birth time is unknown, but other than both suns being in Sagittarius, the aspects are different, and no planet in one chart is in major aspect to the same planet in the other, so the charts are very different and could not have the same interpretation].

Between the 1920s and the 2000s, it was *thousands* of astrologers who had used with satisfaction an erroneous date of birth for which the astral configurations are very different from those of Stalin's actual birth. ... This involves *thousands* who have reproduced the wrong date, who have read and re-read each other, and there is still not one who at one point said, "It doesn't work, it doesn't fit many of his life events" ... No, it "worked"! This calls into question the following authoritative arguments said to support astrology:

– The importance of the skill of the astrologer. Amateurs, professionals, teachers told their students to train on the biography of this illustrious character to familiarize themselves with astrological interpretation. Others 'demonstrated' to skeptical persons how astrology could decipher an individual's personality. ... all have used a fake birth chart with satisfaction.

– The importance of a particular astrology compared to other astrologies. The astrologers who used the false birth date of Stalin represented all varieties of Western astrology (some even mutually incompatible) but probably also the different world astrologies (Indian, Chinese, etc). No group, however, concluded that the birth chart did not apply to Stalin and his events.

– The popularity of astrology is because astrologers and their followers have agreed on something true. The wrong Stalin chart showed they have agreed on something false. How can they claim to tell the difference? Further, if astrologers don't realise they use a wrong chart with a

client, then 'we research astrology every time we read a birth chart' cannot be considered as convincing research. (Bret-Morel & Feytit 2020, in French, pp.176-178).

Phillipson 2019 p.283-284 points out that this is a common experience of astrologers:

This question is brought into sharp focus by the common experience amongst astrologers of finding after an accurate and well-received horoscopic reading that a 'wrong chart' had been used – that is, a chart calculated for a time or date which did not belong to the astrological client. [Many well-known astrologers have admitted to this]: [Dutch astrologer] Rudolf Smit had an experience of this type, where he gave a successful reading to a client and then found that he had used the wrong person's chart. He cited the experience as one that encouraged him to begin questioning the truth of astrology. Similarly, [British astrologer] David Hamblin gave a successful reading for a client, who subsequently realised that he had been born in a different year. As was the case with Smit, this caused Hamblin to question the truth of astrology.

In a recent thesis, [US astrologer] Keith Burke cited the 'wrong chart' experience of Hamblin and a similar one for [German astrologer] Peter Niehenke (involving a successful interpretation based on a chart with an error of 20 years in the birth date) and then added, "I had the same 'wrong chart' experience". Further examples could be adduced and in fact the experience is sufficiently ubiquitous that [British astrologer] Cornelius, after describing a 'wrong chart' experience of his own asked, "Which astrologer is there who has not had this experience, or one very similar?" A similar estimate of the experience's frequency came from [astrologer] Alie Bird 2018 who pointed out that astrology's inherent magic really comes to the fore in cases where "what later transpires to have been the 'wrong' chart works; not only works, but works **far, far better** than the 'right' chart would have done. I would suggest that all experienced astrologers have examples of this phenomenon in their portfolios."

Successful wrong chart readings are noteworthy in that it is not to an astrologer's advantage, nor that of astrology itself, to report such readings. This is an indication their occurrence should be taken seriously. If at times a wrong birth chart can work 'far, far better' than an accurately timed birth chart, the astrology practiced by most astrologers today is in real trouble. That should not happen at all, or why ask for an accurate birth time in the first place? (There is also no evidence from studies that astrologers using birth times based on daylight savings time are more accurate than those based on 'real' birth times). Indeed, for all astrologers know, there may be a multitude of birth date charts that 'work better' than charts based on accurate birth times. As Bret-Morel and Faytit 2020) point out, this point is a *serious* problem for astrology::

- on the *technical level*: in many instances, almost all the astrological factors used would not be the right ones
- on the *symbolic level* the associated symbolisms are themselves erroneous
- on the *ethical level* the same factors and symbolisms still support the interpretations formulated for clients and what is affirmed in the name of astrology
- on the *metaphysical level* does astrology really describe intimate reality if astrologers are not able to determine when they are wrong?

How can traditional astrologers deal with this situation? We contend they cannot.^{65 66} Accepted

⁶⁵ Astrologers do provide responses to wrong charts, but such responses would be especially problematic for those astrologers who take a scientific or empirical view of astrology. Typical responses include: (1) the wrong chart may have been miscalculated because the astrologer was in a bad mental state, (2) it doesn't matter if it is wrong, as long as the astrologer (and client) believe it is the right chart, (3) the cosmos will guarantee it will always be the 'right' chart, whether its wrongly dated or not, (4) the wrong chart will be accurate until the moment you discover it was wrong, and then it collapses (Phillipson 2019 pp.286-288). These

wrong charts show that accurate birth charts are neither necessary nor sufficient for well-received readings. Further, wrong chart readings undermine the belief that **astrological symbolism** can accurately reflect relationships between astronomical events and terrestrial events.⁶⁷

Phillipson 2019a p.285 and Kelly 1998 p.543 ask the interesting question, what would happen if "astrological software created randomized locations for planets, rather than calculating astronomically accurate positions for a given time"?⁶⁸ In effect the wrong chart does this already, as do astrologers who use **fictional** data such as hypothetical planets and mid-points of mid-points. Further, the escape routes used by astrologers are so numerous (see under Limitations) that astrologers can unfailingly explain away all conceivable errors.⁶⁹ In effect a false astrology is indistinguishable from a true one, which Phillipson 2019a p.288 converts to an advantage:

The position that seems to emerge here ... is that a responsive, providential cosmos might at times interpolate into the life of astrologer and client a chart which is astronomically wrong, but appropriate in terms of meaning. And that this possibility coexists with, rather than supplanting, the significance of astronomical bodies as they are actually positioned.

Evidently the cosmos has a mind of its own. But note the circular argument – wrong charts cause a responsive cosmos to insert the correct interpretation detectable only when the chart is found to be wrong. How do we know this? Because wrong charts give right interpretations! In effect this merely adds one more unfailing escape route for the true believer.

responses merely replace one mystery with another and might serve equally well to discredit right charts. On the other hand, McRitchie 2023b p.577 tells us " this is merely anecdotal evidence. Presently, I do not know of any well-designed studies of acceptance of wrong chart consultations". (But see next footnote.)

This is an odd thing to say, given that the personal experience of astrologers (essentially anecdotal evidence) is the basis for their claims in the first place, see footnote 5 on personal validation. The many **published** cases of astrologers fitting clients to wrong birth charts provide independent support for birth-date irrelevance. So the burden of proof is on **astrologers** to show that, under blind conditions, more accurate information can be obtained from right charts than from wrong charts, see Pigliucci & Boudry 2014 for a useful discussion on this topic. The wrong-chart experience is evidently sufficiently common across **all astrological approaches** to make it a genuine threat to astrology. While it would be difficult to design a study where astrologers knowingly use wrong charts, published accounts by astrologers who unknowingly used wrong charts whose interpretations were willingly accepted by clients is strong support for our negative claims (for examples see Dean *et al* 2022 pp.856-858).

⁶⁶ McRitchie 2023, p.577 dismisses wrong chart effects as merely anecdotal without empirical support. But Dean's 1987 study provides exactly that. It involved his astrology clients divided into two groups all with birth times. One group received their birth chart with correct aspect meanings. The control group received their birth chart with correct Sun and Moon positions but with planets moved to give aspect meanings as wrong as possible. For example if the right chart had Sun square Mars = *impetuous*, the reversed chart had Sun trine Saturn = *cautious*. This allowed interpretation to proceed normally without the need for pretense. Charts too ambiguous to be reversed were excluded. Both groups ended up believing that birth charts provided true descriptions of themselves, and both groups were equally accepting of the chart interpretations. That half the aspect meanings were as wrong as possible made no difference to their acceptance (97% hits vs 96% for right charts). Support for wrong chart effects comes from 70 matching tests that show astrologers cannot correctly match charts to owners better than chance, see under Meta-Analysis.

⁶⁷ Astrology books and websites are full of after-the-event matches between charts and owners, and all are essentially worthless.

⁶⁸ Of course, we need to know if the astrologer or client was aware that the planets had been randomly allocated. If they were, they would likely reject the results in advance.

⁶⁹ Talk of free will is ambiguous in such astrological contexts. First, it is generally unclear which notion of free will is being advocated (uncaused action, agent-caused action, etc) and how much sway our actions have within the constraints of astrological symbolism. Talk of free-will is usually tied in with the view that astrology can manifest in different ways, which allows an immediate escape should any wrong statements be made in a chart interpretation.

Gauquelin Research

No consideration of astrology should be made without mention of the empirical research of the Gauquelins – Michel Gauquelin (1928-1991) and his wife Françoise (1929-2007). In their day they were the world's most famous, most formidable, and most productive scientific researchers in astrology. They were not the first to investigate the claims of astrology scientifically but they were the first to do it rigorously. They insisted on large samples, replication, and statistical tests. Their research became the focus of worldwide interest and controversy.

The data collected by the Gauquelins was remarkable. During more than fifty years of personal and postal retrieval from European registry offices, they collected close to half-a-million birth data, always including name, place, date, and time. Nothing was thrown away. So what did the Gauquelins find? First of all, they did **not find** support for common astrological factors such as signs, aspects, and transits, nor did they find support for similarities in the lives of time twins (Gauquelin 1979, 1983). As Dean *et al* 2022 point out,

Gauquelin began by testing traditional claims ranging from simple ones such as zodiac signs vs occupation and personality (9200 cases) to more complex ones such as transits at death (8400 cases), planetary aspects within families (2500 cases), and the charts of notorious murderers (623 cases). He ended up with over 200,000 observations, all uniformly negative. For example death did not relate to transiting Saturn, nor soldiers to Sun in Aries, nor did above-chance aspects exist between members of families. As for the house position of supposedly warlike and violent Mars at the birth of 623 notorious murderers, most of whom had died under the guillotine, the results predicted by tradition were completely absent (p.137).

Until the early 1980s, when personal computers made the calculations easy, nobody else had produced such telling evidence against the claims of astrology. But astrologers took little notice. Their general response was that this research must be wrong.

Further, Gauquelin wasn't impressed by the ability of people to assess interpretations. In 1968 he had placed an ad in *Ici Paris*, a Parisian tabloid similar to the USA's *National Enquirer*, asking for people to provide their name, date, and place of birth in exchange for a personalized, 10-page computerized interpretation of their birth chart. Unknown to the respondents, all were sent the *same* interpretation of the birth chart of Dr Marcel Petiot, one of France's most notorious serial killers, who claimed to have killed 63 people.

The computer had been programmed by France's leading astrologer André Barbault (who did not know whose chart it was), and the computer-generated interpretation said things like, "*instinctive warmth ... worthy, right-thinking ... bathed in an ocean of sensitivity ... adaptable ... total devotion to others ... altruistic sacrifices*". Over 500 people responded to Gauquelin's advertisement. Of the first 150 replies, 94% agreed that the serial killer's horoscope was an accurate description of themselves, as did 90% of their families (Gauquelin 1979).

Mars Effect

Here is where it gets interesting. The Gauquelins later found statistically significant results for various kinds of **eminent professionals** such as athletes, actors, scientists, painters, and writers, but only for the **visible** bodies (Moon, Venus, Mars, Jupiter, Saturn,) in positions peaking **just after** rising or culminating. The first result was for Mars, which led to it being called the Mars effect, but it could have been named after any of the other bodies (Gauquelin 1979, 1983).

For analysis Gauquelin had divided the sky into 12 or 36 sectors. The positions of significance were later called respectively key sectors or plus zones. The effect was very weak, but because Gauquelin used large samples, often thousands of cases, it was statistically significant. It was also independently replicated.

But how could this planetary effect be explained? No physical explanation (gravity, magnetism, radiation, quantum effects) was plausible. The same was true of astrological explanations, which do not claim that astrology fails to work for half the planets, for signs, for aspects, for positions generally seen as lacking strength (they coincided with 12th house, not 1st house), and for the 99.994 percent of the population (on Gauquelin's figures) who were not eminent.

But the problems did not end there. Four out of five professionals in the data were born before 1900, and those born after 1950 seemed to show no effect.⁷⁰ What could be happening? Gauquelin tentatively attributed the last to the increased use of medical interventions such as induction after 1950, but this hardly explained his earlier results (Gauquelin 1983). In any case the effect sizes – which until the 1990s nobody had bothered to calculate – were consistently tiny, rarely more than $r = 0.05$, which was too small to be of the slightest practical value.

A more promising possible explanation was put forward by Geoffrey Dean following a careful analysis (it took eight years) of the Gauquelin data. He found ample evidence that some parents had misreported birth data to registry offices (unlike today there were no safeguards to ensure accuracy) that favoured particular times in keeping with popular beliefs. For example, planetary effect sizes were smaller on inauspicious days and larger on auspicious days, both consistent with misreporting. See Dean *et al* 2022 pp.166-194 for details, Cyprijański 2022 for more on birth-date misreporting, and Levy *et al* 2011 for evidence that 1 in 20 of nearly two million US mothers could affect the date of spontaneous births to match the date's auspiciousness: "pregnant women can expedite or delay spontaneous births, within a limited time frame, in response to cultural representations" (p.1248).

Astrologers without looking at the data quickly dismissed the idea of wholesale misreporting as unrealistic. But Gauquelin's samples were so large that a minimum of only 1 in 30 births (less than Levy *et al*'s 1 in 20) needed to be misreported to make the original outcomes statistically significant. And after 1950 the medical regulations required the reporting of births to be made by doctors rather than by parents, so opportunities for misreporting by parents largely disappeared – as did planetary effects.

To their credit, the Gauquelin's had considered the effect of data errors on their results and had concluded that, although error-free data was unlikely, the time that planets spend in critical positions was generally eight times longer than a typical transcription error, so the registry office data they used was sufficiently reliable for their purpose. But of course they had no reason to suspect systematic misreporting. A detailed but somewhat dated overview of the Gauquelin research can be found in Kelly, Dean, and Saklofske 1990, and a recent very detailed overview in Dean *et al* 2022 pp.131-196 and 495-526.

⁷⁰ We have a similar problem with the role that prenatal genetic engineering will likely play in future pregnancies (designer babies). Will the heavens automatically adjust to cover the future changes in life that the designer adjustments will provide, or will astrology become redundant in such cases?. How will we know? Or would astrologers retreat to the default position of using the time of the procedure rather than time of birth? For more on prenatal genetic engineering see Rueda 2021.

Post-Gauquelin research

The death of Françoise Gauquelin in 2007 marked the end of Gauquelin research. Although their data collection has not been extended, their results are popular with astrologers, who remain indifferent to their likely contamination by misreported data. So their tests inevitably find something 'significant', simply because misreporting mimics astrology so well that it escapes the usual controls designed to detect artifacts. The result is then touted as proof of **all** of astrology. But this problem extends to the whole astrological research area, not just Gauquelin's.

Belief in astrology is so pervasive that any data set is likely to contain believers whose belief has moved them in a direction consistent with astrology. If you know your birth chart indicates X, you will see yourself as more X than you really are (this is called self-attribution), which is why odd-numbered signs tend to score higher on extraversion than even-numbered signs. In other words, to the extent that astrology's pervasive popularity makes finite self-attribution plausible in all areas of human life, tiny but positive effect sizes (rather than zero effect sizes) should be the norm.⁷¹ The effect might be extremely slight, but if your sample is large enough, and like most astrologers you attend only to statistical *p*-values, ignore effect sizes, and fail to divide large sample sizes to see if the effect replicates, the result will often be apparent support for Western astrology (for concerns about *p*-values see Bower 2021, and Dean *et al* 2022 pp.704-711).

Ideally such studies should (but don't) incorporate controls against mistaking attribution effects for astrological effects. It is therefore no surprise when astrologers get apparently positive results in studies on local populations. It also supports the astrology they already believe in.

Problems of symbolism

We are all familiar with the notion of symbolism in our lives. Think of metaphors in everyday use ('Old Joe is as deaf as a post'), and in the sciences, art and literature ('the bottom line is X'). But symbolism in astrology has a magical or paranormal role that is very different from its everyday role.⁷² In astrology symbolism is used to convey **truths** about human lives and events. Except all astrological 'truths' exist in a form that has to be interpreted to make sense.

McRitchie 2023 p.577 directly defends the use of astrological symbolism by claiming that academic disciplines also use symbolism in a similar way,

Symbolism is not a practice peculiar to astrological connections, relationships, and meanings, nor are they confined to the ancient past. At their origins, many scientific disciplines have based claims on symbolism, metaphor, and imagination. Current disciplines have used these to generate hypotheses, which are then subject to testing.

⁷¹ McRitchie 2023 dismisses the effect of self-attribution on astrological outcomes because if true "it would make not only astrology testing – but all tests of personality – unreliable". Except that psychologists are well aware of this. Also it would be relevant only if the effect size of self-attribution was similar to the effect size of the variable being tested, which is generally true in astrology but not in personality testing because experimenters are aware of the problem and takes precautions.

⁷² Harding 2019 points out that astrological symbolism permeates our everyday language as in days of the week and the writings of Shakespeare). But so what? Nothing about the veracity of astrology can be inferred from this. The meanings of expressions change over time – we still talk of the sun rising as if the solar system was earth-centred – so we expect language to contain traces and terminology from past beliefs. It doesn't repeatedly start anew from scratch. Religion also has an influence on our language and secular beliefs (Zhang 2014, Gray 2018). Indeed, Henrich 2020 contends that much of our Western society and its institutions were largely influenced by Christianity. But again nothing follows about their validity.

In everyday talk, scientists use metaphors etc like everyone else. But scientists do not infer the nature of things from what their **names mean** in the way that astrologers do. In science we do not look at birth charts for information, we look at the relevant facts. Nor do we blend the meanings of words to determine the outcomes of things that interact with each other. But this is the way it is done in astrology. Can you imagine chemists considering only the symbolic meanings of 'magnesium' and 'oxygen' to determine the properties of magnesium oxide? And consider this :

Different astrologies such as Western and Vedic can be practised in the same country, but Vedic is less flexible and more dogmatic. They are in sufficient disagreement (eg on which planets and zodiac to use) to give conflicting readings on the same issues, so either or both must be wrong.

Again, a Western birth chart shows **planetary positions** when a person is born as seen from the birthplace on earth. But its **interpretation** is based not on astronomy but largely on the gods and their attributes that the Greeks allocated to the planets (King 2024).⁷³

In other words, the Western birth chart replaces physical planets with Greek planetary gods. Which is why the physical attributes of planets play little or no role in astrology. Although we no longer live by ancient Greek motivations and metaphysics,⁷⁴ most astrologers embrace them no questions asked despite the disconnect with present-day philosophies and evidence-based beliefs. For example here is a popular description of the four elements in astrology:

Once used by alchemists and long revered by ancient people, these elements [Fire, Earth, Air, Water] continue to play a pivotal role in our astrological charts. The four elements of astrology are described to help you better understand the zodiac. Each of the zodiac signs is associated with one of the four elements in astrology. These elements help us to learn about different ways of looking at the individual and can teach us which people are more compatible with each other. Like any other aspect of astrology, the four elements have a powerful potential to inform us about the world and our place in it.

From <https://astrologycosmos.com/four-elements-in-astrology>. Accessed Oct 7, 2023.

Because the Greeks saw Mars as the god of war, Mars in the birth chart is now interpreted using keywords such as *Energy, Heat, Activation* (Hone 1951/1971 p.28). Greek gods are so numerous that few people will recognise all of their names, but the relatively few that feature in astrology should be generally familiar. Other cultures of course had other gods and other mythologies.

The rules governing how the gods interact to provide chart interpretations are enthusiastically taught by astrologers – and accepted by clients – as a given. This uncritical acceptance survives for at least two good reasons:

(1) The attributes of Greek gods, and the ways they are interpreted, boil down to juggling with symbolism, which is always sufficiently flexible (as in *Energy* fitting anything remotely energetic) to allow any chart to be fitted to any person. For example, UK astrologer Suzi Lilley-Harvey 1981 compared the birth charts of Prince Charles and Lady Diana **before** their wedding

⁷³ For readers rusty on the Greek gods, very readable outlines are in Lefkowitz 2003 and Johnston 2023. Both authors describe the origins of the gods and their role in *The Odyssey*, the *Iliad*, Greek tragedy, and Hellenistic poetry.

⁷⁴ Bendixen *et al* 2022 suggest that appeals to gods and spirits reflect threats to human society in the local socio-ecological landscape. Thus Greek gods fit the **Greek** socio-ecological landscape. But in astrology their characteristics have been expanded to fit everybody in the Western world. Is this a topic worth exploring for anyone interested in astrology around the world?

and found "very fundamental rapport ... general emotional and social compatibility ... strong social-cultural-spiritual bond ... excitingly attractive and romantic ... ability to work together in a very practical way" (*Astrological Journal* 23(3) pp.167-170). But when UK astrologer Nick Campion 1993 made the same comparison **after** their marital separation, he saw in the **same charts** only trauma, anger, rebellion, and disaster (*Born to Reign* p.154). The general emotional and social compatibility had disappeared

(2) Should the fit happen to be imperfect, or the error glaring, the lack of rigour when juggling symbolisms (as opposed to juggling facts) makes such defects easy to ignore. In any case they can always be explained away by plausible-to-astrologers excuses, see under Limitations.

Together (1) and (2) guarantee that astrology ('as above so below' and 'it works') cannot be disproved for any believer. Understandably, once hooked it is hard to escape. But there are many more problems with astrological symbolism:

Astrological symbolism is a mess

It relates to a hodgepodge of existing astrological factors. Not just planets, stars, asteroids, and imaginary points between them, but also fictional bodies such as hypothetical planets (see below) and imaginary 'sites of energy', all of which supposedly combine to describe events over a lifetime for people, animals, companies, nations, ideas. And all without the slightest scientific plausibility. Consider these examples of the symbolism assigned to planets and asteroids:

Mars [is] the God of War...In astrology, Mars is the planet of energy, action, and desire. It is the survival instinct and can be thought of as the 'leftover' animal nature of man. Mars rules our animal instincts for aggression, anger, and survival. Our sexual desires come under the rule of Mars (<https://cafeastrology.com/mars.html>).

[The asteroid] **Ceres** is named after the goddess of the harvest and the natural process of fertility and renewal. ...[and therefore] represents the process of nurturing and motherhood in an individual's chart, and has been attributed to the sign Cancer as a co-ruler with the Moon (<https://www.astrograph.com/learning-astrology/asteroids.php>).

The asteroid **Psyche** (discovered in 1852) is named after the Greek goddess who represents the soul, and therefore in astrology "represents the innermost aspects of our being, including our emotional well-being, and our journey towards self-discovery and wellness". (accessed Sept 18, 2023, https://crowastrology.com/asteroid-psyche-in-12th-house/#understanding_Asteroid_Psyche)

A wide set of claims is attached to each symbolism, is largely inferred from the associated mythology, and accepted as a given. Here is an example of how wide the claims can be:

Mars rules our animal instincts for aggression, anger, and survival. Our sexual desires come under the rule of Mars. Whereas Venus rules romantic attraction, Mars is most associated with basic body attraction. This is the planet of action rather than reaction. With Mars, there is no contemplation before action. The drive associated with Mars differs from that of the Sun in that it is self-assertion rather than the assertion of the will; it is raw energy rather than creative energy. Mars is the push that gets us out of bed in the morning, our drive and desire nature, and our active energy. When we are 'acting out' our Mars, we are assertive, directed, forthright, and adventurous. On the negative side, we can be impulsive, rash, impatient, aggressive, and forceful. In the [birth] chart, the position of Mars by sign shows our basic sexual nature, *how* we express our anger, *what* makes us angry, and our first instinct to act. Our competitive nature is revealed in the nature of Mars' sign. By house, the position of Mars shows the areas of life where we apply our drive and express our enthusiasm.

Planets that Mars contacts are colored with action and self-assertion. These planets can represent the kinds of experiences we seek (from <https://cafeastrology.com/mars.html>, accessed March 4, 2021)

To imply that this detailed lengthy mythologically-inferred description is reliably accurate is to stretch credulity to the limit. Especially when other planets are involved.⁷⁵ For astrologers who use hypothetical (non-existing) planets such as Hades, Kronos, and Poseidon, their meanings have to be tied to mythology since by definition you cannot observe planets that do not exist.

Even so, the ties can be remarkably detailed. For example **Hades**, lord of the underworld, is related to 'Poverty, ugliness, suffering, garbage/filth, dirt, sickness, shame, bacteria, secrets, decomposition/deterioration,' while **Kronos**, ruler of the cosmos, is related to 'Mountains, airships, leaders, executives, the government and government officials, nobility, mastery' (<https://astrogarden.proboards.com/thread/1204/uranian-astrology-hypothetical-planets>).⁷⁶ Some symbolisms can represent 'centers of energy'. For example, Plumb 2005 tells us,

Black Moon Lilith represents the depth and power of the untamed feminine. Black Moon Lilith is not to be confused with Dark Moon Lilith or the asteroid Lilith; it is not an actual physical body, but rather a center of energy.⁷⁷ [In Jewish mythology Lilith was Adam's first wife]

The expression 'center of energy' does not involve any known type of energy, and seeing it as somehow having astrological meaning seems no different from seeing non-existent hypothetical planets as actually existing.⁷⁸ Similarly, midpoints (points halfway between two factors such as planets) have no physical existence but supposedly indicate where the two symbolisms meet and manifest their unique combined insight into our lives. For example,

The Venus/Mars midpoint can represent many things. It can represent the coming together of male and female, and can literally symbolize sex in a romantic context, since the female and male sexual archetypes combine, or come together, at the midpoint of Venus and Mars (from <https://cafeastrologytopics/midpoints.html>, accessed Aug 24, 2022).

⁷⁵ The symbolism becomes more complicated when other planets or other relationships are included. For example, consider the blending between mythologies that typically occurs when planets are considered together: "When *romantic and sensual Venus* aligns with *bold and passionate Mars*, you can bet that there will be sparks....[Kahn (2020)] is typical.

⁷⁶ For the past twenty years astronomers have discovered large bodies beyond Pluto, like Eris, and *none* coincide with the hypothetical planets of Uranian astrology. But just like Vulcan, they are no longer seen as hypothetical, and ... practitioners who use them claim their astrology still somehow works! (Bret-Morel, 2016, chapter 7).

⁷⁷ The Black Moon history (YouTube, Bret-Morel SITP Bruxelles + book Bret-Morel 2016 + French astrologer Richard Pellard which is Bret-Morel's source <https://www.astroariana.com/Lune-Noire-et-Noeuds-lunaires.html>) is interesting because it starts when astronomers imagined a second moon around the Earth but it took time to invalidate this hypothesis. But the Black Moon had entered astrology and its symbolism was too good to die. So French astrologer Don Neroman changed its definition. The Black Moon would now be one of the two focal points of the lunar orbit around the Earth, which puts it below geostationary satellites. The Black Moon is just a magic trick. And of course "it works" in readings for astrologers as well..

⁷⁸ McRitchie 2016 says, "When an astrologer says that in their 'experience' astrology works, they only mean that it is useful as a tool and not that the reliability of astrology is based on their experience of its use." But do they? Recall astrologer Perry 1992 says "There is no greater proof of astrology's validity ... than its daily application in clinical practice". Most astrology books show how astrologers see their experiences as the main evidence in support of their astrological beliefs. When they discuss astrology with other astrologers, they invariably consider shared experiences, which then authenticate their own experiences ("astrology works!"). Note that many types of experience can be considered under the label 'astrological experience', making the expression vague. No wonder nothing in astrology can be thrown out. A useful critical article on such lived experience is Hsiao 2021.

Similarly nodes – where a body crosses a given plane, usually the ecliptic – have no physical existence but supposedly relate to our potential. They also illustrate the disagreement that can exist over any factor's importance. For example, the extensive compilation of astrologers' views about the importance of each chart factor (Dean, Mather and 52 others 1977) cites thirteen views about the Moon's nodes varying from 'very valid, much importance' to 'no value, nothing to them' (pp.259-261). Western and Vedic traditions disagree on whether the south node is benefic or malefic (p.259). Fewer views could be found about planetary nodes:

Most authors say nothing about planetary nodes. Among those who do, there is some agreement that the strength of a planet is increased by proximity to a node. This implies that latitude is important. However, when latitude is considered directly, there is little agreement about its importance (p.262).

Despite the wide disagreement that can exist, the supposed symbolic links often take on the authority of logic as in the following:

The asteroid **Apophis** [discovered in 2004 and named Apophis in 2005 after an Egyptian evil-doer] **therefore** "represents an inimical or evil influence on an individual, one committed to destruction and anarchy. Apophis is also associated with the commission of horrible, unforgiveable acts, and appears frequently in the charts of mass shootings, terrorism or extreme cruelty, either in the events themselves or the natal charts of their perpetrators" (<https://alexasteroidastrology.com/apophis/>).⁷⁹

The supposed links can also be based on non-mythological things like colour. For example Mars looks red because of the iron oxide in its soil, and blood looks red, so there is an astrological connection between them based on colour (<https://horoscope.astrosage.com/significance-of-colour-in-astrology-and-remedies>).⁸⁰

As expected, there are no planets named after Greek mythology that are astrologically different from what the mythology tells us. The **name and mythology** given to the planet are the only things that matter. If Mars was named Adonis (Greek god of male beauty), its **physical** characteristics would be the same, but its **astrological** characteristics would be different. Some astrologers argue that the name given to a planet is always the correct one. But apart from being a circular argument (the name is correct because it's correct) this contradicts the idea that astrology is based on centuries of observation and debate, or even present-day observation and debate.

And names are nothing if not second nature to us:

What's in a name? Well, if your name has a celestial referent in the stars, **it can potentially mean a**

⁷⁹ A serious problem with many astrologers is that they provide only *supporting* cases in their writings. To evaluate the claim that asteroid Apophis is associated with mass shootings requires input from *all* cases, ie mass shooters who have Apophis in their charts, mass shooters who don't have Apophis in their charts, non-mass shooters who have Apophis in their charts, and non-mass shooters who don't have Apophis in their charts. For more on this, see Kelly & Ryan 1983, and the interview with philosopher Douglas Stalker 2021. Astrological internet sites are dominated by such errors in elementary critical reasoning.

⁸⁰ The red color on Mars, however, seems to be largely surface. Siegel, E (2021 'The red color of Mars is only inches deep' *Big Think*, Dec 27, https://bigthink.com/starts-with-a-bang/mars-red-inches/?utm_source=mailchimp&utm_medium=email&utm_campaign=weeklynewsletter. Readers might note that the red sand dunes in the southern Namib Desert in Namibia are also red for the same reason. It may be of interest to note that Mars would not look red if we lived on Mars. See <https://www.livescience.com/space/planets/what-would-colors-look-like-on-other-planets>

great deal...the cosmos is very obliging. Cognates, homophones, even close matches will often work....there are a dizzying variety of choices which potentially depict sexual matters, most of them euphemisms for penis. [The asteroid] Lust is properly pronounced 'loost', as it is named for the German astronomer Reimar Lust. But it functions perfectly in its English language usage of 'strong physical desire for sexual contact' and 'great eagerness or enthusiasm for something'. [Other examples] include Dick (asteroid #17458, named for German astronomer Wolfgang Dick), Dong (#150520), ... and Wiener (#18182, named for American mathematician Norbert Wiener), as well as Fanny (#821), Nympe (#875) and Batchelor (#23248)

Determining which asteroids might apply to you personally is a relatively simple exercise. Just scroll through the alphabetical listings of names at the Minor Planet Center (www.minorplanetcenter.org) to search for suitable matches for yourself, family members, friends and colleagues (even pets!). Remember to look for **similar spellings, homophones, gender variants, and also foreign homonyms**... **Bilk** is named after a place (the town of Bilk, in Germany),... The town has now become incorporated into the larger metropolis of Dusseldorf. But Bilk works very well in its English definition of 'to cheat someone, especially via a financial swindle.'
<https://alexasteroidastrology.com/category/asteroid-astrology-research/personal-named-asteroids-astrology/>. (bolding ours) (accessed March 10, 2021)

As Lewis Carroll's Humpty-Dumpty famously said, "the question is what is to be master, that's all". In this case, truth or nonfalsifiable symbolism?

Astrological symbolism is inconsistent

It encompasses a great variety of divergent and inconsistent **practices and techniques** such as mythological connections, analogies, metaphors plus visual and word associations. Can they conflict, and if so, which are the most significant? Nobody has shown that any of them lead to reliable new knowledge (see Goldman & Beddor 2021 on the use of reliability in evaluation), so how could we tell? Indeed, many astrologers seem to have little understanding of what reliability really means, hence their reliance on personal validation (see our footnote 5).

Questions come to mind: If an asteroid bearing your name (or something like it) is in your birth chart it supposedly has significance for your life. But if it is in your birth chart but does not share your name, does it still have significance? If some factors are more useful or accurate than other factors, how could astrologers find out? ⁸¹ Does being born under the zodiac sign Cancer give one a special relationship to the disease cancer? And if not why not? (Return to first question)

Further, what is so special about your name? A number of people's names seem to be rather arbitrarily selected (or does synchronicity guarantee the right name will be selected?) Do only last names count? (if so, why?) Does the rarity of one's name make a difference? Would changing your last name make a difference? What about nicknames? Would names applied to animals, buildings, and companies (like the one that makes Mars bars) also count? If not why not?

To provide the most common astrological 'explanation' for all this diversity of meaning tied to names, just utter the word 'synchronicity'. This is what you do when asked for an 'all-purpose explanation' without guidance from a theory. There are no constraints, just utter the word. Alas,

⁸¹ The first full moon of each year is often called the 'Wolf Moon'. Some astrologers believe it symbolizes 'the power and strength of wolves'. In 2024 the Wolf Moon 'peaks in the fiery sign Leo...and brings strong themes of self-love and self-validation' (<https://www.popularsugar.com/smart-living/wolf-moon-4863584>, accessed Jan 31, 2024). Such inferences from the name are similar to the astrological belief that an asteroid sharing your name in your birth chart has significance for your life.

by itself uttering does not explain anything. Uttering 'rhubarb' does not explain custard pies. In astrology claims for synchronicity are not based on controlled observation, or on constructive public discussion, but on speculations assumed to be true.

Even **slang** word associations can play a role in astrological readings. For example, **after** Brett Kavanaugh was elected to be a member of the American Supreme Court, and **after** his alleged sexual misconduct and love of beer were revealed, an astrologer was quick to point out in *The Mountain Astrologer* that the asteroids Beer (named after German astronomer Arthur Beer in 1971) and Pecker (discovered in 1952 and named after French astronomer Jean-Claude Pecker) were both prominent in Kavanaugh's birth chart (Miller 2018). Miller then notes the slang usage, hence the asteroid Pecker 'shows a predominance of sexual themes in Kavanaugh's life'.

But what role did this same asteroid play (or not play) in people's lives **before** it was named 'Pecker'? If its name was changed in the near future, would its relationship to sexual themes change? (note how the expression 'sexual themes' can fit most of our lives in various senses). How would astrologers know? Does the asteroid Pecker play a similar role in birth charts of non-Western people unfamiliar with its slang associations? If a slang expression becomes defunct over time, does it cease to have astrological meaning?

On the other hand, if the asteroid Beer is given a **literal** astrological meaning:

this asteroid could grant significance to the drinking of alcohol (not necessarily just beer). If this asteroid is heavily afflicted in the natal chart, it could signify someone who has issues controlling their alcoholic intake. (pathstrology.com).

By allowing many meanings both literal and symbolic, Western astrology as practiced today is reduced to a giant word association game (Sedgwick 1984, Miller 2015, Gunn 2023). Or as Dean *et al* 2022 p.22 put it, "to seeing faces in the ambiguous clouds of chart symbolism". It seems that astrology depends not just on seeing what we want to see but doing it with blind eyes.

The mess extends without limit

There seem to be no clear constraints. How does the **symbolism** somehow set boundaries to what it covers? Astrologers who claim that almost everything about people and earthly events can be explored in a birth chart need to provide actual details. What about our genome and mutations (we all have some), our skin colour, blood type, height, weight, and so on. Are they all encoded in a horoscope, however loosely? And how are these things known or justified? What sets the limits? If the answer is mythology, why give mythology such power? Appeals to ancient authorities and traditions are not good enough. Consider Bitcoin:

Many savvy people in finance believe that Bitcoin (and cryptocurrencies in general) may be the future of money: a revolutionary new technology that could challenge big banks and disrupt the global financial system. From my many years of astrological study, I knew that anything that has a verifiable birthday and time can often be accurately forecasted. I found out that the first Bitcoin was created in a process known as 'the genesis block,' and the Bitcoin network software protocol was initiated on January 3, 2009, time-stamped 6:15 p.m. GMT, with no known location.

This is the most widely accepted Bitcoin birthday, and it was enough to give me a chart to work with, having accurate planetary positions. ...Astrologically, this would correlate well with the entry of Uranus into Taurus. From [http://sourcepointastrology.com/pdf\(1\)019TMAbitcoin.pdf#](http://sourcepointastrology.com/pdf(1)019TMAbitcoin.pdf#):

(accessed March 16, 2022)

This shows how each new social development is just **added** to the symbolism. So how does the 'above' keep up with the always-increasing 'below'? ⁸² It doesn't have to, because all possible happenings are automatically covered by the symbolism. So the mess extends without limit.

Errors in symbolism are not an option

Given the many problems of astrological symbolism, and astrologers who routinely see faces in clouds, there is no possibility that astrology could fail. There are always:

similar or antagonistic tendencies that we would presume to amplify, or diminish, or otherwise moderate a theme of given characteristics in a native [chart owner]. (McRitchie 2022 p 708)

Note how a factor's strength in a birth chart is determined by the symbolism, **not** by effect sizes, which would be the case if the scientific approach was considered relevant. McRitchie adds:

there are too many similar and potentially sufficient factors according to the documented rules in the [astrological] literature to easily sort out exactly which astrological features are responsible for which experienced effects (McRitchie 2022 p.708).

For example, anger is supposedly shown by the positions of Mars, Jupiter, Saturn, and Uranus in signs and houses, and with respect to each other (ie by their aspects), which makes it possible to **always** find something that fits after the event, and which conveniently explains away any errors that might emerge.⁸³ This is why wrong charts work as well as right charts. Here UK astrologer Brockbank 2011 explains why right and wrong cannot be distinguished:

The problem is that astrological significators are multivalent [have many meanings], so one requires some methodology to determine which of the many possible meanings is appropriate. A list of probabilities of different ways a particular astrological configuration might manifest, presumably the hope of the empirical researcher, is insufficient because there will be no empirical way to determine between them.

There is impenetrable mystery

We have seen how disparate the types of symbolism are. Don't bother to ask what **astrologically** ties this variety together, because to those who routinely see faces in clouds it obviously doesn't matter (they all work!). But suppose we ask anyway, and astrologers cite this case as a reply:

One client had an extremely traumatic incident and lost both her husband and daughter. On the day of the event, her natal Uranus was conjunct transiting Psyche (one of the love asteroids), squaring

⁸² Although i-phones were not widely known when they first appeared, just placing them under the increasingly-wide notion of 'communication' was enough for astrologers to talk about them in terms of the astrology they already had. They never stopped to consider whether the new i-phones might have new celestial associations. End of story. Similar questions arise regarding new hybrid plants and animals. It seems unlikely that astrologers would do other than carry on as usual with the same old symbolism. Future possibilities such as clones, and robots would presumably be tied to arbitrary dates such as first manufacture or first sale. But why bother when all can be made to fit anyway, regardless of the actual case?

⁸³ In fact, identifying a causal mechanism for astrological claims could be problematic for astrologers. Indeed, **without** an identified causal mechanism, the positive and negative astrological configurations coexist without harming each other and it is conveniently very practical! Each positive or negative detail of a situation has its support configuration, so it is ideal not only for the creative astrologer but also to explain any failure by another configuration.

transiting Uranus conjunct her natal Psyche, the asteroid Karma and the South Node. Her husband's name asteroid opposed the Uranus/Psyche/Karma/South Node conjunction.
<http://straightwoo.com/2016/05/23/asteroids-astrology-use/>

Here we have three **disparate** symbolisms (Uranus, asteroids, node). What theory holds them together so we could view people in their important life contours over time?⁸⁴ How do they together account for a three-part combination (good love life, middling career, poor health) that could suddenly change both in detail and in relation to each other? What theory could follow such a combination simultaneously across the world for eight billion people and their events?

Indeed, how could just **three** symbolisms cope? It would require specifics **beyond** simplistic holistic talk, mysterious references to 'natural symmetries', and vague appeals to 'as above so below', 'quality of the moment', 'everything is interrelated', and 'synchronicity'. Our genome encodes some of our physical processes, but it doesn't necessarily encode the **particular** details of our lives such as our particular friends, the particular schools we attend, and the particular accidents and life events we encounter. So we must continue to ask questions:

What makes these disparate symbolisms significant for astrology? Is it because they are tied to objects in space? Or because they constitute 'real astrology'?⁸⁵ What is the **theory** that unites them? If the answer is 'mythologies, metaphors, visual associations, sound associations', how is this different from the after-the-event fitting of astrology to personal experiences that inevitably makes it work (for more on this see Ambridge 2023).

In effect astrology allows birth charts to match the invented reality of our choice. Unlike science it has no safeguards against fooling ourselves (see under The problem of Wrong Charts working). The mystery is impenetrable only to those who prefer their own invented reality,

Planets work together only symbolically

Scientists describe interactions among planets in terms of **physical** relationships such as gravity and distance from the sun. But **astrologers** describe them in terms of **symbolic** relationships based largely on local mythologies (ie whatever is locally fashionable), a process that McRitchie calls "semantic complexity blending" (2022 p.708), or "mental combinatorial processing" (2023 p.576), which is a fancy way of telling us how astrologers juggle mythological meanings according to received cookbook rules. Here is an example:

Take Venus and Jupiter.....with Venus being the planet of relationships and Jupiter being the planet of success, 'when we see a Venus-Jupiter conjunction, that then means we have a successful relationship.' <https://www.mindbodygreen.com/articles/conjunct-astrology>

⁸⁴ In the world of science, quarks and leptons are hypothesized (Standard Model) to hold parts of the **physical** universe together. See <https://www.exploratorium.edu/origins/cern/ideas/standard4.html>. See also Wilezek 2021. But what holds the **symbolic** universe of astrology together? What are the specifics? The popular answer seems to involve an 'intelligence' in the cosmos that takes a special interest in human beings and the earth. Here the debates in theology become relevant.

⁸⁵ By 'real astrology' one presumably means the framework of astrology whose claims are largely true or best supported by the evidence, or perhaps based on the best techniques or practices, or perhaps the most consistent with tradition (but which tradition and which elements are included or excluded and why?). And what do you do with positive studies that support approaches to astrology that differ from your own? Negative studies are only part of the problem for astrologers. Here the typical response by astrologers is to change the subject by talking about astrology 'in general' and ignore the specific approaches.

In practice, professional astrologers will blend in other factors, thus increasing the complexity of the resulting word game. For example planetary aspects, which occur when particular planets are in certain angular separations from each other:⁸⁶

Here's a metaphor: The planets are like actors in the movie of your life, trying on different roles and costumes as they move through the zodiac signs. Often, these actors will have a 'scene' together. Will it be a shoot-'em-up action plot, a romantic tearjerker or a 'bromantic' comedy? That depends on the *type* of aspect these two (or more) planets are forming (<https://astrostyle.com/aspects/> accessed Dec 14 2021)

Aspects in astrology symbolize the energy that flows between the planets in your chart. They tell us how these planets are interacting and communicating with each other. (<https://stalkalice.com/astrology/aspects-in-astrology/>, accessed Dec 14 2021)

Here is an example of aspects that are 'soft' or 'hard':

If love-planet Venus and communication-planet Mercury are forming a soft (or easy) aspect with each other, they might blend their powers, helping you have a productive conversation with your love interest or open up about an attraction. But if Venus and Mercury are forming a hard (or difficult) aspect, lovers can argue or struggle to understand each other.

Another example:

If structured and disciplined Saturn forms a soft/easy aspect to ambitious Mars, you could channel your energy into signing a contract, sealing a deal or making one of your big dreams into a tangible reality. But if Saturn and Mars form a hard aspect, you could come across as pushy, egotistical and impatient—perhaps trying to force an outcome before it's time. (<https://astrostyle.com/aspects>. accessed Dec 14 2021)

The 'coulds', 'perhaps', and 'mights' qualify **possible** happenings, but if they don't happen astrologers have endless excuses (see under Limitations) that allow astrology to proceed intact. As we noted earlier, astrology cannot be falsified.

Problems of procedure

Astrology encompasses real astronomical events and appearances and gives equal astrological significance to both. What from an **astronomical** perspective is just an appearance from the earth, as in a planetary lineup, from an **astrological** perspective it is fundamental to understanding people's lives. What matters is what celestial events look like as seen from the earth. Examples are 'retrograde' and 'stationary' planets.

Listen to astrologer Grasse 2019:

When Mercury's apparent motion reverses itself for several weeks at a time, business contracts begun then seem to develop complications, communications may stall, and technical difficulties arise. While most contemporary astrologers also allow for the possibility of positive effects accompanying these periods, these are generally seen as involving more psychological or

⁸⁶ Hone 1951/1971 pp 181-185 provides a comprehensive description and interpretation of aspects in astrology such as the conjunction 0°, opposition 180°, trine 120°, square 90°, and sextile 60°, all called **major** aspects as distinct from other angles such as 30° and 150° called **minor** aspects. Hone was the Principal of the *Faculty of Astrological Studies* 1954-1969, then the UK's leading teaching and examining body, and her text-book (now a classic) was the first serious and successful attempt to produce a text-book aimed at all teaching levels with bespoke guidance through the various astrological calculations and interpretations.

spiritual levels of experience.⁸⁷

Here the notion of 'retrograde' is generally tied to negative effects, reflecting semantic links with going backwards or being degenerate. But some modern astrologers tie it to positive effects at the psychological or spiritual level, thus avoiding negating any chance of error. For humorous advice on how to survive Mercury retrograde see astronomer Phil Plait 2023.

Signs, houses, midpoints, and planetary alignments (when two or more planets seem close to each other as seen from earth) are all very significant for astrologers but not for astronomers or non-astrologers, see Culver & Ianna 1988 and Trachet & Martens 1988.⁸⁸ UK astrologer Carter 1927 pp.14-15 points out that, if one believes the planets exert a physical influence,:

we [also] have to account for a purely physical influence from the [zodiac] signs and houses, where no physical entities are, as far as we know.

Thus planetary conjunctions occur astrologically as seen from earth even though they are actually a huge distance apart (Berman 2020). Astrologically Venus and Jupiter were exactly conjunct on 2 March 2023 but were actually more than 400 million miles apart. Looks, not reality, are what matters in astrology. You cannot see faces in clouds unless you see clouds.

The problem of animals

Some astrologers associate lucky numbers, herbs, crystals, fashion, past lives, and particular colours with zodiac signs.⁸⁹ Other astrologers read the birth charts of pet cats and dogs:

In astrology, dogs fall under one of 12 zodiac signs. The [sun] sign your dog was born under impacts the way he interacts with the world. Each sign also has its own strengths, weaknesses, personality traits and attitudes (<https://www.dogsnaturalymagazine.com/your-dog-is-in-the-stars-pet-personalities-and-astrology>, and <https://www.everydayhealth.com/pet-health/pet-astrology-are-you-your-pet-compatible/>, both accessed Dec 18 2020).

These associations are not based on observations or critical discussion among astrologers.⁹⁰ And animals are extremely diverse. They differ in size, physical ability, longevity, living conditions, and cognitive abilities just for starters (Halina 2023). So where are the astrological lines drawn,

⁸⁷ Not quoted here is astrologer Grasse's physical explanation of why Mercury goes retrograde as seen from Earth, which is actually the physical explanation of why Earth goes retrograde as seen from Mercury, not vice versa.

⁸⁸ The planets do not align in a straight line because their orbital planes and axis tilts are all different. And such 'alignments' usually last only a few hours or days. For more on this topic see Cessna 2009 at Planetary Alignment - Universe Today.

⁸⁹ Also crystals, see <https://meanings.crystalsandjewelry.com/crystals-and-astrology/> and even bitcoin, see <https://www.washingtonpost.com/technology/2021/06/13/maren-altman-tiktok-astrology-bitcoin/> Given that astrology supposedly can supply information on abstract entities of all kinds (eg nations, ideas) could it also include speed bumps, books, watches, cookies, and individual nails? Is it just because astrologers aren't interested in an astrology of cookies and nails that we don't have them?

⁹⁰ One might **expect** astrologies to differ quite a lot regarding very disparate entities such as human beings, animals, birds, and non-physical things such as ideas, companies and nations, but it seems not. But they tend to differ between countries, so why not? Applying human astrological ideas regardless of target smacks of strong anthropomorphism, where **human** characteristics are attributed to non-human animals and inanimate objects (for more on this see Airinti, 2018, and Arp, Barbone & Bruce, 2019, pp.305-307). The free-will defence is often used to allow people to manifest behaviors in many different under the same celestial configurations, so astrology can never be proved wrong. But do animals have free will?

and what animals are included or excluded? Are astrological descriptions more accurate for some animals than for others? As Franenhuis and Nettle 2020 p.469 remind us,

Animals are born, mature, reproduce, age, and die. These are the milestones; the rest are details. Some species complete this cycle in days, others over centuries. Some mature fast, others slow. Some have thousands of offspring (eg carp), others few. In fact, some animals barely seem to age and die mainly from extrinsic factors (eg naked mole rats). Some die while giving birth, serving as their offspring's first meal; others die alone, not having seen their offspring in months or years. Nature is astonishing and macabre. To make things wilder, there is variation among individuals within the same population. Some mature faster than others. Some invest more in their offspring than others. Some reach old age, others die young. This variation may result from differences in genes, experiences, or both. This is life history and there are many puzzles to solve.

Indeed, "Mammals [alone] are one of the most diverse classes of animals – nearly to the limits of one's imagination" (Vigieri 2023 p.356). Further, animals have different senses from us, leading to their living in more varied sensory worlds than human beings (Jong 2022, Futterman 2023). One might expect this to be reflected in their astrology, but it seems not

Instead the **human perspective** is used for all aspects of animal life. Birth times are still considered central, and zodiac signs are freely adopted from human astrology (see MacCormack 2023a,b for a critical view on our human-centered approach to life). Given that animals including ants and sardines have birth dates, does astrology somehow mirror in principle every creature's life? And if it mirrors every creature's life, why would the same human astrology apply to them? Humans have many qualities quite different from other creatures (Hassett 2022).⁹¹

Indeed, at times some animals can reproduce without males, and at times some can change sex (Burns 2020). And as Sidzińska 2023 p.214 points out, even Aristotle knew that:

some species of animals have no uterus, that some are viviparous [give birth directly] while some are oviparous [lay eggs], and that the embryo in some species is attached to the cotyledon [part of a seed]

The same awkward issues arise with animals as with human beings – we are all products of our complex, ever-changing tangled physical and social environments. To understand animals' lives in detail would require knowledge of every social and physical change in every animal. Yet according to many astrologers, we are supposed to believe that every detail of their lives is somehow perfectly mapped by symbolic celestial configurations that simultaneously do the same for every human being on earth. Western astrology must be as clever as God. Do you believe every detail of this? Do animals have souls that enter the body at conception? How would you know?

Post-hoc after-the-event retro-fits

Astrologers in their books and websites routinely cite after-the-event retro-fits of astrological symbolism to people's lives or world events. But as we have seen, the problem is that any birth chart – even a wildly wrong birth chart – contains so much symbolism that it is usually impossible not to find something that will fit **pretty well anything** (for further discussion see Kelly 1998; and Dean *et al* 2022 pp.877-888). Many examples of retrofitting can be found in the 2006

⁹¹ Western astrologers in the 21st century are using many of the techniques of earlier centuries. Our lives are now longer and have changed in many ways, but planetary aspects have not changed except when they occur. In the near future we may be able to slow the human aging process, but again there will be no change in the planetary aspects.

book *Cosmos and Psyche* by Richard Tarnas. As explained by Woodward 2019,

In *Cosmos and Psyche*, Tarnas stresses that astrology is archetypally but not concretely predictive. In other words, astrology cannot explicitly predict the future, but it can predict the future's archetypal resonance...Astrology is not very good for telling you exactly what will happen in definitive, concrete terms. Archetypes...have an inherent multivalency. Archetypes can manifest within a varied range of possibilities. So while it's possible to look at past cycles and find similarities to the present, it's impossible to know which of those previous manifestations will occur for certain.

For starters, Tarnas looks at historical **world events** vs aspects between the outer planets (Saturn through Pluto), which last longer (months, years) than aspects involving the faster inner planets. His events are very diverse in topic (science, art, economics, literature, health, politics, war), and in their analysis (ie how widespread, influential, dramatic, and long-lasting they are)⁹² For example Phillipson 2006 describes how:

over a few pages he [Tarnas] sees the impress of Uranus-Pluto in: Isadora Duncan's dancing p.174; mass violence and/or assassinations in China, India, France, the Austro-Hungarian Empire, the United States and Italy; the growth of Freud's influence p.175; the quality of Wagner and Liszt's music and of Baudelaire, Whitman and Melville's writing p.176; Schopenhauer's philosophy p.178; the symphonies of Mahler p.179; the development of plate tectonics theory p.180.

Given the huge disparate variety of events that seem to easily fit with general planetary-configuration talk, it is not surprising that Tarnas claims results in favour of astrology. But this is an empty claim. As pointed out by Dean 2006 p.57:

Tarnas dismisses statistical studies as "methodologically inadequate for ... the astrological tradition" (p.76), which lands him in deep trouble. For example, among five outer planets there are ten possible pairs, of which Tarnas considers six. He seems unaware that, under his rules, each pair is in aspect nearly 80 percent of the time. So there will always be several pairs in aspect during any historical event, of which there is an almost unlimited supply. And vice versa. Since a whole pageful of words may be insufficient to describe the [archetypal] astrological possibilities of each pair, finding a correspondence in all this mess will be even easier. and just as meaningful (p.57).

Tarnas also looks at the lives of **prominent people** vs selected aspects in their charts, which

routinely breaks the #1 Golden Rule of Astrology, perhaps the only rule that serious astrologers have ever agreed on, namely *no chart factor shall be judged in isolation*. ... So we need to know if Tarnas's positive cases [his cases are always positive] can also be found for *control* events and birth charts. ... But Tarnas does not use controls or even hint at their importance (p.57).

With this approach to astrology Tarnas cannot fail to find whatever he wants to find.⁹³ The non-

⁹³ While Tarnas is focused on the stars, science is moving forward by studying those individuals who do make accurate predictions (Shanteau 1992; Tetlock & Gardner 2025; Wilbin & Harris 2019). Shanteau 1992 found that only a few experts can deliver (but they do deliver). Successful experts have qualities that set them apart from unsuccessful ones. Such as seeking feedback from associates, learning from past mistakes, using aids such as written records to minimise hidden persuaders (cognitive biases), knowing which problems to avoid, and solving large problems by dividing into parts and reassembling the partial solutions. Tetlock and Gardner (2015; also Kahneman, Sibony & Sunstein 2021) provide suggestions regarding 'super-forecasters' that overlaps with Shanteau but emphasizes working in teams, being able and willing to admit error, and gathering information from many sources. The advent of powerful computers and 'big data' are contributing to all sorts of previously unavailable possibilities. Read Manovich 2020 for how 'big data' is being used to analyze trends in human activities.

astrological reader might see it as designed to be nonfalsifiable from the start.⁹⁴

Prediction of uncommon events

Predicting the distant future regarding social and political events that don't yet have any reality seems the height of folly (Moren 2013). But many astrologers feel that chart factors associated with particular outcomes in the past might reasonably be expected to indicate similar outcomes in the future.⁹⁵ By the same token, rare 'black swan' events such as sudden wars, earthquakes, or pandemics should be more difficult, which is why the majority of predictive astrologers don't try or get them wrong, for more see Pfeffer 2024 and Dean *et al* 2022 pp.809-826.⁹⁶

For example Phelan 2020, writing in the *New York Times*, mentions a prominent US astrologer on CBS News in late 2019 predicting that 2020 was going to be a **good prosperous year**. The disastrous 2020 Covid-19 pandemic was somehow overlooked.⁹⁷ But this astrologer was not alone – most world-famous astrologers did no better.⁹⁸ They also debated which factors they had somehow missed or misinterpreted.^{99 100}

⁹⁴ Boudry & Braeckman 2012 call this the 'multiple end points' approach to avoiding disconfirmation.

⁹⁵ One might ask, what is the point of astrological predictions? Are they immutable/unchangeable? If astrologers could predict accurately and reliably, **what would we do with such predictions that suggest disaster?** Would preparation be our only resort? Could our pre-knowledge actions prevent the prediction from coming true? Why aren't all astrologers rich and famous?

⁹⁶ As an example of prediction **before** the event, ten prominent astrologers were asked to provide their predictions of who win the US presidential election of 2000. From the birth charts of Gore and Bush, each astrologer found multiple indicators for their preferred candidate. Four predicted Gore would win, four predicted Bush would win, and two avoided predicting a winner (Stariq 2000). Later, in 2016, most astrologers wrongly predicted Hillary Clinton would win the American presidency (Trump won). Astrologer Egan 2017 laments "There were very few astrologers making noises from the watchtowers when World War II began, or in 2007-2008 during the worst financial meltdown since the Great Depression." Nor was there mention in *The Mountain Astrologer* (currently the most widely-read serious astrology magazine in the US) of the coming world-wide Covid-19 pandemic crisis in 2020 (see also *The Canadian Press* 2020). An earlier Dec 2018 issue of *The Mountain Astrologer* carried several articles by leading astrologers on what to expect in 2020. There was no mention of the Covid-19 pandemic, one of the most significant events of the last hundred years that devastated whole peoples politically, economically, psychologically and emotionally.

There was a similar silence on the website of the US *International Society for Astrological Research*. <https://isarastronomy.org/en-ca/>. However, by March 2020, astrologers had no problem **after** the event, attributing it to a Saturn-Pluto conjunction (Grasse 2020). See also [https://theprint.in/opinion/pov/why-online-astrologers-are-secretly-thanking-their-stars-covid-and-science-averse-indians\(4\)13008/](https://theprint.in/opinion/pov/why-online-astrologers-are-secretly-thanking-their-stars-covid-and-science-averse-indians(4)13008/) Note that many of the excuses that astrologers make for wrong predictions are the same as those made by social scientists for their own failed predictions – variations along the lines of "something outside the model used was missed". As in Egan 2017 when astrologers wrongly chose Hillary Clinton, "What asteroid or aspect did we fail to take into account?" One might argue that failed predictions in astrology should be more serious than those in other areas because astrology is promoted as providing more insight into personal and world affairs than other methods, or why consult an astrologer in the first place? For more examples of failed predictions see Kelly 1997/2005 p.31.

⁹⁷ The Saturn-Jupiter conjunction of spring 2020 was expected by astrologers, who were predicting **specific** catastrophes. But they did not foresee a pandemic, only possible catastrophes such as a stock market crash, the fall of an asteroid, a third world war, or the arrival of aliens! If astrology is supposed to be useful, this was not the case here. Similarly there was no useful prediction of the terrible 2004 Christmas tsunami in Thailand.

⁹⁸ Of course, out of many thousands of Western astrologers, a few may claim successful predictions in advance, but specifics are always lacking. Why was it missed by so many when astrology is supposed to work? Of course it is always important to check what they said they predicted against what they actually predicted (see Ford 2023). To be fair, out of those 'many thousands of Western astrologers', few may have the necessary time or inclination to make predictions. What to non-astrologers may seem like a quick casual statement can require hours if not days of careful work.

⁹⁹ If a prediction is wrong, the number of symbolisms is so large that excuses can always be found (see Kelly 1998 and Boudry 2013). News media can of course be just as wrong, but they do not claim insight from the heavens.

What about the November 2020 US election? Israeli astrologers predicted (wrongly) that Trump would win ([https://foreignpolicy.com/2020 \(1\)1/02/trump-biden-election-prediction-israel-oracles-astrology/](https://foreignpolicy.com/2020/11/02/trump-biden-election-prediction-israel-oracles-astrology/)). Of course, anyone can make mistakes, but aren't astrologers supposed to have special information not available to the rest of us?

Similarly for the catastrophic Russian-Ukrainian war that started in February 2022 with its severe widespread economic and other consequences, including fears of nuclear war, across the earth. Predictions for 2022 made in late 2021 missed this disturbing event – there was no mention of any serious conflict in Europe for 2022 **before** the war started in the UK *Astrological Journal*, the US *Mountain Astrologer*, and the December 2021 *Career Astrologer*, all of them highly-rated magazines for astrologers. See also, <https://wowastrology.com/blog/russia-ukraine-war-astrology-forecast>, for a typical astrological missed prediction.¹⁰¹

Later in 2022 and 2023 some astrologers (as did some non-paranormally-oriented writers) claimed to have predicted the events or knew 'something was up' (something is always up). The famous UK astrologer Jessica Adams noted that "Pluto hasn't been in Aquarius in 248 years, so we are going to see upheaval the likes of which we haven't seen since 1774-1775, which you history buffs may have already noticed was the period of the American revolutionary wars" (Ford 2023).¹⁰² It is a vague 'prediction' made from the astrological symbolism alone. But Pluto averages 21 years in each sign, long enough for matching events to occur anyway.

Similarly nothing specific or relevant was predicted by astrologers for the Hamas attack on Israel in early fall 2023, despite the claim that the heavens can supposedly both provide information unavailable from other sources and cover all happenings on earth. After the **Israeli war** started, astrological websites were filled with various astrological 'explanations', redundantly covering what had already been revealed by the news media.

Astrologers typically underestimate the possibility of obtaining successful predictions by chance (for more see Paulos 2022 and O'Shea 2023). After all, if a method has no connection with reality and is used to make many predictions, its successes will be distributed among users according to chance (within statistical variability). This explains why most astrologers have at most only a few successful great predictions to their credit. If astrology worked and astrologers

¹⁰⁰ Afterwards, we saw an attempt by some astrologers to **rewrite** astrological history. After finding factors that fitted **after the event**, they claimed they had always known **something** was up. For example, astrologer Currey says on Twitter (Dec 31, 2020) "Astrologers predicted the pandemic based on the line-up of Jupiter, Saturn, and Pluto" (<https://twitter.com/RobertCurrey>). Alas, Currey wasn't one of them. Other astrologers felt pandemics were too complex to be predicted. Who should we believe? <https://fr-fr.facebook.com/astrology/posts/why-didnt-astrologers-predict-the-covid-pandemic-we-knew-major-events-affecting-10161776163963682/>

¹⁰¹ Astrologer King (2014) points out, "There are three possible dates for the Ukraine horoscope listed in the 2004 *Book of World Horoscopes* by Nicholas Campion. The first date is for independence set for 22 January 1918, but that independence was short-lived. The second date is for the Proclamation of Independence from Russia on 24 August 1991. Astro Databank uses this date. The third date that Campion gives is for a referendum confirming independence on 1 December 1991. There is also a date for the founding of the Ukraine capital Kiev, of 8 May 1882, which astrotheme uses. Under astrotheme's section 'the future of Ukraine' there is no hint of the forthcoming huge upheaval due to the Russian invasion starting in 2022. [https://astrologyking.com/ukraine-horoscope/#:~:text=\(accessed March, 2022\).](https://astrologyking.com/ukraine-horoscope/#:~:text=(accessed March, 2022).)

¹⁰² Ford (2023) gives an overview of Adam's astrological predictions for 2023.

knew what to do, there should be many successes and their authors would be famous. But this is conspicuously not the case. As UK astrologer Dennis Elwell pointed out more than 20 years ago, focusing on predictions alone won't get astrologers anywhere. They need to identify **reliable techniques** that can be used by any astrologer to make predictions:

Amazingly, there is no consensus on the most reliable methods of astrological forecasting, and only minimal discussion on the crucial question of the language that should be used in making insights. With so many predictions being ventured worldwide, the chances are that somebody will get it right sometime. So, you can't take any particular comfort when your turn comes around. The only merit is to be able to get it right consistently because your methods can be seen to be reliable, which means you can show everybody else how to get it consistently right. Given our pretensions, it is crazy that we cannot reach a consensus on what astrology says, rather than what a particular astrologer says. (From Phillipson interview with Dennis Elwell 2015, https://www.astro.com/astrology/tma_article211019_e.htm)

A difference between prediction in science and prediction in astrology is made clear in Elwell's quote. Failed predictions in science are seen as the need to revise or reject the theory being tested. In astrology all we have are one-offs (Serge Bret-Morel, <https://www.youtube.com/live/Npfpjl8lbAU?feature=share&t=29970>).¹⁰³ Further, no astrologer's track record is enough to support anything. Their commentary on ongoing world events consists largely of repetitions of what can be found in the media news or journalist blogs,¹⁰⁴ albeit with a tie-in with their favourite celestial relationships (see Serge Bret-Morel, <https://www.youtube.com/live/Npfpjl8lbAU?feature=share&t=30143>). See also Bret-Morel, "Dealing with forecast failure", in *Beliefs and departures from beliefs*, September 2022. <https://youtu.be/6pHU9GKFYyk>.

Note that **non-astrologers** often make predictions not only of the same events as astrologers with similar or better accuracy,¹⁰⁵ but also of events missed by astrologers.^{106 107} Consider these:.

In his 1914 *The World Set Free*, HG Wells wrote about atomic bombs whose radioactive elements

¹⁰³ One consequence of thousands of predictions is that astrologers pick on any successes. In science we foresee little and wait for specific results. In astrology, astrologers foresee a lot and wait for anything that fits. This is a characteristic of soothsayers.

¹⁰⁴ When astrologers claim to have predicted a pandemic, they typically wait until the end of another pandemic such as MERS or SARS. In effect they are only "formalising" a fear that was already shared by everyone at the time. Worse, without setting a date (nor a just period), they somehow requisition the events-to-come without difficulty.

¹⁰⁵ In one of ex-astrologer Bret-Morel's videos on the prediction of the coronavirus, he compared the content of the pandemic predictions by seers and by scientists: the latter were clearly much more precise on everything. For the WHO see <https://youtu.be/n4zCoSR6S1E?t=887> and for the clairvoyant Sylvia Browne see a little further on <https://youtu.be/n4zCoSR6S1E?t=1151>. See also the successful prediction of US elections since 1984 by a historian <https://www.dailymail.co.uk/article-13054567>.

¹⁰⁶ See also C.Sweeney-Baird (2021) 'My novel now feels unnerving' about authors who predicted the pandemic in *The Guardian*, April 21, 2021. <https://www.theguardian.com/books/2021/apr/23/my-novel-now-feels-unnerving-authors-who-predicted-the-pandemic>. Also the editorial, 'The Guardian view on prescience in novels: reading the future' *The Guardian* (Jan 30, 2022). For science fiction novels that made accurate predictions better than any astrologer, see <https://www.washingtonpost.com/history/2024/Octavia-butler-2024-parable-sower/>.

¹⁰⁷ Successful predictions are made by **non-astrologers** all the time, but we are not continually reminded of this. For example, the *Economist* and <https://www.cnsnews.com/blog/ilona-schumicky/economist-who-predicted-2008-economic-crisis-warns-2020-recession-risk>. Of course we must be careful to examine what they actually say, but even so who needs astrology? We must also keep in mind the increasing possibility of AI making correct predictions about our lives. see for example Leffer *et al* 2024.

contaminated battlefields three decades before Hiroshima and Nagasaki. UK author John Brunner's 1968 *Stand On Zanzibar* imagined Europe's states forming a collective union, China's rise as a global power, the economic decline of Detroit, and the inauguration of a 'President Obomi'. And of course there is George Orwell's *Nineteen Eighty-Four*, in which a one-party state uses 'telescreens' to identify people from their expressions and heart rate, written more than half a century before the NSA's Prism surveillance programme and China's use of facial recognition software to track its citizens (Oltermann 2021 June 26, <https://www.theguardian.com/lifeandstyle/2021/jun/26/project-cassandra-plan-to-use-novels-to-predict-next-war>).

In 2012, author David Quammen wrote a book *Spillover: Animal Infections and the Next Human Pandemic* that was the result of five years of research on scientists who were looking into the possibility of another Ebola-type disease emerging. The consensus was: There would indeed be a new disease, likely from the corona-virus family, coming out of a bat, and it would likely emerge in or around a wet market in China.

For five years Chinese scientist Zhengli Shi at the *Wuhan Institute of Virology* has been warning us to watch out for the corona-viruses found in Chinese bats – SARS is a corona-virus, and it came out of Chinese bats in 2003. Then Shi and her group saw a virus very similar to it in bats in a cave in Yunnan Province and published a paper in 2017 saying, "Watch out for these particular corona-viruses in these horseshoe bats. They necessitate the highest preparedness." That was three years ago (<https://science.slashdot.org/story/20/06/13/1923213/interview-with-the-science-writer-who-predicted-the-pandemic-8-years-ago>).

These prediction are based on science, insights into environmental trends, and the ability to carefully extrapolate into the near future.^{108 109} There was absolutely no need for astrology.

How astrologers view astrology

Astrology is generally seen by most Western astrologers in two different ways – causal, where the heavens **cause** events on earth, or as a mirror, where the heavens non-causally **reflect** events. Many (perhaps most) Western astrologers reject causal links. Brennan 2011 points out that the famous occult-oriented astrologer, Dane Rudhyar, as far back as 1936,

explicitly rejected the notion that "the planets or stars actually influence individual beings by the fact of their sending to earth radio-like waves, or rays..." [Rudhyar] goes on to say that even if some sort of rays were discovered which did have an effect on biological processes, this would in no way prove the usual findings of astrology, and would solve only a fragment of the problems involved in the sum total of astrological ideas (Rudhyar, *The Astrology of Personality*, Lucis 1936, pp.43-44) Rudhyar's argument was essentially that even if some sort of celestial force is discovered which influences terrestrial life in a way that accounts for some astrological assumptions, this would probably not account for the vast majority of what astrologers claim astrology is capable of, simply because their assertions make sense only within the context of a non-causal system.

For example, even if a physical explanation could be found for, say, Mars suddenly being associated with curiosity and communication, it would be ignored because it conflicts with the traditional symbolism that associates Mars with energy and activity. Grof 2009 p.52 says "the idea of a direct material effect of the planets...is, of course, implausible and absurd." Instead, symbolism comes first every time and is all important. As one astrologer points out,

¹⁰⁸ High IQ people can have weird beliefs, even Nobel Prize winners (Robson 2019, Sternberg & Halpen 2020 Ch 2, Scheiber 2023, Williams 2023). You can have every critical thinking skill and still be disinclined to use them (Bensley 2006 p.48).

¹⁰⁹ For speculations about 2024 you are better off with thoughtful commentaries on what happened in late 2023, for example see <https://www.project-syndicate.org/onpoint/ps-commentators-predictiona-for-2024-byps-editors-2023-12> .

Unfortunately, there is no asteroid named Thanatos [the peaceful Greek god of non-violent death]. If there were, we could see where we stand in this life versus death existential equation. We might point to asteroids Requiem [Greek goddess of vengeance and retribution] (#2254), Hades [Greek god of the underworld] (#399) or Nemesis [Greek goddess of revenge] (#128) as stand-ins for Thanatos, but they are not the same (Kevlin 2023)

On the other hand, if astrology is considered causal, this implies it is a science or proto-science with the further implication that it promises to deliver. For example astrologer Egan 2017 says:

astrology in fact *must* be compatible in some fashion with science. Here, we are particularly talking about physics, since physics may be seen to be the 'root' science from which all other branches grow. For instance, psychology and astrology reference humans. Humans are products of biology, and biology comes from chemistry. Chemistry, in turn, is an expression of the physics that determines its laws. Ultimately, *all* parts of our world must fit together to form a whole.

But is it not clear what kind of a physical explanation could help us understand claims such as Mercury conjunct Pluto is related to intellect and curiosity, or Juno conjunct Jupiter is related to the ability to attract partners.¹¹⁰ Let's step back here and again consult Carter 1927 pp.13-14:

The peculiar characteristics of astrological forces appear to be...very penetrative, since no means has been found for screening their action...[they are] extraordinary in their subtlety ... for example, the forces depicted [at the time of birth] endure through life...[and are] possessed of great breath of action, inasmuch as they affect, directly or indirectly, man's mind, passions, emotions, body, and circumstances, as well as, probably the corresponding elements of animal and plant life...and also

¹¹⁰ There are no known scientific forces that could possibly account for **symbolic** astrological claims. If there were we would already know about them. Listen to astronomer (not astrologer) Christopher Baird 2013:

Fundamentally, there are four forces of nature: gravity, electromagnetism, the strong nuclear force, and the weak nuclear force. If an object affects a person, it must do so by interacting through one of these fundamental forces. For instance, strong acid burns your skin because the electromagnetic fields in the acid pull strongly enough on your skin molecules that they rip apart. A falling rock crushes you because gravity pulls it onto you. A nuclear bomb will vaporize you because of nuclear forces. Each of the fundamental forces can be very strong. The problem is that they all die off with distance. The nuclear forces die off so quickly that they are essentially zero beyond a few nanometers. Electromagnetic forces typically extend from nanometers to km.

Sensitive equipment can detect electromagnetic waves (light) from the edge of the observable universe, but that light is exceptionally weak. The gravity of a star technically extends throughout the universe, but its individual effect on the universe does not extend much beyond its solar system. Because of the effect of distance, the gravitational pull of Polaris on an earth-bound human is weaker than the gravitational pull of a gnat flitting about his/her head. Similarly, the electromagnetic waves (light) reaching the eye of an earth-bound human from Sirius is dimmer than the light from a firefly flitting by. If the stars and planets really had an effect on humans, then gnats and fireflies would have even more of an effect. Even if the gravity of the planets was strong enough to affect you, an alignment of the planets would not lead you to win the lottery for the simple reason that a **literal alignment** of the planets never happens in the real world.

From <https://wtamu.edu/~cbaird/sq/2013/03/23/how-does-astrology-work/>

Other potential explanations for astrological claims (gravity, magnetism, radiation) are critically examined in Dean *et al* 2022 pp.89-92. The response by astrologers is that many present-day accepted scientific views lacked explanations when they were first proposed. For example, McRitchie (2023b) says, "From history, there is the example of Ignaz Semmelweis, who understood the significant results of hand washing on the rate of childbirth mortality before discoveries by Louis Pasteur and Joseph Lister developed germ theory as the cause of infections. Also, Alfred Wegener described the origins of continents and oceans, which he called "continental drift," because there was significant evidence of it even though plate tectonics had not been discovered as the cause" (p.577). The difference from astrology is that later research confirmed these findings and there soon emerged plausible theories that fitted into mainstream science. But after supposedly several millennia, astrology is still deeply problematic.

to some extent **inanimate things**, and even abstract things [companies, nations, ideas]¹¹¹

Carter's view of astrology implies the possible existence of a causal network totally different from the one considered in everyday life and the sciences.¹¹² But if it existed it would have been detected by now. And it hasn't. In our world, events form a **closed** physical network that cannot be manipulated by non-physical means.

Further, the **strength** between celestial relationships and terrestrial events never changes. The only changes possible are in the way they manifest. Similarly relationships with the **symbolism** (mythological, word/image associations) of the planets ostensibly don't weaken over time. But no forces with these characteristics are known, and there is no hint of them existing or even what they could be like (Stoljar 2017). It also seems unlikely that such forces – even if they existed – could work systematically together in a way that would be seen as astrological claims.

Carter 1927 p.20 further reminds us,

It is customary to erect horoscopes for ships, houses, and other objects, the time chosen for such [horoscopes] being [any of] the laying of the keel, or cutting of the first turf, or the launching, or the moment of first occupation....here we reach a region which is, I think, beyond the range of the physical sciences.

Carter is saying astrology exists largely in the area of metaphysics, not science (see also Grof 2009). It is why wrong charts (which he doesn't mention) work, which is because every birth chart contains so many symbolisms that it will always produce a match after the event. In effect astrology is so rich that almost anything can be put to good use, which is why its factors can be multiplied without limit, see Dean *et al* 2022 p.88. It is why Austin Prichard-Levy 1982, then owner of Australia's largest computerised chart calculation service, could conclude after talking to astrologers that they live in a mental fantasy world,

a kind of astrological universe in which no explanation outside astrological ones are permissible, and that if the events of the real world do not accord with astrological notions or predictions, then yet another astrological technique will have to be invented to explain it (p.20).

Indeed, as previously noted, even tiny asteroids can supposedly play a significant role in people's lives, even though in causal terms such a claim is deeply problematic. Why would any asteroid be irrelevant until after it was **named**? Consider the four largest asteroids Ceres, Pallas, Juno and Vesta, discovered within a few years of each other at the beginning of the 19th century, and named after female goddesses in the Roman (not Greek) pantheon:

¹¹¹ Carter's own view 1927, pp.15-18 was that the astrological forces are **not** physical, but rather a phantom force – some occult or psychic force set up by a 'prime mover' (a god of some sort). How could such non-physical forces affect physical things? For a discussion of such non-physical causes in the context of mental causation see Robb & Heil, "Mental Causation", *The Stanford Encyclopedia of Philosophy* (Summer 2019 Edition), E.N. Zalta (ed.), URL <https://plato.stanford.edu/archives/sum2019/entries/mental-causation/>. The issues discussed by Robb and Heil also apply to non-physical causes in general. For a useful discussion of values in science and the occult, including problems with the latter, see Grim 1990.

¹¹² This would also be unacceptable to many theists (eg Craig 2003) who would contend that, **after** God's creation of the universe, the universe is a self-contained causal network.

Their discovery has been synchronous with the rise of the women's movement in the West. These four asteroids seem to symbolize four different facets of the feminine and represent a fresh way of regarding the feminine in astrology (<https://www.astrograph.com/learning-astrology/asteroids.php>)

If four asteroids can somehow 'represent' four dimensions of the feminine, who can complain about the use in astrology of hypothetical (non-existent) planets, distant black holes, pulsars, and quasars?¹¹³ Never mind that none of this 'representing' fits what we know about the universe.

Why theory is needed

Without a well-developed theory of astrology that ties everything together, astrologers have no clear way of avoiding the present mess, nor can they throw anything out. The need for a theory is urgent for astrologers who see astrology as some kind of science or at least falsifiable. This is a problem noted by Charles Carter (1927) almost a century ago,¹¹⁴ but it is still unresolved.

To get around the lack of a physical mechanism, claiming that 'the cosmos just reflects what is happening on earth' seems to require some kind of god who either set everything up in advance, or has to keep interfering to keep the show on the road. Which actually explains nothing. The veneer of profundity disappears when we try to make sense of it.¹¹⁵ Despite our best efforts, the words fail to help our understanding of whatever is going on.¹¹⁶ But somehow it connects happenings in the heavens with the individual happenings of eight billion people on earth, plus

¹¹³ Many astrologers argue that, because the moon causes tides and we are 60% water (actually about 60% for adult men – more if lean, less if fat, since fat contains less water than lean tissue – and about 55% for adult women, very slightly more for teenagers). the moon causes tides in us, which therefore supports astrology. But tides are caused by the *difference* in gravitational force across the target body. So the moon will have no effect unless you are as big as a planet. If it did have an effect you would notice it in a glass of water. New and Full Moons have similar tidal effects, so if they differ in astrology it has nothing to do with tides. See the error repeated in *The Physics of Astrology Explained* by the Astrology News Service, Sept 19, 2017.

Note that if every claim about heavenly effects on the earth was suddenly unfounded, it would have absolutely **no effect** on astrological practice (Kelly & Dean, 2000). There is no known physical way (gravity, magnetism, radiation, quantum effects) that the symbolic claims of astrology could be true. Nor are there any serious advanced, defensible non-physical explanations – synchronicity as used by astrologers is a label, not an explanation. McRitchie doesn't see this as a problem since he bypasses this requirement by appealing to talk of *effective* information (presumably personal experience): "astrology research does not depend on traditionally understood physical causes and mechanisms ... it is the effective information that emerges according to [astrological] theory that is significant. When models of effective information are applied to the data, it is hard to argue with the facts" (McRitchie 2023 p.576). He is repeating a popular argument – if it seems to work then it does work.

¹¹⁴ A common argument made by astrologers is that theory isn't important because many views in science were adopted before there was an adequate theoretical understanding. The example usually given is that of continental drift. However, the comparison is not helpful. Unlike astrology, continental drift did not require a supernatural element, see Oreskes 2019 for an extended discussion. The views that prevailed in continental drift before a theoretical understanding was achieved have since changed dramatically. but nothing has changed in astrology. The UK astrologer Michael Harding (undated) says, "I need no theory of the birth chart in order to interpret it, merely an awareness that people with Mars in X and Venus in Y tend to present in similar ways". However, many astrologers differ in their awareness from Harding, in the same way that a Vedic astrologer in India will differ. If awarenesses differ, can they all be accepted as useful? Talk of awareness is therefore not helpful. Brockbent 2015 emphasizes the primacy of an astrologer's lived experience. See Hsiao 2021 for critical comments on this view.

¹¹⁵ Given that there is an unimaginably large number of diverse happenings going on at any one time in the life of humans, animals, ecologies, planets, solar system, stars and universe, it seems to lack sense to talk about 'the quality of the moment' as if some uniform discernible underlying pattern was applying everywhere to everything at the same time. It also seems somewhat puzzling (to say the least) that 'the quality of the moment' tells us about individual people when, at the same time, a planet will form a positive configuration for some people, a negative one for others, and none at all for still others.

¹¹⁶ Some astrologers appeal to the notion that some microscopic random events are causeless, and that somehow this applies to astrology. That involves one large jump, which is made worse when astrologers around the world appeal (on the same grounds) to their very different local astrological beliefs. A number of essential supporting steps are missing.

animals, institutions, and ideas. You cannot ask how it does this because the outcome is only archetypal (a fancy word saying heavenly connections cannot be known until after the event).

Put like this, it should be clear why astrology works – it works because astrologers and clients make it work by picking the apple that happened to be good from all the bad ones, which led you to conclude that all apples, when properly picked, are good. The experience of a match was so life-changing and so persuasive that nothing else mattered. The need for a theory was ignored.

However, a major advance was made in 1996 by a joint study involving a total of 10 astrologers, philosophers, and scientists (including Kelly) addressed to 'Theories of Astrology' *Correlation* 15(1), 17-52, 1996. It began by pointing out that the principle 'as above so below' would (if supported by plausible evidence) be an acceptable *theory*, whereas the idea 'Leos are generous' is not a theory (it explains nothing) and is only a weak *hypothesis* available for testing.

If astrologers want to minimise uncertainty and escape from an astrology that is "almost as confused as the earthly chaos it is supposed to clarify" (astrologers Dobyns & Roof 1973 p.4), then a good workable theory is needed. Or as leading US astrologer Rob Hand 1987 puts it,

the time has come for us to examine the bases of astrology in a scientific manner, to cast aside obscurantist attitudes and to reveal to the world the usefulness and spiritual merit of what we are exploring. If we do not, then what we have to offer will be for naught. (p.23)

Elsewhere Hand 1988 suggests that

[astrologers] must evolve a theoretical framework [that] allows the derivation of astrological principles. Right now we are stuck with the 'anything goes' approach to astrology. (pp.119, 123)

The *Correlation* group decided on these five guidelines (pp.17-20):

- (1) Astrologers and scientists need a **good testable theory** of astrology to guide their enquiries, to gain the attention of scientists, and to resolve philosophical problems.
- (2) In **broad terms** a theory of astrology has to explain how astrology is perceived to be accurate, or is at least perceived to work.
- (3) **Existing theories** are causal theories, which are immediately useless if astrology is deemed to be non-causal.
- (4) Therefore the **challenge** is to develop useful non-causal theories.
- (5) A **useful theory** must explain the observations, lead to testable outcomes, improve on existing theories, and not contravene known science

Non-causal theories are easy to categorize but hard to specify. Possible candidates are:

Spiritual theories (astrology deals in soul stuff, things other than the material). Except the spiritual world has always been manifest in the material world, which effectively makes it a causal theory, and cases where there is no living body – and therefore no soul as in companies and ideas – would deny astrology could be soul stuff.

Psychic theories (astrology works due to the psychic gifts of the astrologer), which means that tests will automatically fail if the astrologer is excluded. Another problem, at least in principle, is

that birth charts are not needed.

Magical theories (astrology is a system based on magical correspondences), which assumes that things similar in some respects are also similar in other respects, as in Mars is red, therefore Mars = blood. Except there is no obvious way of distinguishing magical correspondences from non-magical correspondences.

Clock theories as in synchronicity and time quality. If each moment of time has a quality that impresses itself on whatever is born or done in that moment, then everyone should tend to laugh or cry in unison. And when it rains here it rains there. (All of the above is from pp.22-24 26-29)

So far the prospects do not seem good. Except for the next candidate:

Information theory to the rescue

The basic idea is that information can be treated much like a physical quantity such as energy. But unlike energy, which is the stuff of causation, information is weightless and energyless and therefore does not need to involve causation. Information theory is applicable to all kinds of information regardless of topic. It is one reason communication is possible. It measures the *quantity* of information, **not** its meaning or value, and requires only that the information be composed from a given set of alternatives, like letters in an alphabet or words in a language or flags in a semaphore, otherwise nobody could understand it. All of which (at least in principle) makes it ideally suited to astrology.

The information content of a message or picture or birth chart can be measured by the number of yes/no instructions or bits (0s and 1s) needed to construct it, one bit being the information needed to decide between two equally-probable alternatives. The number of bits needed depends on whether the information starts from scratch, like telling a dot matrix print head which pins to fire for an 'A', or is encoded, like telling the print head to print the first A-Z character, which is more economical and more like astrology (think of a list of chart factors).

In general the number of bits required to identify a word is $W \cdot \log_2(N)$ bits where W = length of word and N = number of available characters. For a 6-letter word in English like 'energy' this is $6 \cdot \log_2(26) = 28$ bits. Similarly to identify a given playing card out of 52 takes $\log_2(52) = 5.7$ bits, which seems surprisingly efficient. In a birth chart, to identify planet and house positions (say $N = 18$) to the nearest degree ($W = 360$) takes $360 \cdot \log_2(18) = 1501$ bits. It then gets complicated.¹¹⁷

Examples of many bits: an A4 page 12 pt Times single-spaced takes $\sim 2 \times 10^4$ bits, human DNA $\sim 10^8$ bits, a major national library $\sim 10^{13}$ bits. Nearer to astrology, total stars in the universe $\sim 10^{20}$, of which "one star in five has an Earth-like planet orbiting it at a distance from the star to

¹¹⁷ Because astrology is about meaning, not chart positions. The total number of **possible** chart meanings at one per A4 page is likely to require a stack of paper many times heavier than the universe. But to select just one meaning takes only 620 bits, a notable saving over 1501 bits. Nevertheless to **receive** information there has to be some kind of carrier wave, just as without sound and light waves we couldn't hear and see. For our purpose they need not be physical waves but they still need to have frequency and amplitude else they would not be waves. And only when one or both vary can information be carried. If for the sake of discussion the highest frequency available 'above' is taken to be planetary diurnal frequencies of about once a day, it turns out that to transmit just 620 bits would take more than a month (pp.25-26,43) turning all talk of birth times and quality moments into no-go areas. For more details and worked examples see the original in *Correlation* 1996, 15(1). 24-26, 40-43, 50-52.

be compatible with life as we know it" (Stephen Hawking 2018 pp.72-73). Assuming as few as 1 in 20,000 of those planets has a population of a billion with at least one astrology, there are at least 10^{15} astrologies out there whose symbolism is being delivered faster-than-light in a single moment of quality time to give a supposed exact fit with each of 10^{21} recipients. Now look at what bits-vs-astrology can tell us:

To keep it simple, the key point is that the **information content** of an interpretation cannot exceed the **information content** of the symbol, in the same way that a railway timetable cannot tell you more than departure times, nor can the opening of theatre curtains tell you about the play that follows. Here it is of no concern if the interpretation is wrong or is grossly after-the-event. Only bits matter. Suppose your birth chart has an angular Mars (indicating *energy* 28 bits), and as a control you have an E score of 20 (indicating *extraverted* on an E scale of 0-24, which for convenience we'll also count as 28 bits). The first is communicated via a chart reading in quality time, the second by reading the instructions, and are respectively interpreted as:

Angular Mars "Reactions are quick, as a child you were probably quick tempered"
E score = 20 "Sociable, likes people and excitement, happy-go-lucky, impulsive"

Both occupy a total of 64 characters and spaces, or 301 bits, more than the original 28 bits – and this is before the first has to be further interpreted to fit just you out of 10^{21} different recipients. Here the constraints imposed by information theory, despite being non-causal, seem utterly incompatible with astrological claims. Astrology cannot possibly communicate anything useful.

Does this not also apply to E=20? Aren't we proving that tests for extraversion cannot possibly be useful? No, because an E score is based on large-sample tests of people whose extraversion has been independently assessed. So we know that E=20 is shorthand for what people with E=20 are like. But in astrology an angular Mars is shorthand only for what astrologers imagine. They never compare people with and without an angular Mars to find out what it actually means. Even Gauquelin was unable to determine its meaning other than it favoured certain occupations in less than 0.006% of the population (Dean *et al* 2022 p.165 find it was a social artifact). If astrologers now assert "sorry, science does not apply" (ie they know better than Hawking), can we believe it?¹¹⁸ In terms of information, bits necessarily apply. Even so, could this sudden nuisance be overcome via an underlying 'transcendental reality' or 'pattern of meaningfulness'?

Does a transcendental reality underlie astrology?

Let us examine what a 'transcendental reality' might involve, Carter 1927 notes that merely asserting that 'the heavens reflect earthly events' is not going to get astrologers very far. They need to explain exactly how it works and what is involved:

If we attribute the [relationship] of celestial and mundane phenomena to a simple fact of synchronism, surely we must seek a third overriding principle which orders and arranges both (p.8).

¹¹⁸ The *Correlation* joint article on information theory received no comments. The nearest came from astrologer Ken Irving (1997), who complained that joint articles were not refereed and therefore did not justify attention. The response in the same issue pointed out that refereed articles are an *adversarial* approach that could still leave issues unresolved, which was not helpful for readers. In contrast, joint articles are a *consensual* approach where the writers and referees collaborate on resolving points of disagreement, so the interests of readers come first. To date there have been no follow-up comments. A final joint article on new directions for research that would actually be helpful for working astrologers was cancelled unseen in 1999 by a new editor.

Carter is claiming an 'ordering principle' is required to keep everything on the rails. Bear in mind that we are not talking about a causal relationship involving physical planets but a non-causal relationship involving symbolism. Proposals varied. Carter proposed that an Aristotelian 'prime mover' set up the reflecting (1927 p.8). Buck 2018 notes that Carl Jung believed a metaphysical reality accounts for all phenomena across all occult domains including astrology, numerology, I Ching, Tarot and tea-leaves (see Jung 1978 p.516; and Jung & Pauli 2001):

[Only] a pattern or order **underlying and supporting** all of creation, could account for the 'transgressivity' of matter and spirit experienced in synchronistic phenomena [which is] accessed in [the astrological birth chart] and other intuitive methods such as *I Ching* and *Tarot* (Jung 1975 p.141). Cited in Buck 2018 p.219. Bolding ours.¹¹⁹

Similarly astrologer Tarnas advocates "a conception of the universe as a fundamentally and irreducibly interconnected whole, **informed by creative intelligence** and pervaded by patterns of meaning that extend through every level" (cited in Klein 2008; see also Grof 2009 p.55). Such a view is an extension of Jung's idea of a global pattern of archetypes underlying both the human mind and all of physical reality (Jung 1978, Jung & Pauli 2001).

These appeals to a transcendental realm aim to provide a stronger foundation for non-causal links than anything based on science. So let's look at the numbers. For starters they involve very extravagant claims. How can we know they provide a foundation if nothing can be examined? How can symbolisms extend across a universe nearly 100 billion light-years in diameter unless they travels at speeds at least 100 billion times faster than light and are totally free of mutual interference to keep things in sync? Or is the transcendental realm confined to our solar system? Again, how would we know? How many more times must we ask such questions?

To avoid the need to travel faster than light, the universe could of course be subdivided into small transcendental sections, see Gott *et al* 2005. For example if each diameter was limited to 2 light-seconds the result would be $\sim 10^{27}$ small sub-universes containing a total of $\sim 10^{15}$ relevant planets (see previous section) all perfectly in sync under local control. But what keeps those 10^{27} sub-universes in sync? If you believe in astrology, then by definition you also believe that the transcendent carrier is serving 10^{15} relevant planets spread across 10^{27} sub-universes, simply because you have no choice – their non-causal linkage is necessarily part of the deal.

But of the 10^{15} symbolisms being carried around the universe at any given moment to service the 10^{15} relevant planets, each with potentially many millions of birth charts, what is the more likely – that you instantly picked the one symbolism that was actually yours and tossed out the rest (that's 999,999,999,999,999 symbolisms) as clearly irrelevant, or you have a vivid imagination?

Many astrologers not only contend that a transcendental reality exists, but also that **they** have some determinate conception of it.¹²⁰ Indeed, Tarnas 1987/2013 surmises that a metaphysical creative intelligence gave us astrology as a gift to make our lives go better:

¹¹⁹ How do we **know** that all of these 'patterns of meaning' are interconnected? On what basis can Tarnas say that they extend through every level of the same transcendent reality? Are they independent of each other or dependent on each other? How does he know this? How can anyone know this?

¹²⁰ One might compare what astrologers confidently say on such topics with the far more measured and reasoned debates on 'levels of reality' in philosophy and science, for example Hemmo, *et al*, 2022, and the entire April issue of *The Monist*, 105/2..

my sense of astrology is that the constant coincidence between planetary positions and human lives exists as a kind of **universal code** for the human mind to unravel, so that we can better understand ourselves and our world, rediscover our deep connection to the cosmos, and be more complete human beings.^{121 122}

From this viewpoint we might expect the transcendent reality to have provided people with a more universal astrology than the present diversity. But because we have no direct access to any transcendent reality, how could we ever know it actually exists? A question that Tarnas answers by attributing human pre-existence to a karma-controlled world (Tarnas, 1987/2013).^{123 124}

Interestingly neither Tarnas nor Grof consider their transcendent reality as having the traditional god of many Western religions, ie one that is 'all-knowing' and 'all-powerful'. Indeed, their transcendental reality could be a relay station underpinned by another supra transcendental reality, but who knows?¹²⁵ Also their god may not be a high god, nor a creator god, but just a local god.¹²⁶ That so many **unresolvable** questions arise regarding what is supposedly central to their astrology makes the whole idea problematic and for many people largely unintelligible.

Note that non-causal 'mirroring' does not function as an explanation but is only a word string used to put a superficial plausibility on an already suspect set of beliefs.¹²⁷ As we previously stressed, we have no idea how the transcendental reality works (for all we know it could exist outside of space and time and be completely unknowable) and seems to work by invoking one

¹²¹ Presumably, this means there is an underlying overall pattern of direction or purpose in history. This topic opens a large can of worms about whether history has an overall linear pattern of progress, or is cyclical, or has no overall pattern governing history. This alone is a large topic with diverging views ranging from history has no governing laws (eg Popper 1957) or is something else. Popper contends history is unique with no laws that allow future predictions; at most we can perceive trends. Gray, on the other hand, contends history is cyclical (see Erickson 2011 for Gray's view of history) and exhibits no signs of overall progress. Religious views, on the other hand, claim an underlying overall direction, but claim astrology plays no role in this (see Langford, 2019 for a review of this topic). In his earlier book, *The Passion of the Western Mind* (1993) Tarnas suggests there is an inner goal in the Western mind that has resulted in an evolutionary journey based on archetypal influences of nature revealing themselves through the human mind. For some (not all) critical comments on *Passion*, see 'Philosophy, Richard Tarnas, and Postmodernism (citizeninitiative.com)'. This earlier book sets the stage for his later 2006 *Cosmos and Psyche*.

¹²² What is considered a 'complete human being' varies across history with shifts in moral attitudes and beliefs. We would get very different answers from ancient Homeric individuals than from medieval Christians, and different again from people living today in the West. Also, why should Tarnas and his devotees think they have the same idea of a 'complete human being' as the astral intelligence does?

¹²³ Notions of transcendence have a long history and there are many different beliefs in transcendent realities. A good start on this topic can be found in Goris and Aertsen 2019 and Evans 2015. An extensive discussion of the many 'ultimate' models about what is 'most fundamental, real, valuable, or fulfilling' can be found in Diller 2021. Unfortunately Grof and Tarnas seem to believe their views on the topic are somehow more plausible (despite being without argument) than other possibilities.

¹²⁴ For an informative discussion of various notions of transcendence see Kutter, Schnitker & Gilbertson 2020.

¹²⁵ Appealing to a 'creative intelligence' or an 'astral-intelligence' is central to the psychological astrology of many adherents. It is therefore surprising to find such astrologers seem largely unfamiliar with modern theology and its literature. For starters, one might consult Oppy 2006 and Johnson 2022.

¹²⁶ Or perhaps the divergent astrologies across cultures were imposed by different culturally local gods. Indeed, perhaps the solar systems across the universe each have their own different demiurge (local creator).

¹²⁷ Readers with even a rudimentary background in philosophy will recognize similarities to Occasionalism (mind and body are linked by God) and Parallelism (mind and body events are non-causally linked).

mystery to explain another – which is what 'mirroring' is in the first place. Perhaps the guiding intelligence supposedly underlying 'as above so below' has its own agenda.

It is also difficult to invoke a 'universal code' in view of the many differences in what different astrologies consider important. An acceptable explanation would of course provide useful guidance about which astrological factors to include or exclude, and their weights. But much of this is already set by tradition.¹²⁸ And weighting has its own problems.¹²⁹

To further illustrate the problems associated with an unobservable transcendent reality, here are some more unanswered questions, necessarily with little attempt to answer them.

How does the transcendental carrier cope with the cacophony of symbolisms from astrologies around the world?¹³⁰ And how do they keep the various star systems from contaminating each other?¹³¹ Did mirroring exist from the beginning of the solar system 4.5 billion years ago, or did

¹²⁸ McRitchie 2022 p.708 tells us, astrological 'weights' are often determined "where, for example, the Sun and Moon are given more weight and the outer planets are given less weight. Further, planets with astrological properties that suggest dominance in an effect [are given more weight]". The ideas of astrological symbolism are evident here. In the first sentence, distance from the earth, while usually irrelevant in astrology, suddenly becomes relevant in weighting effects. In the second sentence, the mythology and semantic symbolism is used to determine factor weights.

¹²⁹ Weighting of course assumes that factors in a birth chart have an objective quality that allows weighting in the first place. Traditionally there is already built-in weighting in many areas. For example close aspects are stronger than wide aspects, and planets are stronger if in their own sign or on an angle. But appeals to non-causality and archetypes pulls the rug from under any attempt to impose order, and in effect the only rule is "anything goes as long as it fits". In a group of astrologers there may be little interest in consistency, all following their pet approaches. Regardless of errors, few are known to change their minds,

¹³⁰ While Mars in the West is associated with war,

The Maya ...went to war by the sky ...triggered by the planet Venus. Venus war regalia is seen on stelae and other carvings, and raids and captures were timed by appearances of Venus, particularly as an evening "star".
Warfare related to the movements of Venus was, in fact, well established throughout Mesoamerica (Canadian museum of History)

¹³¹ Grof 2009 p.63 provides an astrological version of the design argument for an astral divine mind:

The connections revealed by astrology are so complex, intricate, creative, and highly imaginative that, in my opinion, they strongly point to a divine origin. They provide convincing evidence for a deep meaningful order underlying creation and for a superior cosmic intelligence that engendered it.

Grof is defending the Western astrological tradition of Tarnas here. The selected astrological design seems weak when we consider the larger picture of the universe:

The vast majority of the universe is completely hostile to life, and where it does exist, it only exists briefly. Less than 5 per cent of the universe is normal (atomic) matter (the rest is dark energy and dark matter). Of that 5 per cent, most of it is free hydrogen and helium; and the rest is mostly stars. In the end, only 0.03 per cent of the universe comprises heavy elements (of which planets are composed), and only a tiny fraction of planets (perhaps only one!) house life. (Johnson 2022 p.11)

Another problem arises when we consider all the diverse, non-complementary astrologies across time and geography. How does this diversity result from astrological design? This 'argument' does not even get off the ground. The astrological designer could itself be a complex mind that needs explanation. The 'connections revealed' are also after-the-event fittings that guarantee a fit. The field of theology enters at this point. The argument seems susceptible to critical responses to the teleological argument found in any philosophy textbook (teleological means it is about *purpose* rather than *cause*).

All questions regarding the nature of this intelligence and its relation to evil and creation also arise. See Schellenberg 2019, Chs 7 and 8, and Johnson 2022a pp.14-17, Johnson 2022b, and Loftus 2021 on the horrors and violence found on our terrestrial planet,

it start only after the arrival of human-like beings perhaps one million years ago?¹³²

Was it like this for all inhabited star systems, each with their unique mirrorings?¹³³ Is there any reason to think one way or the other?¹³⁴¹³⁵ How does it decide whether updating is needed? What is its nature? How does it relate to religion? To the concept of God? What are its capabilities and desires? See Brogaard 2019; Firestone 2014; and Shapiro 2016 for philosophical and empirical critiques of transcendent views. And Craffert, Baker, and Winkelman 2019; and Winkelman 2021, for cognitive/neurological accounts of belief in the supernatural.

How can the supposed kindly attitude that this supposed 'creative astral intelligence' has for us, be reconciled with the imperfections and suffering of human beings and animals.¹³⁶ How does it

Crummett on the suffering of non-human animals, and Strickland 2021 and Calvo 2023 on the suffering of plants. Theological responses to evil are critically examined and undermined by Aiken & Ribeiro 2013. Frances 2023, see reference for a pdf, considers how much suffering is needed to cancel our belief in a benevolent God, and what he calls *The Problem of Absurd Evil*. These articles are just as relevant to talk of an astrological intelligence. After all, the astral god supposedly has the capacity to give us the basis for discovering details of our lives and for finding meaning therein, yet has made us incapable of seeing any intelligible meaning in a world dominated by inscrutable suffering. Unless of course there isn't any, So much for astral gods,

¹³² The latter would be more consistent with the archetype model advocated by Jungian-influenced astrological writers but only briefly touched on so far. For a more detailed discussion see under Jung's analytical psychology two pages ahead.

¹³³ According to astrologer Grasse 2021 the answer is Yes! Determining horoscopes for those born on other planets will require initially finding out the 'archetypal meaning of the body they were born on', and this will require knowing a lot about the planet itself and its place in the surrounding celestial systems to determine the relevant symbolisms. Why would extraterrestrial beings necessarily have archetypes? Their psychology could be quite different from ours (and perhaps AI based). Given the likely large number of planets in the universe that might contain intelligent beings, this means there could be untold billions of very different astrologies throughout the universe. Further, if we humans go to live on, or spend time on different planets, would we still be under the influence of where we were born, or bouncing back and forth among astrologies as we travel between planets or live for a long time on different planets?

¹³⁴ A question about **time** comes up here – if (non-extrapolated) future events can be predicted, however roughly, the future must exist now in some way. It is somewhat pre-loaded. Does this make sense? We are not talking here about mundane events like the sun rising next week, or that car accidents will kill people next year, which are extrapolations from past experience. Astrologer Robert Currey on his website prefers the vaguer term 'forecast' to the more precise 'prediction', But his 'forecasts' will still:

identify how the powerful long-range planetary cycles unfold in your life. ...in addition to the detailed annual projections, it provides a review of major influences over period of up to thirty months.
<https://www.equinoxastrology.com/forecast.htm> (accessed Feb 18, 2021).

However, does this astrological foreknowledge (however broad) limit to some extent our free will? Modern Western astrologers tend to avoid deterministic talk and so speak of the celestial configurations as offering opportunities and potentials within which people can exercise their free will. Fatalism is avoided, astrologers contend, by avoiding the claim that our behavior occurs by **necessity**. This is a complex topic and we refer the reader to Fischer and Todd 2015, or Boudry's review of Dennett & Caruso 2021 on "Just Desserts" in *Metascience* 30, 365-369, 2021.

¹³⁵ These are extravagant claims greatly in need of further explanation. What kind of 'whole universe' astrological symbolism would be appropriate here? How would any kind of astrological symbolism relate to the whole universe with all its divergent kinds of galaxies, astronomical entities and (likely) life forms? It is not clear that this kind of talk even makes sense, as in extending the symbolic talk of 'the same principle of cosmic symmetry' to the whole universe.

¹³⁶ A 'creative intelligence' could be indifferent to us, or immoral (from our human perspective). It could be an impersonal entity, or a non-divine, or divine, personal entity. Creativity is not confined to good deeds (see Law 2010). It could even be a kind of trickster. After all, according to some astrologers, things can seem unexpected in unwelcome ways. Astrologer Egan 2017 says

The secrets of the universe really *are* encoded within our beloved discipline [astrology]....The secrets seem to be *right there*, and yet the closer we approach and the more we try to pin them down, the more irritatingly they appear to slip away at times. An invisible cosmic jokester seems to be pulling the strings. We "knew" that our

explain the hostility of many scientists towards the claims of astrology.¹³⁷ If astrology is true and immensely useful why is it not universally popular and more widely used today?¹³⁸

Centred on human beings

The underlying assumption in astrology is that a transcendental reality is not only **centred** on human beings by providing meanings, guidance, and purpose to our lives, but is also **flawless**.¹³⁹ But why would a transcendent reality necessarily address what humans want it to address? Why would it necessarily re-enchant us? Even if it exists, it doesn't follow that it would be enchanting or even meaningful. Presumably the transcendental reality postulated by some astrologers is considered to be a more perfect domain than this earthly one, which of course is consistent with how most religious or spiritual people see it. But how do they know this?^{140 141}

Perhaps the astrological mirroring can be distorted, even if it originates in our minds and then interacts with the transcendental reality (Grof 2009). It means our minds can be distorted by illness and cognitive limitations. Question: Can our archetypes suffer similar distortions?¹⁴² Could this have consequences for astrology? How could we find out?

To answer these questions, and to hold together the notion of a pre-established non-causal harmony between celestial events and earthy events, astrologers will need to postulate some kind of extra-transcendental reality and some kind of extra-astral intelligence, both of which lie even

Saturn return was going to do this or that, and yet ... *pfift*. On the other hand, in regard to perhaps another transit: Wow, we certainly didn't see *that* one coming! So, *that's* what that aspect meant!

Or maybe, as the novelist Julian Barnes 2009 p.191 suggests, this astral intelligence is some kind of ultimate ironist – one who plants all sorts of longings and illusions of control (as in astrology) in undeserving creatures such as us, and then observes the consequences. For other possibilities, see Jenkins 2023 and Tokhadze 2021.

¹³⁷ Would it matter if we are living in a simulated universe? Perhaps the 'astral intelligence' is an alien mind, a future oddball or teenager, see Chalmers 2022 chapter 7. But Tarnas's astral intelligence seems less likely than Chalmers's simulator god.

¹³⁸ Astrologers may consider such questions unanswerable and not worth bothering with. But why? Theology faces such questions and deals with them, while the entire field of traditional metaphysics is addressed to such questions.

¹³⁹ A philosophical critique of notions of *purpose* common among psychological astrologers is in King 2021).

¹⁴⁰ It is interesting to note that while many of the archetypes reflect characteristics of the gods of Greece and Rome, the transcendental reality that includes the archetypes is supposedly not the bawdy, human-like reality that such gods populated. It has been cleaned up.

¹⁴¹ Notions of transcendent realities are typically connected with **positive** afterlife beliefs (after all, who wants to survive in an unpleasant afterlife?). Tarnas *et al* seem to rule out such unpleasant possibilities without argument. For relevant philosophical debates on the meaning of life and the afterlife see Metz 2021 and Hasker & Taliaferro 2019.

¹⁴² For those astrologers who reject scientific evaluations of astrology and adopt a 'metaphysical', 'philosophical', or 'spiritual' astrology (we suspect that the adoption of such views are made to make their standpoints more resistant to reasoned opposition), there are a **huge number** of possible astrologies. These are usually based on acceptance of authority and supernatural sources of claimed knowledge. As such, while scientific evidence may not be relevant, philosophical and theological critiques of the sources and notions of the transcendent and supernatural will be relevant (eg Firestone 2014; Johnson 2022c). Western astrology is already only one of a number of astrological systems across the world, but there are many other such possibilities once we reject scientific evidence as relevant for evaluating such astrologies. These possibilities may vary in the strength of the perceived relationship between the 'as above' and 'so below', or in what falls under the relationship, or what is included, and so on and on. Those astrologers who favour such a 'philosophical' astrology are faced with how to defend their favoured approach over the limitless number of possible alternatives. Simply saying astrology is a 'philosophical' or 'spiritual' position won't cut it.

further beyond our understanding. Which opens up even more philosophical problems.

Psychological astrology

The German philosopher Arthur Schopenhauer (1788-1860) was known as the *philosopher of pessimism*, which is evident in his comment "almost all of our sorrows spring out of our relations with other people" and on what was to become psychological astrology:

Astrology furnishes a splendid proof of the contemptible subjectivity of men. It refers the course of celestial bodies to the miserable ego: it establishes a connection between the comets in heaven and squabbles and rascalities on earth. **Arthur Schopenhauer** *Parerga and Paralipomena: Short Philosophical Essays* (1974, Oxford University Press) ¹⁴³

Psychological astrology can be differentiated from other approaches to astrology in that:

Rather than being about divinations or predictions, psychological astrology looks at the birth chart as a map of who we are, our life journey, our complexes, and can help us get a clearer picture of who we really are. It can help us work out our problems and clarify our goals (<https://www.psychologicalastrology.com/> accessed April 26 2021).

Jung's analytical psychology

Psychological astrology is often linked to the theories of Carl Jung (1875-1961)¹⁴⁴ who expressed a lifelong interest in the occult in general, and in Western astrology in particular.¹⁴⁵ A readable outline of Jung's long-time interests in astrology can be found in Buck 2018, and his

¹⁴³ Narcissism seems to be related to belief in astrology (Andersson, Persson & Kajonius 2022, Mikuskova & Cavojova 2020).

¹⁴⁴ Transpersonal theories and other psychoanalytic theories (Freud, Klein, etc) are also sometimes tied in with psychological astrology, although Jung is the most popular theorist among psychological astrologers. Other psychoanalysts (eg Freud) did not share Jung's positive views on astrology. Indeed, Freud's views on religion can be re-cast as a critique of astrology, see Smythe 2011 for Freud's views on religion.

¹⁴⁵ Other astrologers adopt a wide psychological view but place less emphasis on Jung. For example, McRitchie 2006 believes faithfully in all the calcified beliefs that other astrologers believe in (zodiacs, aspects, rulerships, and so on) but prefers to express these beliefs in a derivative psychology-speak, and tells us

... what are referred to as planetary influences do not come directly from the planets but rather are experienced through **projective interactions** with host individuals. In cases where the native is a non-living or non-material thing, the projections may be made on behalf of the native by interested parties. This projective view is an important clarification because the astrological concept of planetary influence is counterintuitive unless some sort of model of psychological projection is understood. In astrology, it is individuals who influence one another ... The Hermetic maxim, which is widely accepted in astrology, suggests that symmetrical processes mathematically associate microcosmic and macrocosmic features and **take precedence over causal mechanisms**. The astrological literature suggests that influences should be interpreted as interactions within these cosmological symmetries between individuals rather than between planets and individuals. (bolding ours)

Consequently, McRitchie adopts the view that the planets correlate with (not cause) the multitude of events on earth. Unfortunately, and typically, specifics are lacking. We need more information on the mechanisms underlying astrological 'projective interactions' (his article doesn't help much) and why we should take the 'as above, so below' maxim seriously. Just because the ancients did is no reason we should. Also, why should we take the vague suggestion that "symmetrical processes mathematically associate microcosmic and macrocosmic features and take precedence over causal mechanisms" as more than just a vague idea believed by astrologers? How do we get from vague talk of 'symmetrical processes' to the specific symbolism of astrology? McRitchie suggests it seems to be inferred from astrological practice over the ages! Where are the historical records showing this? McRitchie seems to base his astrological beliefs on traditional 'suggestions' rather than providing independent reasons for his beliefs. McRitchie starts with a preferred set of answers portrayed as authoritative, and never wavers.

writings on astrology are usefully gathered together by Rossi and Grice 2017.¹⁴⁶

Jung adopted the notion of *archetypes* to describe universal themes such as Father, Rebel, and Death supposedly transmitted via what he called the *collective unconscious* that was supposedly common to all people, and which was involved with *synchronicity*, where the same transcendental meaning (ie going beyond ordinary experience) arises simultaneously in both the human mind and an external event. Some Jungian psychologists today are working towards explanations that might better fit within modern science (see for example Goodwyn 2023).

A readable review of synchronicity can be found in Butzer 2021; see also Jackson 2021 and Sawyer 2018. Butzer 2021 suggests *synchronicity* is consistent with *panpsychism*, the view that all things are conscious or conscious-like, and that synchronicity may be one way this consciousness reveals itself in everyday life (p.31).¹⁴⁷ Unfortunately there is no widely-agreed definition of synchronicity, so more empirical research may advance a better understanding (pp.35-41).¹⁴⁸ Hogenson 2019, Roesler 2019, Buffardi 2021, and Goodwyn 2023 provide useful overviews of the notion of archetypes. Roesler says "even after more than 20 years of discussion in journals regarding the theory of archetypes, no fully satisfactory theoretical conceptualization is at hand" (p.682). Hogenson *et al* 2023 provide a useful overview of recent debates on Jung's views.

That said, psychological astrology is still very different from Jung's own analytical psychology. Astrological appeals to Jungian concepts involve unquestioned, often loose, and often opaque notions when compared with those debated by scholars in the analytic psychology community.

For example, the article by astrologer Grasse 2018 on exoplanet astrology involves much loose talk. Similarly various overlapping astrologies adopt a synchronicity-based mirroring approach, and throw around the concepts of 'collective unconscious', 'archetype', and 'synchronicity' in a vague and uncritical fashion. The notion of 'synchronicity', for example, is usually defined just as 'meaningful coincidences' before being rushed into print, while 'collective unconscious' and 'archetype' are equally murky.^{149 150} For example, Grof 2009, claims that archetypes

¹⁴⁶ A readable account of how contemporary psychologists view Jung can be found in Jones 2013. For some critical comments on Jung's views on astrology by an astrologer, consult Mike Harding 1992 and 2020. In an undated interview with Garry Phillipson, Harding says:

The truth, of course, is that Jung didn't even understand the precession of the equinoxes, or how that movement was built into the calculation of every birth chart, and thus made quite ridiculous remarks with regard to astrology. Everything was a 'projection' of the unconscious. Yet in his *Dream Seminars* he claims that nothing is ever projected and – most remarkably – that we don't have an unconscious. Jung's work is complex and often contradictory, and I don't have a sense that astrologers on the whole have really taken this on board.
<http://skyscript.co.uk/harding.html>

¹⁴⁷ Panpsychism has its critics eg Frankish 2021 and Kastrup 2022, Blaesi 2022 shows how arguments for panpsychism over-generalise to arguments for panmoralism, the view that all things have morals, which view is so problematic as to be absurd.

¹⁴⁸ Many astrologers seem to believe that non-causal correlations are beyond our conscious control. However, parapsychologist Mishlove 2021 suggests that we do have a measure of conscious control over synchronous events, which would mean that such events are not entirely non-causal. This would have serious implications for psychological astrology.

¹⁴⁹ For some criticisms of synchronicity and archetypes see Percival 1993, Nether 1996, Dean 2007 <http://www.astrology-and-science.com/b-cosm2.htm>, Winther 2012, Sawyer 2018, and "A critique on modern applications of Jungian archetype frameworks" <https://medium.com/@smtsr/a-critique-on-modern-applications-of-jungian-archetypes-frameworks-3b6f479ea419>. Buffardi 2021 contends the notion of archetypes is overly deterministic and not an accurate reflection of experience. A critique of

are timeless primordial principles underlying and informing the fabric of the material world – it recognizes a dimension of reality that cannot be detected by modern science. ... An important characteristic of the archetypes is that they are **not** confined to, and do not originate from, the human brain, but **operate from transcendental realms** and exert a synchronistic influence on **both** individual psyches and events in the physical world.' (Grof 2009 pp.51, 54).¹⁵¹ Bolding ours.

Contrary to the views of many analytical psychologists, Grof claims that archetypes can exist other than in the mind. But if they are 'timeless', how do they 'underlie and inform' the material world? If they occupy a dimension of reality beyond science, how do we know they exist? Just **asserting** that archetypes 'originate from transcendental realms'¹⁵² and 'exert synchronistic influences', and are a 'dimension of reality undetectable by science' hardly gets off the ground. It merely describes what requires explanation. Questions can be multiplied indefinitely.

But astrologers who embrace Jung's ideas seem unconcerned. Their readings satisfy their clients and that's all that matters. If in theory parts seem to require explanation, that is the way it is. The sky moves in mysterious ways, so just get on with it. It is not an excuse to ask trivial questions, for example about whether a minimum level of consciousness is required for the heavens to reflect events on earth.¹⁵³ How will that improve the readings their clients are paying for? That said, the questions won't go away. They go on and on and on. Here are just a few more::

Archetypes supposedly reflect the characteristics of many different gods from different cultures across the world. Presumably different cultures interpreted the same archetypes in terms of their own cultural symbols, But are they all equally right? Are some archetypes in some sense better than others? How do these archetypes get into (or relate to) our minds in the first place? How do they connect with cosmic events and their interactions between planets if the events and interactions are not directly observable?

Pluto and Chiron were not discovered and named until 1930 and 1977 respectively. Did the archetypes arrive in our minds only afterwards, as some astrologers suggest, or were they latent in our minds all along? How would we know? If only parts of our brains interact with transcendental reality, are brains not fully physical, unlike other parts of our body? How do transcendental archetypes and physical bodies form a single unit?

Jung's notion of the collective unconscious can be found in Mills 2019. For a critical take by astrologers on psychological astrology and Jung, see Revilla 2008, and Dean *et al* 2022 pp.443-475 and 528-530.

¹⁵⁰ It is also important to consider the racial and colonial underpinnings of much of Jung's thought when considering archetypes and the collective unconscious as universal to all human beings. For more see Johnson 2020.

¹⁵¹ Many modern Jungians would **not** contend that archetypes originate from 'transcendental realms'. Their debates often address biological issues such as archetypes vs the genome. For example see Goodwyn 2020, Merchant 2021, and Goodwyn 2021.

¹⁵² The word 'transcendent' typically means '**beyond** human experience'. However, Laches 1997 defends notions of transcendence being **within** human experience.

¹⁵³ The notion of 'consciousness' expressed here is one where consciousness is associated with organic (or perhaps inorganic) minds of sufficient complexity, and resides in the brain (Vogelstein, Vogelstein, & Priebe 2011, Johnson 2018). Panpsychists would disagree and consider consciousness a fundamental component of everything throughout the universe. It is not clear whether talk about archetypes as partly tied to a transcendent reality can add to the view that they are entirely contained in the brain. A useful overview of the nature of consciousness can be found in Kind and Stoljar 2023.

Do archetypes relate only to human minds? Do some animals have rudimentary archetypes? Are archetypes exceptional in not being subject to evolution? If so, what about things like companies and nations that aren't conscious and don't have archetypes by definition? If this was not an issue before humans arrived on the scene, how were symbolic connections subsequently made despite their continually changing complexity and form? Did they have to reach a certain level of complexity before astrological symbolism could be relevant? And what about future changes in human makeup where we possibly merge with artificial intelligence or achieve radical longevity, intelligence, and possible changes in personhood?¹⁵⁴ How would we ever find out?¹⁵⁵

Tarnas's archetypal astrology

The Jungian-influenced archetypal astrology of Swiss-born astrologer Richard Tarnas, who is also professor of philosophy and depth psychology at the California Institute of Integral Studies in San Francisco, is an attempt to produce a coherent system (Tarnas 2006, 1987/2013). But even here there are many problems and a continuing flow of unanswered questions.

Just for starters his astrology usually focuses on isolated factors and ignores the rest of the birth chart, which to most astrologers is an inexcusable sin of the worst kind. It is astrology's #1 rule, a firm tradition, and also common sense, that only the **whole chart** can be used, otherwise chart interpretation is reduced to picking tomatoes out of a pizza and calling it tomato pie. This alone would justify astrologers dismissing Tarnas's claims out of hand.

Similarly Tarnas invokes mythic gods that have many characteristics, but selects only those that happen to fit. One might also question the extent to which astrological symbolism plays in an archetype. Does it determine all of it or only the most important parts?¹⁵⁶ What role do other symbolisms play? What allows them to operate together? Questions we have asked before.

Such questions underlie a fundamental debate in psychology – is the diversity observed in humans around the world due to a *common psychology in different environments*, or simply to *different underlying psychologies*, for an outline see Schulz 2023. Here the problem is that even a positive answer would not straightforwardly support any particular archetypal claim.

Since it seems likely that astrology is regionally and culturally determined (Steinmetz 2022), do different groups of humans have different archetypes rather than having the same underlying archetypes expressed in different ways? In which case does archetypal astrology work better for

¹⁵⁴ Psychological astrologers tend to the view that personal identity involves continuity. What if a client at age 35 gets radical personality enhancements that result in a **different person**? Would the change show in the birth chart like any other event like a burglary, or is the change so transforming that an entirely new chart is needed, perhaps based on the date of enhancement.,

¹⁵⁵ It is again likely that astrologers would appeal to some arbitrary 'date-of-birth' and go from there using traditional celestial configurations and techniques. It is likely that the astrological myth about centuries (or even decades) of astrological observations and discussion would lead the way. After all, **what** observations would be made and how would the discussions progress? See Turner and Schneider 2020 for a pertinent discussion of possible merging of human beings with AI and personhood concerns.

¹⁵⁶ A check of astrology sites shows that psychological astrologers seem to tie-in archetypes with pretty well all of astrology, including astronomical illusions such as *retrograde planets* (<https://schoolofevolutionaryastrology.com/articles/evolutionary-meaning-retrograde-planets/>, accessed April 2, 2021), *asteroids* (https://ursalasimia.tumblr.com/post/181462272733/asteroids-and-their-female-archetypeshow-to-is-related_post=1, accessed April 2, 2021), and *zodiac signs* (<https://kathrynocking.com/the-12-archetypes-of-the-zodiac/>).

some people than others, and how would we know?¹⁵⁷

Tarnas 2009 suggests some planetary archetypes emerged when planets were first discovered::

In retrospect, the discoveries of Uranus, Neptune, and Pluto appear to have coincided with the emergence of three fundamental archetypes into collective human experience in a newly constellated form, visible in major historical events and cultural trends of the eighteenth century (Uranus), the nineteenth (Neptune), and the twentieth (Pluto) (p.48).

Most historical events are a mixture of events and trends going on at the same time. Exactly how does a *mixture* give rise to archetypes? Further, modern archetypes as applied in Jung's analytical psychology seem to differ from the 'primordial principle' archetypes postulated by Grof. Indeed, Tarnas's psychological astrology sends both our pattern-recognizing abilities and apophenia (seeing patterns where none exist) into overdrive (for more on apophenia see Love 2023). It would help if such considerations were clarified in the archetypal astrological literature.¹⁵⁸

Tarnas 1987/2013 raises a key question and gives his preferred answer:

But why should the cosmos have established a systematic correspondence between planetary patterns and archetypally patterned phenomena in human lives? There are many possible answers to this question, not the least of which might point toward a kind of intrinsic **aesthetic splendor** in the universe, an overflow of **cosmic intelligence and delight** that reveals itself in this continuous marriage of mathematical astronomy and mythic poetry. But in more pragmatic, human terms, my sense of astrology is that the constant coincidence between planetary positions and human lives exists as a kind of **universal code for the human mind to unravel, so that we can better understand ourselves and our world**, rediscover our deep connection to the cosmos, and be more complete human beings (bolding ours).

These are claims of personal belief greatly in need of explanation and justification. How do we know the astral intelligence shares our **human** notions of 'aesthetic splendor' and 'delight' along with our pain and pleasure? His description moves very close to a person-like God.

According to psychological astrologers, archetypes are not fixed or pre-determined and can express themselves in almost unlimited ways. They can manifest in different ways in different cultures and periods, and are therefore hard to pin down (Steinmetz 2022). The collective unconscious is equally hard to pin down because there is little or no attempt to unravel the

¹⁵⁷ The 14th century philosopher Thomas Aquinas suggests **wise people** are affected by celestial relationships far less than ordinary people, and that women are more susceptible to such influences than men (Leone 2022). In the 20th century, "Alan Leo thought you could make definite astrological predictions, but only for people whose lives are **dominated by fate**. As soon as people develop any self-awareness, there's no point in making predictions for them because the predictions wouldn't come true since people are directing their lives" (from Brennan with Nick Campion 2017). Could these views be proven wrong?

¹⁵⁸ In the old days a chart averaged 40 or so combinations of planets/signs/houses/aspects. But today just for starters astrologers can choose from an explosion of factors – many more aspects, plus declination midpoints, East Point, Co-Ascendant, Co-Vertex, nonagesimal, perigees, perihelia, interfaces, eclipses, lunations, comets, meteors, a dozen satellites, more asteroids, more hypothetical planets, a hundred more parts, radio sources, galactic elements, a few hundred fixed stars, plus a locality chart, sidereal charts for various ayanamsas, a mundoscope, a horizon chart, charts in various orbital planes, a heliocentric chart, 16 pre-natal charts, and several dozen harmonic charts, each interpreted via a dozen different house systems. Since each factor has been seriously proposed, none can be seriously omitted. Which are associated with archetypes, and which not? (Patrick 2020 p.134).

contributions made to it by nature and nurture, and their interactions.¹⁵⁹

Finally, Tarnas's view is made within his background rejection of much of science and philosophy as *disenchanting*. But nothing follows from this about astrology, see Law 2020.¹⁶⁰ Grof 2009 builds on this disenchantment:

Western science portrays the universe as an impersonal and largely inanimate mechanical system, a super-machine that created itself and is governed by mechanical natural laws.¹⁶¹ In this context, life, consciousness, and intelligence are seen as more or less accidental products of matter. By contrast, the basic assumptions of astrology are that the cosmos is a creation of superior intelligence, that it is based on an inconceivably intricate deeper order, and that this order reflects a higher purpose.

The 'inconceivably intricate deeper order' that 'reflects a higher purpose' hardly provide an intelligible 'basic assumption' for astrology. Further, the view that a dominant role of science in our lives decreases our awe and wonder is challenged by De Cruz 2024 who contends that science does the exact opposite by continuously opening up new sources of wonder for us.

Further, worldviews and philosophies do not divide neatly into views that are either mechanistic or reductionistic¹⁶² or astrological. After all, why should cosmic meaning be largely focused on human beings when humans arrived very late on the cosmic scene?¹⁶³ There is also a spectrum of possibilities here (see McGhee 2021 and Lyons 2022), only some of which accept the notion that 'the cosmos is a creation of superior intelligence' but do not endorse astrology.

Thoughtful readers might enjoy the writings available at the *School-of-Life* (<https://www.theschooloflife.com/>).¹⁶⁴ See also Bloom 2021, Baggini 2005 and 2021 Ch 4, May 2015,

¹⁵⁹ A critique of Tarnas can also be found in Broadbank 2011 Ch 11 pp,56-276. For a lengthy critique of Tarnas see Heron 2008, and Dean *et al* 2022 pp 372-375.

¹⁶⁰ The discussions in astrology about the failures of materialistic science are often quite naïve. See Oppy 2018 on naturalism (nothing exists beyond the natural world so supernatural explanations cannot apply) for issues that overlap with astrology.

¹⁶¹ This could be just be an unpalatable truth about the universe, see Furnham 2023 for some interesting reflections on this topic. Perhaps that's the way the world is, and we have to live with it (Weinberg 2021). Just because Tarnas and Grof don't like it is not a good reason to conclude otherwise. People might also prefer a universe in which they get terminal diseases by chance, or by physically identifiable reasons, to a universe in which a god exists but looks the other way when most needed.

People respond to such disenchantment talk in different ways. John Gray 2020 would accept what Tarnas says on disenchantment, but he would welcome it as both a realistic and more acceptable view than problematic illusions. Kahane 2022 takes a different view and contends that the indifference of the universe toward us is a condition of our existence, so we still lose even if the universe was not indifferent toward us. De Sousa 2019 contends that temperament plays a role in how we consider meaning in our lives. The reader should be aware of the ways that **modern mechanism** in philosophy of science differs from the earlier versions that Grof 2009 describes, see Craver & Tabery 2019. And see Mizrahi 2023 for a defence of the view that science, contrary to Tarnas and Grof, provides our best knowledge of the world,

¹⁶² Astrologers use 'reductionism' (reducing complexity to its components) as a scare tactic (as in science = scientism) and show little understanding of it. For a recent defence of metaphysical reductionism, see Rosenberg 2020.

¹⁶³ In the context of cosmic meaning, some would see the focus on human beings as a form of speciesism (humans are superior to animals) that only makes sense in some religious contexts. See Ruse 2021 Ch 1 for more on this, and Bruers 2022 for a critique

¹⁶⁴ See also Deary 2024 for a useful overview of the stresses of human life, and the everyday stress levels due to juggling different jobs, debts, caring responsibilities, trauma and regrets. Deary is a clinical specialist dealing with ways people can be overwhelmed by various events in their lives.

Hagglund 2020, Vaughn 2022; Wielenberg 2022, Steinhart2020; Crosby 2022, and Johnson 2023. Metz 2021 provides an overview of philosophical thoughts on meaning in life.^{165 166}

One might also challenge the view of both Tarnas and Grof that astrology fills the universe with meaning,^{167 168} which they claim is supported by evidence of 'massive correlations' between planetary configurations and terrestrial events.¹⁶⁹ But the supposed evidence is merely the result of relentless cherry-picking and quickly collapses when viewed under controlled conditions.¹⁷⁰ It means that no amount of philosophy can save their already problematic view.

Making astrology fit by psychology

Given the way Tarnas describes his astrology, it is not surprising that clients of Jung's analytical astrology are satisfied – it is set up from the start to never be seen as wrong.

First of all, contrary to the claims of some Western astrologers (and contrary to most Eastern astrologers), Tarnas holds that specific predictions of events are not possible because astrology is only 'archetypically predictive' – ie it gives a variety of indications that can play out in various ways matching the symbolism, none of which can be known until after the event (Tarnas 2006). Why astrology should be better than guessing is not clear. See Glen Perry 2017 for the many ways psychological astrology can manifest itself and avoid refutation or examination.¹⁷¹

¹⁶⁵ There are **cultural differences** in what people consider important in life. Metz (2020) looks at African views which rely less on transcendent concerns and more on promoting community among people and on increasing their vitality.

¹⁶⁶ Talk of meaning-in-life overlaps with notions of well-being, or what is generally-good-for-us. This is a central concern of positive psychology. A useful down-to-earth discussion of five models of well-being and their overlaps can be found in Margolis, *et al* 2021. Astrology has nothing of substance to add to such discussions.

¹⁶⁷ While strictly naturalistic views will not be compatible with enchantment, this is not the case with other varieties of naturalism such as liberal naturalism (or soft or non-reductive naturalism) which allow norms and values to be genuine parts of nature (see Spiegel 2022 for more on this topic.)

¹⁶⁸ Recuber 2023 suggests that our digital media can help re-enchant us by 'resurrecting' the dead through digital media.

¹⁶⁹ Astrologer K Bye 2022, in an after-the-event analysis, ties outer-planet cycles to the evolution of Virtual Reality technology, while Butler 2022 ties cycles in the cosmos to the formation of the solar system and life on earth. But astrologers of all persuasions engage in similar analyses and always find the correspondences they want to find.

¹⁷⁰ In his detailed review of *Cosmos and Psyche*, Dean 2006 notes how:

Tarnas dismisses statistical studies as "methodologically inadequate for ... the astrological tradition" (p.76), which lands him in deep trouble. For example, among five outer planets there are ten possible pairs, of which Tarnas considers six. He seems unaware that, under his rules, each pair is in aspect nearly 80 percent of the time. So there will nearly always be several pairs of aspects during any historical event, of which there is an almost unlimited supply. ... Since a whole pageful of words may be insufficient to describe the astrological possibilities of each pair, finding a correspondence in all this mess will be even easier than seeing faces in clouds, and just as meaningful. ... Tarnas does not use controls or even hint at their importance. Such an abuse of elementary reasoning might be forgiven in a newspaper horoscope, but it is inexcusable in a Penguin Viking book by a professor of philosophy. ... One final distressing feature of Tarnas's book is its hostility to readers. Tarnas seems incapable of writing concisely or vigorously or of organizing his material coherently. ... Indeed there seems to be nothing so concrete that Tarnas cannot render it vague and abstract (pp.57-58)

One might note that, at the time, *all* of the many reviews on amazon.com of *Cosmos and Psyche* were highly positive.

¹⁷¹ Psychological astrologer F Paiva 2021 contends,

One might note the specific examples given by Tarnas misrepresent what many Western astrologers believe, namely that astrology provides only guidelines or possible outcomes, not detailed specifics. Nevertheless, the huge variety of ways an archetype can manifest, none knowable until after the event, make Tarnas's approach essentially nonfalsifiable (see Kelly 1997/2005 for more on this topic). It is one thing to **make** an approach fit the evidence, and quite another to claim (as Tarnas does) that the fit **confirms** the approach.

One way to avoid this is to have successful risky predictions (see Law 2011 Ch 2), but this possibility is ruled out in advance by Tarnas because astrology is only 'archetypally predictive'. The net can't get much wider than that!

For more on the importance of both falsifiability and respect for disconfirming evidence see Arp *et al* 2019 pp.403-406; Sfetcu 2019, and Courtland & Blocks 2020.¹⁷² On the other hand, Tarnas 1987/2013 does suggest that people should consider consulting more than one astrologer:

I recommend seeking out interpretations or readings from every good astrologer who crosses your path, for astrology is so complex, and your chart has so many facets and levels of meaning, that each astrologer can illuminate it in new ways and give you important new insights.

It sounds open-minded, but he hasn't thought it through. Claiming 'astrology is so complex' and 'your chart has so many facets and levels of meaning' is a barrier against critical examination and does nothing to increase plausibility. The problem doesn't go away by seeking out different

empirical research looks for repetition and universal meaning while astrology is grounded in the individual case. A Saturn transit to someone's natal Moon can play out in so many different ways depending on age, background, life story, etc that we can never say for sure unless we have a conversation with the person having that transit.

This would create severe problems (and we suppose Paiva would agree) for astrologers who claim that astrology is based on empirical observations refined over the centuries. Either way, the **source** of astrological terminology would still need to be clarified, as would the evidence from contrary astrologies. Further, why should astrology be better than guessing if both have to wait until after the event for a decision? To put it another way, what we do at age 4 differs enormously from what we do at age 40, so how could a Saturn-Moon transit tell the difference? Similarly, US astrologer Glen Perry 2017 tells us:

It is axiomatic that an archetype can take many and varied forms and still remain true to its **essential meaning**. Likewise in astrology, an astrological configuration can express itself in innumerable ways that are equally consistent with the meaning of the relevant variables. ... eg as a need, feeling, attitude, belief, behavior, thing, role, person, place, quality, or event—all of which can be implicit in a single experience... Not only do planetary archetypes (and their sign and house counterparts) display a bewildering multidimensionality, they are **also** multivalent in that there are varying expressions of the same archetype within a given dimension. ... Possibilities are only limited by one's imagination and capacity for constructing plausible scenarios.

Apart from asking how he could know this, the system itself is set up to be unfalsifiable, while in other cases, the behaviour of astrologers does the same thing, see under Limitations.

¹⁷² If the **expression** of an astrological outcomes can be known only **after the fact** (sometimes a long time after the fact), those who contend that 'as above, so below' links are based on observation have nowhere to go. Such conflicts are common in astrology but help to avoid disconfirmation: Rosenthal 2018 provides examples::

....one astrologer found that of the first 43 US presidents, the most common astrological sign was Cancer. (No, not Aries, which those astrological websites had claimed was the sign best suited to politicians). They then 'explained' their finding as follows; *'It turns out that the United States of America has a Cancer sun sign, with a small stellium in Cancer (U.S.A was officially born on July 4, 1776, Philadelphia, PA.). Given this information, it is not surprising that America loves presidents with a strong Cancer influence.'* (p.234)

This also create problems for astrologers who tie archetypes into a collective unconscious based on common human experiences.

interpretations. If they differ and each is immune from critical scrutiny, why consult astrologers in the first place? You might just as well consult different guessers.¹⁷³

And why not? After all, practitioners of **incompatible** astrologies seem to have no difficulty persuading their clients that their own particular brand of astrology 'works', and that their brand of astrology is a Rosetta stone for a client understanding of their life experiences.¹⁷⁴

How to make people believe astrology is a science

Here it helps to compare science with pseudoscience, essentially a pretend or fake science:

....if you want to make a pseudoscience, it is a relatively straightforward matter to adopt the outward trappings of real science: you establish your own peer-reviewed journals,¹⁷⁵ you organize conferences with attendant bells and whistles, you throw in impressive-sounding jargon¹⁷⁶ or, better still, some mathematical equations....[one also has to create the impression it is based on good evidence] ... How do pseudo-sciences create an impression of epistemic warrant [ie based on reliable evidence] then? By doing either of two things, and often both at once: evading refutations and critical scrutiny, and inviting spurious confirmations (Boudry 2019 2022. For more see Martini & Andreoletti 2021 and Blancke & Boudry 2022).

Phrenology is a good example here:

In the US and the UK between 1840 and 1940, generations of popular phrenologists spread their ideas by publishing journals, organizing lectures, and examining people's heads, in public as well as in private sessions. Phrenologists believed that specific areas in the brain, called organs, were responsible for specific mental characteristics. As the brain pushed the skull outwards, they thought that the size of these areas could be examined by analysing the shape of the skull's surface, its bumps and its indentations (Sysling 2021). For more on phrenology vs neuroscience, see Stea, Black & Domenico 2023. For more on phrenology vs astrology see Dean *et al* 2022 pp.350-353.

Astrology has all of these superficial trappings. It has notable authorities, courses of study, diplomas, peer-reviewed journals such as *Correlation*,¹⁷⁷ well-attended national and international conferences, study groups, and is full of arcane jargon (such as square, trine, quincunx, retro-

¹⁷³ Many contend that the appropriate response to religious disagreement is skepticism or agnosticism (eg Hume 1777 Part 10 section 24, Ballantyne 2019 especially chapters 5 & 6).

¹⁷⁴ Psychological astrology fits into the category of pop psychology along with all its shortcomings. But it adds more problems by tying itself to transcendental realities and claiming it is beyond science, which cancels any involvement of psychology. Useful overviews of today's pop psychology fads and their shortcomings are Singal 2021 and Hupp & Wiseman 2023. An equally useful overview of today's psychology is Bloom 2023. All three books would be useful in any library that includes critical thinking and scientific impostures.

¹⁷⁵ The astrologer Egan 2017 tells us, "Astrology *does* work. We wouldn't be reading this magazine (*The Mountain Astrologer*) if it didn't." No comment is necessary.

¹⁷⁶ The importance of jargon in fringe areas such as astrology cannot be overestimated. See Montell 2021.

¹⁷⁷ The present editor of astrology's main research journal *Correlation* is Robert Currey, an avid practicing astrologer. His site is at <https://www.equinoxastrology.com>. *Correlation* has appeared twice a year since 1981 and under Currey's editorship there is understandably no indication of **any** serious problem with today's astrology. A lack of mechanism is the only expressed obstacle, and even this is dismissed as unimportant. Negative studies are ignored or re-analyzed to produce pro-astrology results. Readers might hope that factors central to today's Western astrology (planets, signs, houses, aspects) would be competently examined under the best scientific conditions, a process long overdue and approached in the past by editors such as Simon Best and Rudolf Smit who could be seen to be without vested interests. But we would put the likelihood of this happening today as close to zero.

grade, diurnal, nodes) and spurious underlying assumption such as 'as above so below'. McRitchie 2022 2023 sprinkles all this with complex expressions such as 'decision trees', 'semantic complexity blending', and 'mental combinatorial processing', to create a scientific aura for his readers, while retaining all the symbolism of Western astrology. Alas, calling a rose by any other name, or garbage by any other name, remains a rose or garbage. As noted by the US philosopher and former physicist Charles S. Peirce (1839-1914), "It is...easy to be certain. One has only to be sufficiently vague".

Further, while astrologers give **lip service** to being 'open-minded'¹⁷⁸ their attitude towards negative studies and critical comments reveals the exact opposite (Kelly 1997/2005, 1998; Blancke & Boudry 2022; Dean *et al* 2022). For the views of an astrologer who was mobbed by other astrologers for making critical comments, see Perry 2018.

The reliability of science is demonstrated by the huge diversity of scientific products that work over a huge diversity of domains, including computers and techniques for investigating the past (Cartwright *et al* 2023). In astrology such demonstrations do not exist, see under Astrology cannot be easy to prove and hard to test. And there seems no good reason to expect this to change any time soon.¹⁷⁹

Those who think otherwise are demonstrating astrologism comparable with the scientism they often accuse critics of (see Kelly 2000).¹⁸⁰ *Scientism* is the view that science is the only way of knowing. *Astrologism* is the view that astrology is the way, the truth, and the light. Or what the philosopher Francis Bacon (1561-1626) called "wishful thinking", based on "fancies, opinions and the exclusion of contrary evidence" (Young 2017).¹⁸¹

¹⁷⁸ Again, McRitchie 2016 tells us, "I agree that astrology needs expert criticism and that astrological research demands continual improvement." That said, expert criticism can be constructive but also insightfully negative. It would help if McRitchie told us which astrological claims he believes are supported and which are not – if only to indicate where academics should focus their research energies – but he remains silent on the status of planets, signs, houses, aspects, transits, essentially everything. Which implies that criticism and research are irrelevant unless addressed to what he likes in the way he likes. His only acknowledgement is that critics now stress the importance of effect size (McRitchie 2022). Except they had already been doing this for decades.

¹⁷⁹ Things get more complicated if we live on Mars in the future (thanks to Elon Musk?). Is Earth astrology really exportable to Mars? Consider: Mars has two moons Phobos and Deimos (Greek names meaning *panic* and *terror* for the two mythological sons of Mars) but... their orbital periods are not 29 days (like our moon) but ... 7,5 and 30,3 hours. Panic and terror are good symbolisms for future astrologers because ... Phobos returns 3 times a day, rising in the west and setting in the east. And Deimos is visible for 2 days and 16 hours, during which it will even present all of its phases! For astrology, does Mars no longer visible in the sky announce a peaceful nation? This would be without counting the symbolisms of Mars's moons. And would Earth-Mercury and Earth-Venus conjunctions in the Martian sky (neither are possible in the terrestrial sky) require fundamental changes to astrology books? On Mars all of these points are counterintuitive.

¹⁸⁰ Scientism can take different forms. For a defense of a weak version of scientism see Mizrahi 2023; Hietanen, Turunen *et al* 2020; and Turunen, Pättiniemi *et al* 2022. Invoking scientism is often a disguised dismissal of scientific criticism,

¹⁸¹ A number of astrologers claim that astrology needs a **post-materialist science** to make it more plausible. But why should **today's** astrology be supported by a **future** science in any form? McRitchie 2018 cites astrologer Robert Hand :

We should not be trying to explain astrology by means of science as is, but there is no problem with trying to explain astrology by a science that has not yet come to be.

Really? This assumes both the **truth** of their own position, and its **support** by a future science. The possibility that future science might undermine their position is not considered. Such talk fails to distinguish between logical *possibilities* and *probabilities* (for more see Pigliucci 2020). Advocates of **any** occult position always believe a future science will support it. This seems overly optimistic, see Brockbank 2011 p.30 and Kelly 1997/2005. Another problem with this argument is that it is **never ending** because it is simply repeated if the research is unsuccessful. Also there is essentially no limit to the number of factors astrologers

Another serious problem in astrology is that astrologers use logical possibilities as if they were real possibilities. In philosophical matters the distinction could hardly be more crucial.^{182 183}

Astrology and the occult

"Mystical explanations are thought to be deep; the truth is that they are not even shallow."

— Friedrich Nietzsche, *The Gay Science*

According to the Merriam-Webster dictionary, an occult belief system is one which involves 'matters regarded as involving the action or influence of supernatural or supernormal powers or

might use in their practice, so it seems unlikely that a **new** science would be needed if none can be supported by **current** science (as is currently the case, see Dean *et al* 2022). This point is continued in the next footnote.

For a critical view of any 'new post-materialist' science, see Hassani 2015 and Astley 2015. We also have no good reason to ignore current science because, as Oppy 2018 points out,

current established science is by far the most reliable source of information we have concerning the topics covered by current science. Consequently, when we are engaged in philosophical speculations, and the subject matters treated by current science are known to be relevant, our best bet by far is to restrict ourselves to the foundations built by current established science (p.95).

¹⁸² Readers with only a minimal background in philosophy may be shocked by the widespread appeal in astrological writings to 'logical possibilities' and 'what-about-X' arguments. '**Logical possibilities**' are taken as seriously as real possibilities, but the only condition for something to be logically possible is that it is grammatically correct. So an appeal to logical possibilities may sound plausible ("cuspal interpretations are an example of complex semantic combinatorial processing") but is merely empty talk about what might or might not be the case. It goes nowhere and is so vague it is not worth struggling with. Their popularity supports the view that astrology is not only scientifically bankrupt but also conceptually bankrupt. '**What-about-X arguments**' change the subject to distract attention from problematic areas without adding to their understanding. In effect they are just logical possibilities in disguise. But in astrology they are very common, virtually routine. Here is an example:

"I believe it is premature to set limits on the effect of gravity and orbital resonance on Earth as there is much we don't understand. Gravity is the one known force that does not yet fit into a Unified Field Theory. Also, its effects can be amplified by tidal resonance as for the 16-metre tides (highest in the world) in Eastern Canada's Bay of Fundy". From <https://www.astrology.co.uk/tests/mechanism.htm>, accessed Sept 23, 2021. But so what?

Another example is setting X = quantum mechanics, for problems see McBrayer & Own 2016. These arguments are essentially appeals to ignorance that are used to keep the astrological chin up. But is our understanding improved? Not even slightly. We end up still without a clue. The next example seems quite different. But is it any better?

We know there is a common mathematical order linking the Earth to the rest of the universe based on the laws of physics, and nobody disputes it. What arouses disagreement is how far it affects human society. There is very little evidence to suggest that it does, but at the same time it seems **perfectly logical** to suggest that links should exist. If human rhythms and cycles are linked to annual cycles, they are linked to the Sun and the Moon whose rhythms are part of the mathematical order in the solar system. So I **see no theoretical reason** why one day we shouldn't be able to substantiate the existence of planetary connections to human affairs, not just to the satisfaction of astrologers but to society as a whole. That would seem to be the basis of a perfectly workable Natural astrology – especially mundane astrology. (Campion interview with Phillipson, 2020, bolding ours).

The 'perfectly logical' and 'no theoretical reason' indicate that logical possibilities are being referred to. Campion is a qualified historian with years of experience dealing with astrology at all levels. At first sight his argument seems clear and more soundly based than most. So it seems unlikely to be even slightly problematic. But look more closely. It does not follow that 'perfectly logical possibilities' would support a 'workable Natural astrology'. They could equally well support a non-workable astrology or nothing at all. To assume that a possibility will turn out in a particular way is not defensible. Astrologers need explanations that are **likely**, not just **possible**. It is possible that reading birth charts is as easy as reading postcards but from what astrology books tell us it is not very likely. Or maybe it is possible that reading birth charts is not only easy but will make you fluent in Chinese. Could you believe this, and if not, why not?

¹⁸³ Since all human institutions change over time, what about astrology? Will astrology remain unchanged? Why talk about future science and not future astrology? Astrology in the 19th century was different from 20th century astrology, so why is the talk not about astrology-and-science two centuries from now? Except this would only unload more useless logical possibilities..

some secret knowledge of them'. Occult sources of information have not shown themselves to be reliably accurate sources of information not available from existing sources, such as science or controlled experience, hence they are largely ignored by the scientific community.

That astrology can be classified as an occult system of belief is suggested by the symbolism of Western astrology's extraordinary claims (which are **far beyond** what any scientific discipline can claim); ie that Western mythology and various word associations and symbolisms are associated with unique powers when tied to planets and celestial relationships. The workings of astrology are represented by the same celestial configurations that are somehow able to provide **minutely detailed information** regarding eight billion individual human lives (for some astrologers, this includes all details of their behaviors and thoughts) and countless billion animal lives across the earth along with the workings of abstract social institutions, all based on their individual birth data (time, date and place).

Until recently the claimed accuracy of astrology could not be explained by even our best scientific theories. Indeed, many of the main influencers of today's astrology, such as Dane Rudhyar in the US and Alan Leo in the UK, were strongly tied to their astrology by occult ideas (see <https://spiritualmoonrise.com/the-influence-of-astrology-in-the-occult/>).

Further, for most astrologers, celestial configurations provide a pre-established celestial harmony via **symbolism**, not just with physical events and individual people but also with abstract entities such as corporations, nations, wars, and ideas. Such beliefs are not what we expect from **any** evidence-based theory. If they do not qualify as being **occult**, the word lacks all meaning.

To support its claims, astrology appeals to gods and transcendent realities. Some astrologers claim that astrology pervades our entire universe, nearly 40 billion light years in every direction:

The Hermetic maxim from antiquity, 'As above, so below,' presumes a sort of conservation principle between macrocosms and microcosms aligned relative to a fixed center, which in natal astrology is the microcosmic environment of each native's birth and life. The macrocosmic environment used in astrology is the Solar System centered on the native [the individual owner of the birth chart], which, by the same principle of cosmic symmetry, is itself a microcosm of increasingly larger macrocosms that ultimately entail the whole universe with the native at its center. The Solar System is the nearest shared cosmic environment or correlative world that is easily predictable, yet it is the macrocosmic environment of the whole universe that suggests astrology's universal explanatory power (McRitchie 2004 2006).

Such a picture contributes little of astronomical interest. At best these long words give a false sense of profundity, while talk of 'astrology's universal explanatory power' merely states what McRitchie wants us to believe. But where is the evidence (as opposed to speculation) that would persuade us?

Unsurprisingly these mystical claims of astrology play no part in modern academic disciplines. Similarly, given an outline of what numerology, Tarot, and palmistry could supposedly provide without being told how (numbers, cards, hands), it might be **hard to tell any difference** between them and astrology. For example, consider the following claims for numerology and Tarot::

Numerology is an ancient study that draws meaning from different numbers, number combinations, letters, and symbols in your life. This art can help us tap into the underlying patterns of the universe

and reveal new truths about who we are [sound familiar?]. Your Life-Path number is probably the most influential numerological aspect to be considered. This number is determined by your birth date and represents who you are at this time. It indicates specific traits that are present and will likely be active and influential throughout your lifetime.

From <https://www.horoscope.com/us/numerology/index>. (accessed Nov 15 2023)

Tarot cards can provide insights into your past, present, and future, and give you an understanding of your life, challenges, and relationships. They can reveal your ambitions, desires, goals, ideals, accomplishments, and even your true path in life.

From <https://tarotinstitute.com/what-tarot-card-reading-can-tell-you/> (accessed Nov 15 2023)

Astrologers say the same thing.¹⁸⁴ Some astrologers advocate a combined tie-in, for example:

Tarot astrology is a fascinating blend of two ancient divination arts that can provide deep insights into our lives and the cosmos. Tarot, a deck of cards with symbolic imagery, and astrology, the study of the celestial bodies' influence on human behavior, come together to create a powerful tool for self-reflection and guidance. From shunspirit.com/article/what-is-a-Tarot-astrology.

Given that the agreed-on parts tend to be based on similar **symbolic** associations (that is, on symbolic connections with mythologies and with names and images), to seriously question one part is to threaten the other parts. No wonder it is difficult to throw anything out in astrology, and why practitioners are so dismissive about **any** criticism – 'we know it works so *please go away*'. But if sun sign Xs are not more X-ish than other signs (and they aren't, see Dean *et al* 2022 pp.258-260), why should anyone believe anything about signs? Answer: practitioners see what they are taught to see (so they can ignore darkness and rain because the sun is always shining somewhere), so they largely see Xs as more X-ish than other signs.

One complication for astrologers is that any study of astrology that gives mixed results is just as much bad news as one that is wholly negative. This explains the rush by astrologers to make sure their studies are consistent with astrology, either by re-analysis,¹⁸⁵ re-interpretation, or finding mistakes. Why? Because according to astrologers there is **no known way** to avoid astrological effects.¹⁸⁶ But if the results are mixed why was **this** particular symbolism supported and not the others? If an astrologer insists that a particular symbolism can manifest in many different ways, it becomes very difficult to design a study that could change her mind.¹⁸⁷

¹⁸⁴ We might also add clairvoyance to this list: It has been around as long as astrology, longer than palmistry and the Tarot, and has been practiced in many ancient cultures including Sumer, Babylonia, Arabia, Canaan, Persia, India, Nepal, Tibet and China.

¹⁸⁵ One should be very suspicious of **repeat analyses** of previously negative studies that gave positive results when conducted by committed believers. Indeed, **replications** of any analysis should be a priority before any results can be taken seriously (repeats are no more self-validating than the original study). But replication by itself is not enough. Also needed is context such as plausibility, fruitfulness, and a good fit with the rest of science. Independent critical eyes are a treasure; the more the better.

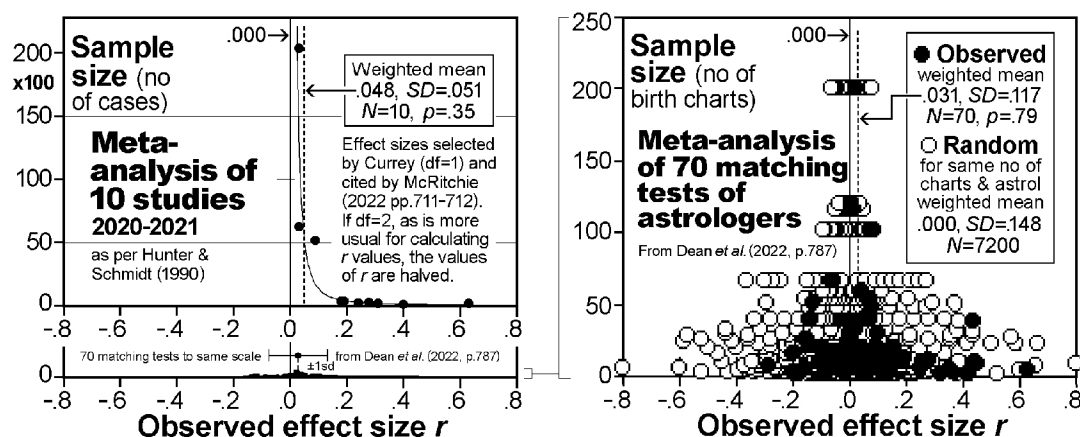
¹⁸⁶ In scientific research, claims can fail when physical and social factors overrule each other, so an expected presence or absence may fail to show up under particular conditions. Hence the need for statistical power and controls to be sure about what is happening. But astrology is a different ballgame from scientific research, because in principle astrological effects are always present and cannot be turned off. Nor can they be overruled by psychology or physics since they will fluctuate in unison anyway. For the same reason they cannot be seen as just another factor in the mix. There are no present-day claims that some people are less susceptible to astrology than others. So astrological effects should always show up. They should always be present.

¹⁸⁷ Unless the astrologer contends that the same astrological symbolism can be manifested in a great variety of different ways. In this case, it is extremely difficult to design a study that could cause astrologers to re-think their theory (see Kelly 1998 and 1997/2005 for more on this topic). After all, a negative result could just mean their clients happened to choose other ways of behaving. In addition, the astrological symbolism allows much more stretching than just a few outcomes, especially when astrologers consider other factors in the birth chart. This would multiply the number of possibilities.

Also the scientific approach proposed by McRitchie is not popular with astrologers, most of whom are so convinced by their personal experience that they end up with little interest in testing their claims scientifically. For example, various surveys of astrologers by Campion 2006 p.6 found that about a quarter of UK astrologers and a third of American astrologers saw astrology as a science in which quantitative methods of research were considered appropriate. But this applied only when results were positive. Negative results were ignored.

Meta-analysis

McRitchie 2022 p.171 claims "recent astrological research and a meta-analysis ... is tackling problems and improving results". But the meta-analysis (by *Correlation's* editor Robert Currey who owns a prominent astrology site selling horoscopes) is wrongly described because it did not include all relevant studies and statistical correction for sampling errors as per Hunter & Schmidt 1990. Instead it selected just ten studies (out of potentially hundreds, see Dean *et al* 2022), but even then, as shown below, proper analysis contradicts McRitchie's claim of 'improving results':



When Currey's ten studies are meta-analysed as per Hunter & Schmidt 1990, the result **left** is neither useful nor significant. At bottom to the same scale is the equally non-significant meta-analysis of 70 matching tests of astrologers, enlarged **right**, for details see below.

McRitchie denies the studies were selected because "the title of [Currey's] study specifically states that it covers the years 2020-2021", as if the years before 2020 and journals other than *Correlation* did not exist. He also dismisses **matching tests** of astrologers because:

they have not been regarded as adding explanatory value. ... the astrological interpretations of participants as an aggregate or a *black-box* result ... does not expose the fine-grained *effective information* ... [And] samples that are too homogenous to differentiate (cherry-picking), improper design and analysis (*p*-hacking), and discarding potentially corroborating data (publication bias) 2022 p.710 his emphasis)

Once you can see what McRitchie is talking about, his dismissal of matching tests (above right) as not 'adding explanatory value' could hardly be more implausible. In fact they add **much explanatory value**, ie *astrologers are unable to make astrology work under the controlled conditions of a matching test*. And the other supposed problems are precisely what matching tests and meta-analyses are designed to cope with.

Indeed, similar meta-analyses (ignored by McRitchie) exist of astrologer agreement, here $r = 0.098$ for 35 studies (which is nowhere near the 0.8 generally recognized in psychology as desirable for psychological tests applied to individuals), and of whether clients can pick their own chart interpretation out of typically 3-5 chart interpretations, here $r = 0.005$ for 13 studies when cues such as sun sign meanings are excluded, so clearly they can't (Dean & Kelly 2017 p.222 and Dean *et al* 2022 pp.794, 791). No hint of these findings appears in McRitchie's article, so they are again presumably not something he wants us to know. To show such little interest in astrologers when astrology depends on them, seems curious.

We might add that even well-conducted studies with very low p-values have sometimes been found to be unreplicable in scientific fields, and that successful replications tend to have smaller effect sizes than the original studies (editorial, *Nature* 2021, <https://www.nature.com/articles/d41586-021-03736-4>).

Later, McRitchie 2023b p.576 claims "[his proposed] research program is finding formidable, experimentally replicated results".¹⁸⁸ Alas, the history of such sensational claims in paranormal areas is a sorry one, and is in conspicuous contrast to their absence in scientific disciplines. What scientific disciplines manifest instead, in contrast to its absence in astrology, is an emphasis on **critical debate**. An example is quantum mechanics where a large number of successful predictions have been made across the world by many independent scholars at multiple sites. At the same time, there are a number of **acknowledged** important issues that are unresolved in quantum mechanics such as how gravity fits in with quantum field theory (Myrvoid 2023). In addition, problems and claims in quantum mechanics are **continually debated**.

¹⁸⁸ He is referring to Currey's (invalid) meta-analysis, especially its **largest effect size** of $r = 0.63$, obtained by matching N charts of famous people with N biographies (this after replacing each chart with a list of 124-230 chart keywords, each owner with a list of 28-96 biographical keywords, and the matching test by a computer program that compared the two lists in a total of $N \times N$ comparisons). A chart was a hit if its score with the correct biography was larger than its scores with the other biographies – also counted when the chart was ranked 2nd to 8th, and when synonyms were used. Here $N = 32$ cases with birth times rounded to the hour or half hour and $N = 41$ cases with more precise birth times), all **without controls**, see Dean et al 2022 pp.732-735.

Further, all ten of Currey's studies had **different themes** (house cusps, midpoints, synastry, Saturn and suicide, Pluto and suicide, longevity, obituaries, SCOTUS, SIDS, human character), which means that in science none could be considered 'experimentally replicated'. Also it is unclear what such findings bring to astrology **as a whole**. Other astrologies could be different (indeed, large-scale tests of Vedic astrology in 2020 with consistently negative results contradict McRitchie's claims, for details see Dean et al 2022 pp.749-752). Although McRitchie tells us he endorses "the need for independent replication of positive results" (2023, p.578), the behavior of the editor and the over-response to criticism of astrology in *Correlation* suggests to us that whatever McRitchie and his colleagues are engaging in, it isn't **scientific** research. Since conflicts of interest are involved, we are obliged to be suspicious when evaluating the results, just as we are with studies of smoking sponsored by tobacco companies.

Of course, we could be wrong and the long-awaited formidable breakthrough could have arrived. But such breakthrough talk has been too regular an occurrence to be plausible. Here are some examples from the past 150 years: "Astrology will obtain ... a glorious triumph by the force of its most powerful weapons – facts" *Alfred J Pearce 1863*. "Astrology aided by new methods of investigation will recover its ancient prestige" *Paul Choissard 1929*. "Astrology seems destined to assume an almost central role in scientific thought" *John Addey 1971*. "Mainstream science will eventually be obliged to embrace the astrological" *Dennis Elwell 1999*, "Astrology promises ... to reunite the human and the cosmic, and restore transcendent meaning to both". *Richard Tarnas 2006*. After interviewing nearly 20 leading US astrologers, Hanz Holzer (1975) singled out Gar Osten (1923-1991) for making predictions "that invariably check out as accurate", including by 2024 "astrology and the psychic will both be highly respected areas of study in all our universities" (pp.104-105). Six confident predictions, six evident failures. For details and more quotes see Dean et al 2022 pp.72-74 and 815-816. But the history of research into astrology and the serious philosophical problems we have identified in this article suggest that such astrological optimism will be short lived, or at least only until the next spectacular astrological 'breakthrough' is announced to a new audience.

Fields in the social sciences are likewise subject to continuous debate and acknowledgement of unresolved issues, as in the journals *Philosophy of the Social Sciences* (examines the concepts, methods, and logic of the social sciences) and *Philosophical Psychology* (aims at strengthening links between philosophy and the psychological sciences, especially in the areas of free will, nature vs nurture, and reductionism vs holism). McRitchie seems to have no qualms about any of the symbolism of Western astrology and seems to accept all of it, mostly untested, with open arms. McRitchie justifies his anything-goes approach like this:

astrology research does not depend on traditionally understood *physical causes and mechanisms* for its effects ... it is the effective information that emerges according to the theory that is significant. (2023b p.576, his emphasis, but what information, what theory?)

Which puts it outside of mainstream social and physical sciences. To confirm that effective information is emerging he cites Currey's meta-analysis, and points out that criticism

has over the years fallen into routine recitations of the old 'astrology cannot be true' argument ... [yet as research] continues to discover consistent, effective information, the meaningful connections and truth values at the basis of astrology will have important consequences for science and philosophy. (2023b, p 578)

Which hides everything behind vagueness. Exactly what are the 'meaningful connections and truth values', how do they differ from seeing faces in clouds, and why (given what we know about human cognition) should they be considered anything special, let alone 'important'? The same vagueness also applies to Tarot cards, numerology, palmistry, tea-leaf reading and other supernatural claimants, and provides a good reason for the scientific community to be vigilant, always requiring a number of independently replicable results and a careful in-depth examination of the assumptions.

But why privilege **Western** astrology over other astrologies?

What Loughheed 2022 says about the benefits of diversifying religion applies equally to astrology. We don't have Western biology and physics, and a different Eastern biology and physics, so why should it be different for astrology? Are people so different that different astrologies are justified? To claim that 'all astrologies are valid in their own way' does more to obfuscate than clarify. It would be more useful to **compare** the various astrologies in order to discover the unnoticed assumptions that underlie them, and to determine which of them has the most merit. Science is a world-wide phenomenon with global contributors (Poskett 2022, Smith 2022) whereas astrology is still culturally and regionally rooted, hence statements based on research into Western practice are not necessarily universally valid.

Other disciplines such as philosophy (Van Norden 2017, Adamson 2018, Emmanuel 2021, Baggini 2023) and the social sciences (Machery, Knobe, & Stich 2023., Henrich, Blasi *et al* 2023) are becoming increasingly aware that we live in a **global world**, that ideas from other countries can provide useful new perspectives, and may provide views under-developed in Western traditions, or perhaps introduce better factors for use in practice.¹⁸⁹

¹⁸⁹ See Perry 2018 for a critical stance on the Vedic zodiac. This is exactly the stance you would encourage if astrologers were using scientific and critical approaches to their beliefs.

Here Munevar 2023 p.6 reminds us of philosopher Paul Feyerabend's insight

that often we cannot even uncover significant evidence against our favored theories unless we seriously consider alternative ones that make sense of such evidence, as was the case with the Copernican theory and the composite motion of bodies.

Ideally this would involve a worldwide debate among astrologers with the injection of different ideas from which all astrologers could learn. There are some signs that this could happen. For example, in <https://www.swatijrjyotish.com/2016-calendars--articles/why-western-astrology-is-inaccurate> (see also <https://www.lateet.com/vedic-vs-Western-astrology-which-is-more-accurate>) an Eastern astrologer critically contrasts Western astrology with Hindu astrology.

On the other hand, Koch 2012/2013 critically examines Vedic astrology, Perry 2018 critically examines the divide between Western and Vedic zodiacs (all based on talk, whereas empirical testing found no support for Vedic, see Dean *et al* 2022 pp.749-752.). And Tarvainen 2021a looks at the tropical zodiac based on solstices and equinoxes vs the Lahiri ayanamsha sidereal zodiac used in India. Given that the number of practising Vedic astrologers **greatly outnumber** those practising Western astrology, one might hope that such comparative studies would become a priority (assuming astrologers would pay attention to such findings, but this rarely happens).

How do astrologers react to criticism?

Some modern astrologers, such as Buck 2018 p.221, just assert without supporting argument that astrology operates from a metaphysical, transcendent realm:

how astrology works and why it is effective is not known. Ungoverned by material laws, astrology is not scientifically explainable or provable.¹⁹⁰

Others automatically reject critics as bigoted, biased, and ignorant (Dean *et al* 2022 pp.357, 909) and adopt astrology as a given provider of spiritual insight or as a given proto-science.

Recently, McRitchie 2022, pp.708, 711 describes astrological effects as 'emergent effects', where emergent properties and effects are possessed by complex systems but are absent from the individual parts. Indeed, "Astrology presumes emergent effects from the ...combinations of [symbolisms associated with celestial configurations]" (McRitchie 2022 p.707). The emergent explanation conflicts with the view taught in today's astrology courses that combinations of factors manifest as combinations of symbolisms, not as entirely new entities. For example Mercury (mind) conjunct Mars (energy) means an active mind, not something entirely new (which would gain zero marks from today's astrology teachers). McRitchie 2022 p.713 says:

the rationale [for considering astrological claims as emergent] is not different [from those in other fields]. Emergent effects models, such as the decision trees currently used in whole-chart modeling, are directly applicable to astrology as they simulate the mental combinatorial processing that astrologers use in their consultations (p.576).

But such claims are very different from the emergent effects universally acknowledged in **physical systems**, such as the properties of water, which are not found in its component parts,

¹⁹⁰ Astrologers tend to judge astrology by its meaning, and critics by its factual truth, and then reach opposite conclusions on whether astrology works. Astrologers also tend to see astrology as unexplainable by science, whereas most things in astrology are entirely explainable by psychology, see Dean *et al* 2022 pp.14-15.

hydrogen and oxygen. Physical emergent effects are also found in biological systems where cells result in tissues (which have properties not present in cells), and tissues in organs, and so on.

We can also talk about emergence in the social sciences, such as institutions and social groups emerging from collective individual behavior (Zahie & Kaidesoja 2019), but this hardly supports the metaphysical emergence postulated by McRitchie, said to describe individuals and complex social groups in the past, present and the future way beyond what the social sciences can deliver, whether we are aware of it or not. Further, McRitchie 2022 p.714 suggests the entire universe may be astrologically centered on human beings, and then proceeds as if it were true,.

But supposed emergent effects or patterns of human behaviour in astrological symbolism would necessarily assume a radical non-physical emergence from the **symbolisms** of the planets, signs etc. However, there is no precedent for details of events (X won The War) being related to **symbolic** expressions (X symbolises Tea Towels), which his view of astrology is asking us to believe. This would require a **mystical** emergence of some sort that was different from simply combining symbolisms. To repeat a previous example, given that the emergent properties are by definition absent in the component factors, exactly what would emerge from Mercury (mind) conjunct Mars (energy) when no links to mind and energy are allowed? We urgently need details and examples but receive none. In response, McRitchie 2023b p.576 says:

As astrology deals with complex but measurable processes, I argue that the best way to think about these processes is to consider *emergent effects* (strengths of emergent properties).

But without details and examples his argument remains a masterpiece of obscurity. It is totally unclear what sense can be given to talk of 'emergent astrological effects'. So why should anyone believe any of it? ¹⁹¹ There is also an 'elephant in the room' that astrologers like McRitchie who adopt **scientific terminology** need to confront, namely *doing science is a risky game for those strongly committed to any particular theory or set of theories*. As Gillen 2023 points out,

The march of progress in science belies an awkward feature of scientific development. When combing through the history of science, we find that it is scattered with previous seemingly successful, yet ultimately disproven, scientific theories. For example, Bohr's atomic model, with the electron physically circling the nucleus in fixed orbitals, was able to explain and even predict the emission spectrum of hydrogen to astonishing accuracy. Such was the success of Bohr's model that Einstein himself proclaimed: "this is a tremendous result. The theory of Bohr must then be right". Fast forward a hundred years to our fuzzy quantum atomic model and... sorry Einstein, you were wrong!

The same for astrology. Using science to seriously examine astrological claims could have unpalatable consequences for most astrologers.¹⁹² A modern 'astrological research program' could not be based (as modern astrology is) on ignoring or explaining away serious criticism and negative findings.

¹⁹¹ Indeed, if emergent effects behaved as McRitchie claims, ie "simulate [what] astrologers use in their consultations", they would not be emergent. For example, *blending* symbolisms, as in Mercury (*mind*) conjunct Mars (*energy*) = *active mind*, retains both component symbolisms and would be what astrologers routinely use in their consultations, whereas *emergence* by definition would produce something that retains neither, say *always thirsty*, which differs too much from *active mind* for astrologers to use in consultations. What was previously totally unclear is now even more totally unclear. For astrology this counts as progress..

¹⁹² The unpalatable consequences may be already in sight. See Dean, *et al*, 2022, p.862

Response to scientific concerns

What Mukerji and Ernst 2022 say about homeopathy applies also to astrology:

when homoeopaths are confronted with the ... central problems of their doctrine, namely, its scientific implausibility and its lack of sufficient acceptable evidence, they produce bullshit in response. They make bizarre ontological claims or resort to quantum woo woo. They also illegitimately shift the burden of proof, mischaracterise, cherry-pick, and misreport the evidence, reject important parts of the scientific method, and seek to immunise their doctrine against recalcitrant evidence.

Some astrologers contend that astrology is a science, or at least that many of its claims can be scientifically investigated. But their actual behaviour is not consistent with a scientific **attitude**. Almost no **present-day** astrological claims have been changed due to any scientific research or criticism. Overall, at the present time, most astrologers who claim scientific support do so to shield their own particular astrological beliefs from any hint of skeptical studies or arguments. Such behaviour is of course directly opposed to the spirit of science. One might reasonably infer that, for many astrologers, astrology is infallible in every respect.

For more see Van Leeuwen 2017 on religious belief that is also applicable to astrology. And Boudry 2019 for how these shielding strategies are used by advocates of any suspect belief.¹⁹³ Some responses to scientific critics involve a tie-in with notions of *pluralism* (different people have different interests and beliefs), *relativism* (there is no absolute truth, only what people prefer to believe), *postmodernism* (essentially anything goes, experience takes priority over facts), and *modernism* (rationality and logic are the best way to discover truth). They rely on slogans such as 'science is just another belief system or paradigm, like astrology' or they adopt some form of relativism (see Kidd 2017 and Stump 2022 on the importance of distinguishing pluralism from relativism)¹⁹⁴ and then continue to practice their particular brand of astrology **without any reservations**.^{195 196}

Some advocates seem to think that just using these long words imbues astrology with some kind

¹⁹³ There have been a number of well-written books critical of astrological beliefs (eg Culver & Ianna 1988, Bret-Morel 2016) and several in-depth books reviewing the empirical studies on astrology (eg Dean *et al* 2022) with **no discernible effect** on astrological practice or central beliefs (planets, signs, houses, aspects). So why should it be any different in the future? Indeed, there is little notice of these books in the first place. Criticism is not permitted. Experience (astrology works) always wins..

¹⁹⁴ The topic of relativism is a complex one. A useful resource is Baghramian and Coliva 2020. Relevant to the present topic of astrology would be Chapter 5 on *social constructivism*, Chapter 6 on *relativism and science*, and Chapters 7 and 8 on *epistemic relativism*. A short paper by Boudry 2021 provides a more readable critique of relativism. The early paper by Grim 1990; see also Hansson 2020b pp.10-13, is also relevant. Grim and Hansson point out that while science has values (science is not simply a neutral set of scientists), there are **essential values** to which science is committed (eg truth and demonstration) that differentiate it from non-scientific disciplines. Astrology has no essential values to which it is committed except perhaps 'use whole charts'.

¹⁹⁵ See Aylesworth 2015, Hendricks 2018, Watts 2019, and Stump 2021 for philosophical examinations of 'postmodernism'.

¹⁹⁶ Often allied to the postmodern position is the concern that academic fields are dominated by '*dead, white, Western males*', a view that is worth discussing, see Pett 2015. Present-day Western astrology itself has been dominated and developed **almost entirely** by dead, white, Western males (eg Ptolemy, Bonatti, Berossus, Valens, Culpeper, Gadbury, Leo, Ring, Carter, Rudhyar, Hand, Addey), a view often overlooked by the faithful who have postmodern sympathies. Henrich 2020, Thalmayer, Toscanelli & Arnett 2021; and Steinmetz 2022 contend that people from different cultures think differently about many things, and that psychology has systematic biases when focusing on how we think about human nature, a point that has serious consequences for astrology. Has Western astrology suffered from the same shortcoming?

of credibility and makes it impervious to criticism (Allen 2021). For example they claim that a postmodern astrology will be an 'astrology of enlightenment and self-realization' (from https://www.astro.com/astrology/in_postmodern_e.htm). Since for most contemporary astrologers all astrological symbolisms will supposedly remain intact under the postmodern umbrella, appeals to postmodernism seem to function as a marketing tool under which talk of 'astrology on its own terms' can be freely dished out.¹⁹⁷ Similarly most astrologers don't act as if astrology is just another belief system – to them it provides information not available from other sources so it cannot be just another belief system.¹⁹⁸ Astrology itself is never seriously questioned. And any study that seems to support a **specific** astrological claim is typically described by astrologers in **general** terms as 'supportive of astrology' rather than referencing the specific claim.^{199 200}

¹⁹⁷ An example of a postmodern or post-positivistic view of astrology is Bogart 2019. Bogart, a spiritual astrologer, claims that modern science is inappropriate for examining astrology (perhaps this will be news to McRitchie). Hence,

Rather than seeking absolute certainty, post-positivist thought seeks understanding, which is open to different interpretations by different interpreters. We recognize that all knowledge is relative to one's perspective, and that we're always influenced by our beliefs and expectations. One never has pure access to an objective reality. There's a plurality of truths, not absolute certainty.

We might need more information on what a 'perspective' is and whether or not one perspective can be better than another. But why should the *Western* astrological perspective be taken seriously in the first place? What about *competing* astrological perspectives? Further, anyone can play this game whatever their views on whatever topics. Many contemporary philosophers of science would have little disagreement on some of Bogart's unqualified statements, but none of the statements imply that we should embrace astrology as a viable way of gaining knowledge about the world (see Stump 2022; Ludwig & Stephanie 2021).

In Bogart's view, all we have are interpretations. And "There is no one correct interpretation". Thus all of astrology (planets, everything), based on personal experiences, is valid, and if science cannot support its claims, so much for science. He says,

the astrological chart can be viewed as a roadmap provided by the Creator... this roadmap provides individualized guidance through life's changes and challenges. ...[For example]...by preparing in advance for a Pluto or Uranus transit our alignment with the planetary archetypes could affect the outcome. In other words, the planet doesn't just act upon us; we also act upon the planet.

How does he know this? Does the overall process of human and animal life have an overall direction set by the Creator? Does astrology work only according to what the Creator allows? Or can it be overridden by free will? And how could we know this anyway? One might note that Bogart's view on science is at variance with much current scientific thinking (see Massimi 2022).

A contrary approach can be found in Vickers 2022, where he points out that many claims that were once theoretical are now accepted as fact – for example the earth rotates, viruses exist and some cause disease, dinosaurs once existed – that these claims will not be revised and will last as long as science lasts. In other words, some claims might be overturned by future evidence, but not those that are permanently supported. Where on this scale would we place astrology? And why?

¹⁹⁸ Or talk of another paradigm. Astrologers have misused Kuhn's notion of paradigm to promote their own ends. Astrologers sometimes say that a new paradigm will someday encompass astrology, but why would Kuhnian revolutions adopt the old assumptions of astrology? Marcum 2015 rebuts many misleading criticisms of Kuhn's ideas such as he was an irrationalist (the claim that paradigm shifts are irrational). Kuhn always claimed a new theory could be better than another by being a better fit with nature than competitors. See also Okasha 2016 Ch 5 and Kelly 1997/2005. An excellent discussion of the misuse of quantum mechanics, consciousness, and Kuhn can be found in Marshall's 2021 conversation with philosopher Douglas Stalker, and is very relevant to the views of modern astrologers who appeal to quantum mechanics and modern physics in their diatribes against modern science and naturalist views (eg Tarnas and Grof). Recent themes emerging from Kuhn's philosophy, including its stance toward modern pluralism (different people have different views) can be found in Wray 2021.

¹⁹⁹ In astrological magazines such as *The Astrological Journal* and *The Mountain Astrologer*, and in lectures at astrological conferences, there are rarely hints of any serious issues with astrology. Contrast this with scientific journals where critical debate is routine. Similarly contrast the steady march of science with the relative stagnation of astrology. See <https://massimopigliucci.blog/> for the vast contributions of science to our lives, then compare this with astrology.

²⁰⁰ This view by many astrologers of astrology as a **package** is itself rather unique (it is also found in some theologies). In this view, regardless of the system used by the astrologer, each individual factor is held in place by the rest of the system. Criticism of any individual factor is then seen as an attack on the whole system. The same is true of other astrologies such as Vedic or Chinese, where the whole supports the parts regardless of their differences from Western astrology. Now compare scientific

Further, while postmodernism is associated with a scepticism towards **all ideas**, this self-scepticism is absent in astrologers advocating a postmodern approach.²⁰¹ Which does not stop astrologers increasing the appearance of complexity, or stressing the difficulty of testing astrological claims (all to frustrate criticism) while **simultaneously** claiming that astrology works. For example, on Robert Currey's astrology website we read:

You can experience, observe and know how [astrology] applies first hand. ...[However] There are sound reasons why it has proved so difficult to test the **real practice** of astrology under scientific conditions...[They include] Lack of fresh accurate objective data. Isolating the huge number of variables is difficult ...Unique conditions are impossible to replicate (<http://www.astrology.co.uk/tests/basisofastrology.htm#flawedtests>; accessed May 14 2021).²⁰²

Summary: present-day astrology is a quagmire ²⁰³

The astrology that emerges from our philosophical scrutiny is essentially a popular belief based on ancient imaginings plus strategies that prevent its falsification – with every inch of the way filled with unanswered questions. But here astrology's stagnation is more than matched by advances in our science-based knowledge of the world, of human beings, and especially of human biases, with which to confront the extraordinary claims of astrologers.²⁰⁴

ideas, all seen as *fallible* by scientists, with astrological ideas, all seen as *infallible* by astrologers. The result is the typical focus by scientifically-minded astrologers on the hope that a future science will support existing astrology, and the typical appeal to a transcendental reality by both sides that tries to avoid a focus on the individual parts of astrology.

²⁰¹ Further, astrology would be a prime example of a **meta-narrative** – or what Derrida calls a ‘totalizing gesture’ – a highly abstract idea that supposedly provides a comprehensive overall reflection or explanation of human history and behavior. Any such view is ironical, since it would be opposed by post-modernism! (Lyotard 1979).

²⁰² We might need an answer to the question, what is the '**real practice** of astrology'. Who decides? The Currey site presumably offers 'real astrology', even though different types of astrology readings are for sale on the same site. So what constitutes **unreal** astrology? What criteria distinguish real from unreal? How could anybody find out? And if it is so difficult to test why should anyone believe his interpretations are more than not-for-free Barnum statements?

²⁰³ Astrologers like to name scientists who supported astrology, especially Newton who in the recent past was often mentioned until a search of his writings showed no connection, see van Gent (undated). Einstein was also reported as saying nice things about astrology. But his only known statement is in a 1943 letter where he says: "I fully agree with you concerning the pseudo-science of astrology. The interesting point is that this kind of superstition is so tenacious that it could persist through so many centuries" (cited in Robinson, 2018, p.30). Kepler, the 17th century astronomer, did practice astrology, but as historian of astrology Nicholas Campion says,

"The doctrine of 'the baby and the bathwater' is, I think, crucial to understanding astrology's nature. This notion is due to Kepler, the idea being that astrology contains a core of demonstrable truth, which is the "baby", surrounded by an ocean of false superstition, which is the 'bathwater'. *To Kepler, the superstitious bathwater included almost the entire weight of astrological tradition*" (Phillipson interview with Campion 2020, italics ours). A helpful article on Kepler's views on astrology is Dilanian 2021.

But there is little effort by contemporary astrologers to separate this alleged 'demonstrable' core from the rubbish. Perhaps because there is no generally accepted **theory** regarding what constitutes the essential core. While astrologers often cite this quote about 'a core of truth in astrology' they don't actually believe it, they tend to believe the whole package of planets, signs, and so on is **all** true. No small 'core of truth' for them. It is likely that astrology will remain a *confirmatory* approach and positive studies will remain the only acceptable ones, see Boudry & Hofhuis 2023 on self-sealing belief systems such as astrology.

²⁰⁴ As for the argument that there is "no known physical explanation" for astrology, McRitchie (2022 p.577) says "not only is it a mistake to disregard any experimentally replicated effect, but the ... argument is specious scientism". But his 'experimentally replicated effects' have **not** been replicated (see our footnote 192), and asking for a mechanism is not 'specious scientism'. Bear in mind that explanations were **soon provided** for all the classic cases of no-explanation-at-the-time (Simmelweis, continental drift, aspirin), and that scientific history contains all sorts of views that were abandoned because no explanation was available, whereas we have been waiting for more than two millennia for astrological explanations with still nothing worthwhile on the horizon..

Given this background knowledge, what is more likely – that attempts to support astrology by hard evidence will triumphantly succeed, or will emerge as either mistaken (common enough even in mainline science, see Van Noorden 2023) or nonreplicable?²⁰⁵ ²⁰⁶ If we add the many escape clauses in routine use whenever astrology is under threat of disconfirmation:(see under *Limitations*), plus of course appeals to free will, any ties with reality are effectively severed. Ironically the overall psychological effect of all this is an apparent revelation:

opening your eyes to a new truth hidden from those not yet initiated. Once your eyes were thus opened you saw confirming instances everywhere: the world was full of verifications of the theory. Whatever happened always confirmed it. Thus its truth appeared manifest; and unbelievers were clearly people who did not want to see the manifest truth; who refused to see it.(from philosopher Karl Popper, cited by Magee 1975 p.45; see also Kelly 1998).

This is exactly how believers view astrology. As Williams 2023 points out, such poorly held beliefs "typically result...from a response to incentives in which the personal costs of error are low and the practical benefits of bias are high".²⁰⁷ All supported by a dismissal of negative studies, a lack of interest in well-developed non-astrological explanations; a lack of fit with contemporary science, appeals to deeply problematic metaphysical claims ('as above so below', 'quality of the moment'), tiny effect sizes due to uncontrolled self-attribution, and a fatal lack of follow-ups and replications by independent scholars (Piper 2020, Albert 2021, Strickland & Cruz 2021; Van Noorden 2023).

Further, astrology exists completely independently of the fields of knowledge in the social, physical, and biological sciences. Discoveries in areas such as epigenetics, plasticity, the microbiome, along with changes in theories in astronomy and physics have no impact on astrology whatsoever. Criticism of astrology is generally mentioned by astrologers only to deny its relevance. Indeed, negative studies are of absolutely no concern because – as astrologer Gillett 2023 p.29 points out – all disciplines have negative results:

In every academic discipline, failed research findings are much more prevalent than successful ones. Selecting notable failures could easily seem to show that the very study of physics is pointless, even the possibility of NASA travelling to the Moon is impossible.

So, according to astrologer Gillett, **even if** scientific studies on astrology tended to be negative,

²⁰⁵ McGinn (2023) has some interesting thoughts on this. He asks,

Why then is the sky a source of mysticism but not the earth? The answer is surely plain: it's because of how the sky *looks*, especially at night. ... Add to that the enigmatic character of what we see and mysticism is only natural. Astronomy is thus the original site of mysticism; nothing else comes close to its mystical potential. Not physics, not chemistry, not biology, not psychology, not philosophy. <https://www.colinmcginn.net/astronomy-mysticism-and-mechanism/>

²⁰⁶ In response to astrology's problems with symbolism, McRitchie (2023b, p 577) says

Symbolism is not a practice peculiar to astrological connections, relationships, and meanings, nor are they confined to the ancient past. ... A famous example is August Kekulé's reverie ... which he said led him to propose that the atoms of the benzene molecule form a ring.

But Kekulé's reverie was soon confirmed by research and even at the time of proposing had been a plausible explanation. This is not the case in astrology where symbolism is considered to be generally above criticism but is at odds with what we know in the sciences. To see the two as comparable is wishful thinking.

²⁰⁷ In Western astrology there are four elements. But in Eastern astrology there are five (the extra one is equivalent to *ether*)..

(which would be contrary to astrologers McRitchie and Currey who claim that **plausible** negative criticism and studies do not exist), who cares? Astrologers can carry on unfazed. In other words Gillett's position is that positive results are acceptable while negative results are irrelevant. You cannot have a more absolutely watertight viewpoint than that! ^{208 209}

Future prospects

Astrologies worldwide have failed to converge on any stable empirically confirmed belief because they distrust anything empirical. In contrast, consider modern science:

Now, it is true that we may not have a way of knowing whether Einstein's general theory of relativity will be overturned when or if physicists discover a way of reconciling it with quantum mechanics. But short of discovering that we're dreaming or living in the Matrix, we can be sure that, in fact, stars generate energy by turning hydrogen into helium, and that the Earth is billions, rather than thousands, of years old. We're not going to discover that in fact there is no atomic nucleus with protons and neutrons. No doubt we'll discover new things about them, and we might get a whole new theory of particle physics. But these new theoretical developments aren't going to undermine the claim that we're made up of cells, and that DNA exists inside of cells, short of discovering that it is all a dream (Stephens 2022 p.142).

Further, while science is a world-wide enterprise with contributions made across the world, modern astrologies are largely independent groups, each separated from the rest and often disagreeing with the rest. ^{210 211}

²⁰⁸ For scientific information on various celestial phenomena, check out <https://massimopigliucci.blog/2023/10/the-science-behind-the-rosy-hue-decoding-the-mystery-of-the-pink-moon/>

²⁰⁹ If the **physical characteristics** of the planets were ever incorporated into astrology, this would require a complete rewrite of its symbolism along with a constant attention to new discoveries in astronomy and a continual re-evaluation of the symbolism.

²¹⁰ Consider the replication problem that exists in both science and astrology. Sophisticated studies (which are later shown to be non-replicable by independent investigators) can be found in every area – hence the demand for replication by outsiders. The old saying 'You can prove anything with statistics' is a reminder that advocates of every belief-system can generate studies supportive of their viewpoint, hence the need for **independent replication** is essential.

A good example of the need for outside replication of results is the extraordinary claim of fMRI that "was hailed as a potentially transformative technique for measuring brain activity in animals: direct imaging of neuronal activity held the promise of mapping neuronal activity so fast that neurons could be tracked as they fired. But nearly two years on from the 2022 paper published in the top journal *Science*, no one outside the original research group and their collaborators has been able to reproduce the results" (Prillaman 2024). Hence the strong need for outsider replication of extraordinary astrological results. As Ambridge 2023 points out, "the idea that peer-reviewed-and-published equals true is exactly what caused the replication crisis in the first place" (see also Ritchie 2020). Here we support the suggestions made by Baumeister 2022 (and also by Fox & Honeycutt 2022, Ventura 2022, and Kahneman 2004) that the best solution is to have many replications. As Baumeister says, in mainstream science,

a well-replicated finding would be marked by plenty of significant published findings in support of it, and presumably few or none in the opposite direction. Ideally, these would be from multiple [institutions], so that different researchers independently get similar findings. Also, having multiple different methods reduces the danger that it's all just a quirk of how you measure something. It's essential today to have pre-registered successful replication, so that would be a second criterion. Third, I would value having some real-world data, even though these are inevitably a bit more confounded, to bolster *confidence* that it's not just a lab thing, and that it does apply real phenomena in normal life. Lastly, there is the new method: multi-site replication. Essentially, one signs up a dozen or so different labs to run the experiment, and results are combined. This has become popular in recent years.

While we contend such suggestions should be applicable to **all scientific fields**, they would be especially important in fringe areas where isolated, one-off studies are largely conducted by committed believers, and replications are typically conducted by the person claiming a positive finding in the first place. The problem of replicability does not seem to have been taken seriously in astrology, where **single, positive studies** are typically taken at face value. We have learned the hard way that even the most

Further, as we have seen, there is no good theoretical reason to take modern astrology (other than its high popularity) seriously, or to believe in any 'as above so below' connection.^{212 213}

However, there is an increasing literature on the likely reasons underlying **belief** in astrology. Blanche *et al* 2022, Mermelstein & German 2021, and Dean *et al* 2022 pp.867-888 suggest that belief in astrology may result from the ways in which the human mind can see things like non-existent patterns in noise (known as *apophenia*, for more on this see Love 2023 and Myers 2023). Plus our teleological tendencies (seeing purpose behind complex natural phenomena); our stereotyping (simplifying) of others, our adopting the appearance of science; and our ways of reducing stress under conditions of uncertainty.²¹⁴ Cull & Mehdi 2023 (also Clement 2020) provide sociological ways of accounting for the identities that believers in astrology adopt:

The stars don't play much of a role in our explanation of [astrological predictions about people] after all. Rather, the predictions **make themselves true** via a social ontological [ie metaphysical]

sophisticated studies in all areas of science (including papers by leading scholars), based on apparently good theoretical grounds can result in non-replicable findings. Given the lack of any even remotely good theoretical grounds for astrology, we should be more than suspicious. Continuous replicability is required to take into account new advances in the same field and extend the results to expand our knowledge in the field in new directions (see Dean *et al* 2022 pp.638-640, also <https://www.discovermagazine.com/the-sciences/science-sleuth-looks-to-expose-research-fraud>). We also need to keep in mind that large scale studies utilizing AI also require replication (Editorial, *Nature*, 625/631, doi:<https://doi.org/10.1038/d41586-024-00168-8>).

²¹¹ Some readers may remember the study by astrologer Jeff Mayo, statistician Owen White, and psychologist Hans Eysenck entitled "An empirical study of the relation between astrological factors and personality", published in the *Journal of Social Psychology* 105, 229-236, 1978. The results, although weak were consistent with the astrological view that introverts tend to be born under even-numbered sun signs. Even before the study was published, astrologers trumpeted their 'victory' to the media. Sydney Omarr boasted about the results in his daily horoscope column in hundreds of US newspapers. Canadian magazine *Maclean's* gave it prominent coverage. Canadian astrological magazine *Phenomena* called the findings "possibly the most important development for astrology in this century" (Vol 1 No 1). But Eysenck later found **self-attribution** (previous knowledge of astrology) could account for his earlier positive findings (Kelly & Saklofske 1981), a point confirmed in 29 replications and 12 controls (Dean & Kelly 2017 p.221). It also demonstrated the widespread scientific interest in plausible positive results, which contradicted the typical view that scientists were too ignorant of astrology to do more than dismiss it.

²¹² A good comparison for astrology, when considered empirically, is homeopathy, which similarly lacks any theoretical basis, but has many believing practitioners. Both homeopathy and astrology are in an implausible position, and their practitioners are routinely hostile to negative studies and criticism. In homeopathy, as noted at length by Ben Goldacre 2009 pp.59-61:

Their literatures and debates drip with ignorance, and vitriolic anger at anyone who dares to appraise their claims. ... they bully, they smear, to the absolute top of the profession, and they do anything they can in a desperate bid to *shut you up*, and avoid having a discussion about the evidence. (his italics)

He could be describing astrologers. If this seems unlikely, check 2023-2024 issues of *Correlation* with Currey as editor.

²¹³ A response to mixed findings on astrological claims is that perhaps astrology is itself 'an unwitting source of knowledge' (Smithers 1982). This suggestion views belief in astrology as just another **social factor** contributing to views about oneself (called self-attribution). Given the pervasiveness of astrological ideas even among non-believers, attribution could contaminate all test samples, which a large sample size would then inflate into significance that would necessarily give apparent support for astrology. McRitchie 2023 p.577 dismisses the idea, the emphasis is his:

So insidious is this self-attribution claim that its authors may fail to appreciate what they are saying. Assuming the claim were true, it would make not only astrology testing – *but all tests of personality* – unreliable.

Except for: (1) Personality testers are fully aware of attribution effects and design their tests accordingly. (2) Personality effect sizes are generally much higher than attribution effect sizes. (3) Astrology testers are generally unaware of attribution effects and do not use appropriate controls. (4) Astrological effect sizes are generally similar to attribution effect sizes.

²¹⁴ Just because a belief or theory is weird or **counter-intuitive** doesn't mean it is wrong. Both Relativity Theory and Quantum Mechanics are counter-intuitive in many ways. But unlike astrological claims, both have strong empirical support and are subject to repeated testing. Again, unlike in astrology, scientists in these areas pay attention to negative findings and criticisms.

mechanism in that we claim that astrology not merely reproduces and maintains old social categories, but also produces and regulates new social categories and ways of being a member of those categories. (p.9) ²¹⁵

Cull & Mehdi also tie astrology in with ideological and economic views. They suggest that astrology reinforces the worldviews of **capitalist ideology** by packaging it for consumption. Indeed "[astrology] is the latest form of social control and surveillance [by] encouraging an orderly workforce, rather than an unruly one" (p.13). Das *et al* 2022 suggest that any addiction to astrology could result in adverse mental-health consequences.

A productive approach for academics interested in astrology might be to follow the example set by the cognitive science of religion (Barrett & Burdett 2011; Bendixen *et al* 2023, van Eyghen, Peels, & van den Brink 2018; Boudry, Blancke & Pigliucci 2015; Irwin, Dagnall, & Drinkwater 2022; Labrot, Johnson, & Maxime 2023) and consider how beliefs in astrology arise in the population, whether people consider it a science, a religion or art, and why they arise, along with why so many different (often contrary) forms and techniques can be involved.

Bendixen *et al* 2023 found that appeals to gods generally reflect local social concerns. Many concerns are likely involved in astrological belief, hence astrological diversity becomes unavoidable. The role of expectations (Blancke 2023) and intuitions (Blancke 2015; French 2024) in forming problematic beliefs need exploration in the context of astrology, as do similar questions about the different astrologies around the world (Jackson *et al* 2021). Another productive approach might be to examine belief in astrology vs belief in animism (a supernatural power runs the world), the sciences, religion, and sympathetic magic (Obreja 2021, De Smedt & De Cruz 2022, Hong 2022).

Finally, consider the approach to religion as described by Crane 2017; Goff 2019, Eshelman 2005, Van Leeuwen 2016, and Palmqvist 2023. It would promote astrology as meeting the need of some people to have something beyond themselves, even if it cannot be explicitly described, with (as a bonus) the benefit of being part of a select social group and its practices. But many astrologers already promote astrology as a way of meeting people's inner needs.

Nevertheless such promotion does nothing to save astrology from the problems we have uncovered. One problem is that astrologers **assume** 'as above so below' to be true and automatically reject all contrary evidence without examination. To them and their paying clients astrology seems to work, so contrary views are obviously biased, bigoted, and based on ignorance. Their own experience could not possibly be wrong, so critics should please shut up and go away.

But critics do what virtually all astrologers fail to do – **apply critical thinking**. Close inspection of what astrologers say reveals only empty talk based on speculations that explain nothing. At the end of the day astrology emerges as both scientifically and conceptually bankrupt.

But inspection also reveals an astrology that creates complex clouds in which complex faces can be seen that fit any situation. Which is why it seems to work even with wrong birth charts. As practised it is also nonfalsifiable and is thus a good earner both materially and spiritually. Our

²¹⁵ For more on self-fulfilling prophecies and real world effects as a possible contributor to relationships between astrology and the stock market, see <https://medium.com/sopra-steria-norge/in-defense-of-astrology-c4f928b38027>

own in-depth critique finds astrology to be nothing more than a misdirection away from what is really happening. The conclusion reached by Kelly 1997/2005 p.25 still holds:

Astrology is readily explicable in terms of cognitive and perceptual biases (everyday artifacts of human judgement that, in an astrological context, look and feel like astrology), which then wrongly persuades astrologers and their clients that something mysterious is happening. On the basis of these artifacts alone, we can predict that modern astrology will be characterized by (1) disagreement on almost everything, (2) agreement that it works, and (3) failure to work when artifacts are prevented. Which is exactly what is observed (and by contrast is *not* observed in the sciences).

Astrology may seem to work, but demonstrably not for the claimed reasons.²¹⁸

Nevertheless, whatever we may think of astrology, a belief in the stars, like many religious and spiritual beliefs, does seem to help some people some of the time. The two beliefs are of course not the same, any more than the caviar and boiled cabbage that helps some people through dinner are the same.

References N=599 Our in-depth study is 26% text, 52% footnotes, 22% references

To keep matters concise, we rarely give more than brief summaries of cited works, and very few titles. To get a proper feeling for the reference material that underlies our text, try skimming through the titles below. If nothing else you will see what a vast amount of research is available, and why most astrologers have no idea of the thin ice they are skating on. Googling the title (not the journal details) will usually retrieve at least the abstract.

A

A conceptual and scientific analysis of an astrologer's attempt to debunk skeptical arguments against astrology.
<https://www.researchgate.net/project/Critiques-of-astrology/update/5bc14b99cfe4a76455fa4ab4>

Adamson, P (2018) So you want to teach some Islamic philosophy? *Blog of the APA*, <https://blog.apaonline.org/2018/09/03/so-you-want-to-teach-some-islamic-philosophy/>

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Airenti G (2018) The Development of Anthropomorphism in Interaction: Intersubjectivity, Imagination, and Theory of Mind. *Frontiers of Psychology*. 9:2136. doi: 10.3389/fpsyg.2018.02136

Albert, H (2021) Investigation fails to replicate most cancer biology lab findings. *New Scientist*, Dec 7

²¹⁸ The artifacts were generally unknown before the rise of experimental psychology in the 20th century, and they are still unknown to most astrologers in the 21st century. They include: *Barnum effects* (reading specifics into generalities), *cognitive dissonance* (seeing what you believe), *confirmation bias* (remembering hits and forgetting misses), *illusory correlation* (seeing meaning where none exists), *nonfalsifiability* (nothing can count against your idea), *operant conditioning* (how we learn what isn't so), *placebo effects* (it does you good if you think it does), the *Dr Fox effect* (blinding you with jargon as in any astrology book), and at least forty more. All are in routine use in astrology books and astrological consulting rooms.

Each can create the illusion that astrology works, none require astrology to be true, and all lead to client satisfaction. For more, with examples of artifacts in action, see Dean *et al* 2022 pp.14, 267, 581, 832, 867-888, 920. Pages 861-862 describe a 1983 international prize competition for a demonstration that astrology still worked when artifacts were controlled. In due course 34 entries were received from seven countries, plus a fake entry designed to address hostile views from astrologers and to test the impartiality of the eight judges. Only the fake entry was successful. 'As above so below' achieved only smokescreen status.

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